Innovation – a Major Requirement for the Sustainable Development of Organizations

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Abstract: The current economy is characterized by the acceleration of change and the orientation of people towards everything that is new. Innovation is considered a key element of the competitiveness of organizations in the contemporary economy and it has therefore been given increasing attention by both researchers and practitioners. Within an organization, innovation can be expressed by renewing products, technologies and processes, but also by changing business ideas and models. One of the purposes of this article is to provide a state-of-the-art overview about the existing literature on organizational innovation. The second aim of the research is to shed light upon the role of innovation in economic affairs in our days, in order to ensure the sustainable development of organizations. The research was done by consulting major research databases (Elsevier, ResearchGate, Science Direct, ProQuest) and analyzing key journal articles bibliographically and thematically. Results show that it is widely recognized that technological change and innovation are major drivers of economic growth and they are regarded as a survival factor but there are also some indications that in some areas it becomes more difficult to innovate for some organizations. The studies highlight that in some markets there is a concern on the part of customers about the possible harmful effects on the environment if innovation is too aggressive.

Keywords: *organization; innovation; sustainable development.*

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1. Introduction

The globalization of the markets and the more and more complex transformations that take place in all fields of activity have brought to the forefront the innovation, as a major challenge for the companies that fight for obtaining the competitive advantage.

Innovation is the common element for successful companies in the contemporary economy, it is what separates leaders from the rest of the competitors.

Some researchers claim that, because of the high level of the competition and the short life span of the products, the ability to generate innovation could be more important than ever in order for the organizations to be able to improve their performance [2].

Innovation is essential for the debate around the way of maintaining a strong economic growth, in an era which is more and more defined by the increase of competition and by the major financial and demographical challenges.

Innovation is considered a very important source of a long-lasting competitive advantage in an increasingly dynamic environment. Innovation leads to a continuous improvement of processes and products, thus helping companies to survive, enabling them to develop quicker, to be more efficient, more adaptable to the challenges of the market and more profitable than the companies that do not embrace innovation.

In recent years, studies are focusing more and more on the connection between innovation and sustainable development. In the opinion of different specialists, one cannot talk about sustainable development without taking into consideration innovation and its long-term effects.

Innovation must not be reduced to the renewal of products/services and markets because this is not sufficient. Innovation must be applied in technological processes, work methods, work relations, the relationship of the organizations with their exterior, especially stakeholders, financiers, providers and not in the last place, their customers.

Production and consumption patterns have undergone major changes in recent years, which has led to changes in society and the environment. Thus, organizations have faced new requirements and constraints and currently their competitiveness also depends on the adoption and efficient implementation of sustainability-oriented innovation management [8].

According to Popa, sustainable development can be supported by the innovation process at different levels: national, regional, and international, where it manifests itself separately [12].

However, sustainability becomes a development model only if the countries, economic sectors, the companies and the citizens acknowledge, adhere and apply its principles. The contribution of the company to creating a promising future must be the result of the complete integration of sustainability in its activities and strategies [5].

2. Problem Statement

Although the literature on innovation is very rich, it cannot be said that there is a unanimously accepted definition that fully clarifies this term.

There are some definitions in which the most important characteristics of innovation are considered to be novelty and change.

One of the first works dedicated to the relevance of innovation for economic development belongs to Schumpeter J.

According to him, “innovation is the introduction of a new good to the market or a new quality of a good, implementing of a new method of production, a new market or a new form of commercial business or financial organization” [18].

The OECD and European Commission definitions of innovation also consider novelty as an essential element of innovation.

The Oslo Manual defines innovation as “the global process of technological and commercial creativity, the transfer of a new idea or a new concept to the final stage of a new product, process or service activity, accepted by the market” [10]. The manual also describes innovative activities to include “all scientific, technological, organizational, financial and commercial steps which actually lead, or are intended to lead, to the implementation of innovations” [10].

Business innovation (innovation as an outcome) include “a new or improved product or business process that differs significantly from the firm's previous products or business processes and that has been introduced on the market or brought into use by the firm” [10].

Product innovations can involve both goods and services, while process innovations in a business refer to its various functions (production, marketing, ICT, administration and management, engineering, product development).

Innovation activities (innovation as a process) include “all developmental, financial and commercial activities undertaken by a firm that are intended to result in an innovation for the firm” [10].

In order to be able to build an innovative organization, it is not absolutely necessary that all these activities be innovative, but they are necessary for the implementation of innovation in the company.

Figure 1. Classification of innovation by type, according to Oslo Manual

Source: Žižlavský O., 2020, p.1299[18]

Technological innovations lead to important technical changes and contribute to the creation of new products and processes.

From the launch of brand of new goods and services, to enhancing already existing ones (with the use of new or enhanced materials and/or features) and last, but not least, with improving the ways services are provided, all are only a few ways of product's innovating methods.

