

Innovation as a strategic pillar for organizational competitiveness

La innovación como pilar estratégico para la competitividad organizacional

Heira Georgina Valdez Bocanegra¹
Luis Antonio Coria Correa

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ABSTRACT

Nowadays, innovation is an essential resource that enables companies to survive in a highly competitive environment. It achieves competitive advantages by employing innovation in processes, management, products, and the organization itself. Every company embraces innovation to ensure its coexistence with its business model. Therefore, innovation encompasses aspects ranging from the way a service is provided to how robots are used as part of the company's process, considering the factors that will influence both internally and externally. Innovative products or services do not remain that way indefinitely, as the world changes every day, and with them the needs we have as a society and as individuals. Consequently, innovation must be applied through processes that allow for its constant development and evaluation. A company that offers an innovative product and/or service will remain relevant even in a dynamic environment.

Keywords: Administrative innovation, Eco-innovation, innovation, organizational innovation, process innovation.

RESUMEN

En la actualidad, la innovación constituye un recurso esencial que permite a las empresas sobrevivir en un entorno altamente competitivo. A través de ella se logran ventajas competitivas empleándolas en procesos, administración, productos y la organización misma. Cada empresa adopta la innovación buscando su coexistencia con su modelo de negocios, por esto, la innovación engloba aspectos desde

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Autora de correspondencia. Universidad de Guanajuato, México. ORCID: <https://orcid.org/0000-0002-1854-5055> email: hg.valdez@ugto.mx

la forma en que se brinda un servicio, hasta en cómo se utilizan los robots como parte del proceso de la empresa, tomando en cuenta los factores que influirán tanto de manera interna o externa. Los productos o servicios innovadores no conservan esa condición indefinidamente, pues el mundo cambia todos los días y con ellos las necesidades que tenemos como sociedad e individuos. En consecuencia, la innovación tiene que aplicarse por medio de procesos que permitan su desarrollo y evaluación constante. Una empresa que ofrece un producto y/o servicio innovador, permanecerá vigente aún en un entorno dinámico.

Palabras clave: Innovación administrativa, eco-innovación, innovación, innovación organizacional, innovación de procesos.

INTRODUCTION

In the current business environment, characterized by great uncertainty and dynamism, innovation is a vital resource for the survival of organizations, as they require implementing strategies to maintain a competitive advantage in the market. According to information contained in the Oslo Manual (2018), innovation is defined as the implementation of something new or significantly improved, whether in a product (goods or services) or in business processes (administration and management, product and business development, marketing and sales, distribution and logistics, production of goods and services, and even information and communication systems). It should be noted that the business context must always consider strategic planning to improve organizational competitiveness (García et al., 2023).

At the same time, the United Nations (2025) has recognized innovation as a priority area worldwide, as it represents an essential element for the economic and social growth of businesses. Thus, the United Nations has incorporated Goal 9 into its Sustainable Development Goals (SDG), which focuses on building resilient infrastructure, promoting sustainable industrialization, and fostering innovation. According to targets 9.5 and 9.b of this goal, the aim is to increase research and technological development in industrial sectors, as well as promote innovation, thereby increasing productivity, economic stability, and generating jobs and income.

Furthermore, they assert that innovation and infrastructure represent a key factor in the implementation of new technologies, promoting integration into international markets, ensuring the use of resources, and contributing to improving the quality of life of the population. Hence, the following paragraph specifies SDG 9.

9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and

substantially increasing the number of research and development workers per 1 million people and public and private research and development spending.

9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities (United Nations, s. f., section “Targets and Indicators”, para. 9.b).

Conversely, the costs of not implementing priority strategies focused on innovation are very high, as this would reduce job opportunities and hinder the population's access to essential services such as sanitation and education, as industry would stagnate and the possibility of eradicating poverty would involve greater difficulties.

Similarly, innovation is a continuous learning process that contributes to the growth of the business sector, ensuring that organizations achieve their business objectives and strengthening their chances of success, even in unstable market conditions. In this sense, it is essential that organizations integrate business innovation strategies to guarantee their adaptation and long-term viability by remaining competitive (Machuca-Contreras et al., 2023; Santos-Martínez et al., 2024).

Considering the above, the main objective of the article is to carry out a documentary analysis of various sources to present a comprehensive view of innovation by analysing information related to the topic considering the last five years, considering the relevance of the topic of innovation, particularly for companies.

LITERATURE REVIEW

This section presents an in-depth analysis of the topic of innovation from multiple perspectives, such as eco-innovation, administrative innovation, organizational innovation, and process innovation. To begin with, Edvardsson and Tronvoll (2020) consider innovation to be an essential resource for a company's survival. Indeed, in service-driven economies, implementing innovations is important to maintain a competitive advantage over their adversaries. Service innovations can develop in different ways and can even set a precedent for the creation of new companies in the future. For example, the cases of Skype, Uber, and Amazon. However, in most cases, the organization's current business model significantly influences service innovations.

Regarding organizations, Rossi and Botura (2018) consider that those aspiring to achieve improved performance, and new competitive advantages have had to redesign themselves, using innovation as a means of improvement to remain relevant in a market with a tendency toward globalization (García et al., 2023). Hence, authors such as Audretsch et al. (2014) argue that innovation is a key factor for companies to grow. However, small businesses, which have the greatest

need for this growth, are also those exposed to the greatest risk, as success guarantees them a very high growth rate, but, in turn, they assume a greater loss if they do not achieve the expected success (Esubalew and Adebisi, 2024).

On the other hand, Taleb et al. (2023) conducted a study in which they concluded that a positioning within the industry creates an opportunity for employees to become involved in the strategic innovation process (Duan et al., 2020; Naveed et al., 2022; Ode and Ayavoo, 2020).

INNOVATION

The concept of innovation is very broad and is therefore divided into several categories. Furthermore, each of these categories has a distinct effect on the company, where its growth rate and performance will directly depend on the type of innovation used. It will be necessary to show that, as stated by authors such as YuSheng and Ibrahim (2020), there are four types of innovation: product, process, marketing and organizational (Esubalew and Adebisi, 2024).

ORGANIZATIONAL INNOVATION

In the case of organizational innovation, this is a topic to which researchers pay special attention, as it is considered an essential factor, given the current dynamic and uncertain business environment. Precisely for this reason, companies integrate advanced innovative processes and digital technologies, driven by the latest technological applications (Subramanian and Nilakanta, 1996; Yousaf et al., 2022).

In addition to the above mentioned, another feature of innovation within organizations is innovation networks, which function as a tool that allows traditional companies to adapt, through technological advances, to modern practices characteristic of a knowledge-based circular economy (Harrisson and Laberge, 2002). Specifically, the circular economy reduces dependence on traditional manufacturing methods and favours improved results for the economy, society, and the environment, thanks to the use of more innovative technologies (Alhola et al., 2019). For this reason, various authors in the literature have pointed out that the circular economy is emerging as the sustainable model for SMEs (Yousaf et al., 2022).

ADMINISTRATIVE INNOVATION

Regarding administrative innovation, it develops specifically within the administrative area itself, and its influence within the company is quite broad, encompassing everything from employees to the environment itself (Subramanian and Nilakanta, 1996). It is also worth mentioning that the Organization for Economic Cooperation and Development (OECD) maintains that innovations aim

to reduce administrative costs to achieve improved organizational performance (Haile and Tüzüner, 2022; OECD, 2005).

Furthermore, the Oslo Manual expands the concept of administrative innovation, postulating that it also includes the introduction of new business practices, workplace organization, and external relations (OECD, 2005). Damanpour and Evan (1984) also complement, adding that activities and strategies such as automated personnel registration systems, reward systems, enterprise resource planning, formalized strategic planning processes, staff development, job rotation, management by objectives, flexible hours, reward systems, and enterprise resource planning are typical of administrative innovation (Haile and Tüzüner, 2022).

Within this framework, environmental care is currently a priority for organizations. For this reason, environmental innovation is frequently employed, as, on the one hand, it offers the possibility of reducing costs by changing the process (Forsman, 2013). On the other hand, it provides the opportunity to better position the company by gaining a competitive advantage by improving the perception of the company among both employees and consumers, as environmental issues are a factor that both take into consideration (Adomako et al., 2023; Adomako and Tran, 2024; Rizzi et al., 2012).

Regarding the appropriate integration of innovation into the company, it is important to consider the behaviour of organizational members at the individual level, within work teams, and at the management level (Naveed et al., 2022). This is why the previous point is fundamental, given that the culture of innovation will be directly proportional to behavioural innovation. Added to this are the concepts of individual innovation, which is the way in which the employee perceives the innovation process, and organizational innovation, which is the way in which the company implements said process and its conduct towards it (Alexe and Alexe, 2018; Shahzad et al., 2017).