Process innovations consist in the introduction of new or improved production methods and/or new delivery systems. Process innovations comprises of substantial changes made to the used techniques, equipment and/or software, reduced environmental impact and safety risks, novel or drastically enhanced procedures, procedures and techniques for the conception and delivery of services.

Non-technological innovations include organizational, entrepreneurial and social changes. In this category we can also include environmental innovations, representing the adoption of new or significantly improved products/services, or the improving of the existing ones, production processes, marketing or organizational methods that create benefits for the environment.

Marketing innovations' goal is a better approach towards the necessities of the clients, by introducing new markets and placing new products on the existing markets, in order to increase the company's sales. Marketing innovations encompasses major changes in the appearance of the product, while maintaining its functionality or features, changes in product packaging, new marketing methods in promoting and placing products.

Organizational innovations incorporate the application of new approaches for organizing standard procedures for leading business, the employment of new practices to expand knowledge and education exchange

inside the company, innovation in workplace organization, new methods of decision making. This category of innovations also involves the execution of new methods of establishing relations with other companies or public organizations, establishing new types of collaborations with contractors and outsourcing or subcontracting for commercial activities in manufacturing, supplying, distribution, recruitment and auxiliary services.

Figure 2. Dimension of innovation

Source: Tidd, J., Bessant, J. R., Pavitt, K., 2005, p. 12 [16]

Another well-known classification of organizational innovation belongs to Tidd and Bessant who have identified four types of innovations, the 4P's of innovation: "product innovation (changes in the products/services which an organization offers; process innovation (changes in the ways products/services are created and delivered; position innovation (changes in the context in which the products/services are introduced) and paradigm innovation" [15].

Table 1. Features of innovation models

Generation	Key features
First and second	The linear models are the ones which “need pull and technology push”.
Third	The coupling model - diverse elements are in contact and feedback loops between them.
Fourth	The parallel lines model characterized by integration within the company, upstream with key suppliers and downstream with challenging and active clients, accent on connections and alliances.
Fifth	System integration and wide networking, adaptable and personalized solution, nonstop innovation.

Source: adapted from Tidd, J., Bessant, J. R., Pavitt, K., 2005, p. 12 [16]

According to Konnola, Carrillo-Hermosilla and Gonzalez “the challenges of global economic competitiveness, social inequalities and the dimension of environmental problems have raised awareness and increased concerns about the need to change and renew the technological status quo and current patterns of social behavior” [9]. They observed that “economic stimuli aimed at lowering environmental impacts can produce innovative solutions, which gradually move society to a more sustainable form of development” [9].

It is difficult to identify only one definition for sustainable development that can encompass the speed and complexity with which this concept is evolving as well as the diversity of methodologies and instruments that can be used.

As Ioniță Predescu, Radu and Tăbârcă stated “the implementation of the sustainable development principles will contribute to improving the civilization of the whole community” [7].

The concept of sustainable progress applied in an organization implies the pledge of the company to maintain a responsible behavior towards all the parties involved and stakeholders and to contribute to an economic development by integrating in its own business model all social and environmental aspects.

3. Aims of the research

The article aims to present the relation between innovation and sustainable development. In general, it is estimated that innovation has a positive influence on sustainable development, but there have also been some criticisms about the impact that innovation can have on the environment and the way of responsible management of natural resources.

In recent decades, there have been more and more debates on the significant growth of production activities, the overexploitation of natural resources and the effects on environmental protection and preservation. In recent years, more and more attention has been drawn to the social and environmental impact of economic activities, so that the number of those who consider companies as the central actors producing social and environmental harms has increased, being “a source of lack of sustainability in society” [13].

Most articles about environmental innovation fail to reference any significant innovation concepts centered on lowering environmental impact. The definitions were for “eco-innovation and for environmental, social or sustainable innovation, plus passages relating to environmental technology and ecological innovation” [14]. In these authors’ opinion, “the number of definitions of environmental innovation is greater than the other key concepts of innovation for sustainability” [14].

Tidd and Bessant highlight the idea that “innovation makes a major contribution to environmental degradation, to be a significant component of economic growth and consumption” [15].

4. Research Methods

The overall purpose of this article is to deepen the knowledge of innovation, organizational development and sustainable business.

To highlight the role of innovation in sustainable businesses the documentation started with the study of specialized literature. The research was done by consulting major research databases (Elsevier, ResearchGate, Science Direct, ProQuest) and studying bibliographically and thematically articles.

We used the keywords “innovation”, “organization development” and “sustainable businesses” to identify the academic, peer reviewed articles written in English, available in the mentioned above data bases.

5. Findings

Dyck and Silvestre observed a stronger awareness from society and an attempt to find solutions for the social/environmental crisis by adopting a more sustainable lifestyle. “A key factor for this confrontation is the implementation of innovations that promote sustainable development” [6].

Sustainable innovation involves the conception of novelty and different ways that contributes to increasing performance in the economic, social and environmental spheres, representing the facets of sustainable progress. These advances must not be restricted only to technological revisions, but should be linked to transformed procedures, active routines, business paradigms, rational and professional schemes.

It is more and more accepted the link between sustainable innovation and entrepreneurship, correlated with the novel constructs, technologies, products and services, together with embracing of novel processes and social systems.

According to Bocken et al., “the current sustainability agenda is largely defined by eco-innovation, eco-efficiency and corporate social responsibility practices. However, they are not enough to ensure the holistic changes needed to achieve long-term social and environmental sustainability” [3].

A possible solution to this problem could be found in the answer to the question “How can one encourage a corporate innovation that significantly changes the companies that act to ensure a higher sustainability”.

Through an analysis of the specialty literature and of the results of practical research, a series of devices and answers have been identified, that allow the modernization of the business model to ensure sustainability.

As Croitoru et. al stated, “all the actors involved in the entrepreneurial ecosystem should have as common elements the development of hubs of entrepreneurship, a civil society better shaped, partnerships based on sharing experience and resources in education” [4].

According to Adams et. al, innovation oriented to sustainability relates to changing not only the products and processes of an organization but also the philosophy and organizational values, “in order to attain the specific purpose of creating and realizing social and environmental value, beyond economic returns” [1].

Most often eco-innovation indicates novel technologies that contribute to refine economic and environmental results, alongside other classifications that take account of the organizational and social adjustments in order to advance competitiveness, performance and sustainability.

	Technology approach	Eco – innovation approach
Status quo	Instrumentalism	Market – driven innovation
Reform	Instrumentalism	Ecological modernization, clean technology transferred in developing countries, efficiency
Transformation	Substantivism	Different values, new power structures, suitable technologies

Figure 3. Technology approach vs. eco-innovation approach

Source: Pansera M., 2012 [11]

Different authors emphasize that, “although the terms sustainable innovation and eco-innovation are often used as synonyms, eco-innovation only addresses the environmental and economic dimensions, while sustainable innovation also comprises ethical and social aspects” [8].

Siqueira and Pitassi clarify the concepts of eco-innovation and sustainable innovation. They appreciate that eco-innovation is included in sustainability-oriented innovation, which is a broader concept, a multi-level phenomenon and which also includes a social dimension [13].

Innovation can be successfully used to reduce environmental impact. In spite of this, numerous organizations still see environmental requests as a source of expenses instead of as opportunities. Still, it is a fact that most organizations consider innovation, and especially technological innovation, vital in terms of environmental issues.

Innovation is often analyzed from different points of view, “first of all as a driver of economic benefit, and second as a source of environmental impact (positive or negative)” [14].

Innovation involves disturbance - and the real or even possible reversal of the current situation may produce opposition. The causes of resistance to change need to be overpowered by the innovators through better understanding of the potential and negatively perceived impact of innovation.

Innovation means modifying or replacing existing technologies, products, processes or business models. The way organizations relate to innovation determines the winners and losers of change.

The literature includes critiques of technological innovations that “have increased productivity and contributed to economic growth while automating and digitizing jobs previously held by a human workforce. This has a direct impact on employment and income security, especially in situations where social protection is weak” [17]. This darker side of

innovation is now beginning to be talked about among experts in this field, who have identified unintended consequences as components of “bad innovations”.

Regarding the introduction of modern technology, social transformation can be troublesome and have long-term negative impact on the opinion of the society on innovation, decreasing the prospects for transformative change in the future.

6. Conclusions

The concept of innovation has been given vital importance in the deliberation on sustainability and is often appreciated as a critical tool in the transition to a sustainable society.

The findings of this research show that the organizations that have tried to collaborate, develop and implement innovations present better sustainable performances, irrespective of the size, experience stakeholder control and the level of internalization.

In the process of innovating their products / services and processes, organizations must also monitor the impact on the environment and society. We appreciate that the goal of organizations must be to follow the best path to a more sustainable future, which depends on how resources are managed today.

Identifying and adopting innovative environmental technologies contributes to reducing waste, reutilization of residual products and reducing consumerism.

Innovation is the corner stone of a successful business: offering something better and a better experience for the consumer. Although it is fully acknowledged that innovation is essential for the present and future organizations, this is probably the element of the corporate activity that proves the most difficult to handle or plan.

Many innovative approaches can contribute to achieving sustainability through business models but those have to be integrated in the innovation of the business model.

With the aim of taking advantage from the positive power of innovation on the process of sustainable growth, it is necessary to increase the interest in the technological aspect of innovation, including the digital and ecological technologies, whose quick implementation would lead to a more sustainable society.

Emphasis must also lay on promoting and maintaining sustainable development in the interaction with innovation, especially technological

innovation that could contribute to the partial or total replacement of the conventional methods by using sustainable alternatives.

To conclude, all organizations should innovate, irrespective of their size or field of activity, with the goal to survive, to be competitive and to develop.

Sustainable innovation must be integrated into the mission of organizations because it is demonstrated that the leading organizations in their fields of activity are those that combine business objectives with sustainable development.

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