Unquestionably, companies must prioritize establishing means to foster the development and implementation of innovative services, as well as reviewing their coexistence with products and services within the company's established business model. A vital part of driving this priority is promoting a platform that supports and sustains the company (Edvardsson and Tronvoll, 2020). Similarly, a learning orientation and a generative learning culture are highly valuable characteristics that companies should seek, as having them increases the likelihood of implementing innovative products and maintaining a competitive advantage over competitors (Haile and Tüzüner, 2022; Santos-Vijande et al., 2012).

MARKETING INNOVATION

From a services marketing perspective, Følstad and Kvale (2018) suggest that it is highly valuable because it can provide greater insight into how to achieve greater customer satisfaction. In other words, each customer has specific needs, which may or may not coincide with those of other customers. Similarly, the degree to which these needs are met will increase customer satisfaction, regardless of overall customer loyalty. It is also worth noting that service-providing organizations could communicate with customers to understand their reasons for dissatisfaction and address any identified areas of opportunity. This has the advantage of making customers feel more satisfied simply because they feel heard (Lacohee et al., 2024).

Regarding marketing innovation, according to Hunt and Morgan (1995), it is defined as the commitment of organizations to new or improved marketing tactics that use resources efficiently, satisfy customers, and generate greater value. Furthermore, Jung and Shegai (2023) state that, being a very new concept, there is little research available, but it is known that it has both a direct and indirect effect on the company (Esubalew and Adebisi, 2024).

Specifically, the Oslo Manual (2018) establishes that within marketing innovation, the development of new forms of product, service, and brand promotion has been prioritized through strategies aimed at attracting more customers, increasing productivity, and achieving a differentiating factor. As a result, companies increasingly demand participation in these marketing actions, regardless of their degree of complexity (García et al., 2023).

On the other hand, Meeus and Edquist (2006) define innovation as the process by which products are produced and sold, whether new or improved, such as product innovation. Likewise, the OECD (2005) adds that the introduction of these new or improved products includes changes in technical specifications, software, use, features, or the materials from which they are made (Haile and Tüzüner, 2022).

Ultimately, for a company to innovate its products, it must achieve a continuous learning process that fosters knowledge acquisition. In the literature, Cohen and Levinthal (1990) assert that possessing prior knowledge increases a company's learning curve, and consequently, this increases its capacity to innovate (Haile and Tüzüner, 2022).

DESIGN INNOVATION

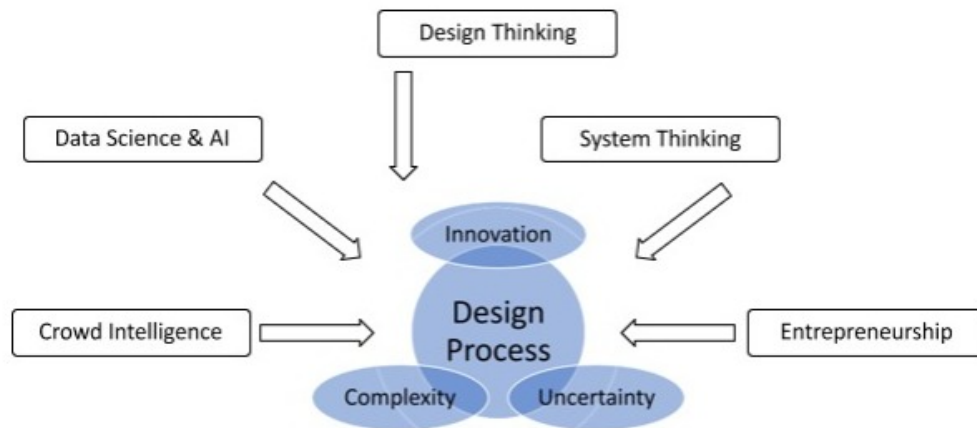
Eckert and Luo (2022) postulate that design is a human process in which knowledge is applied to create novel and useful objects, such as new products, services, and systems, which are then added with social and economic value (Luo et al., 2014; Pahl et al., 2007; Simon, 1969). There are several terms intertwined with the concept of the design process, such as "innovation process,"

"new product development," and "design innovation." However, it is important to understand that not all design processes are necessarily a means of generating inventions or innovations. It is worth emphasizing that those that specifically seek innovation are commonly associated with scientific research and entrepreneurship processes (Cagan et al., 1999; Eppinger and Ulrich, 2015; Jiang et al., 2021).

According to data from Eckert and Luo (2022), over the last decade there has been a shift in focus in the way products are designed, identifying customer needs and putting oneself in their shoes to truly understand what customers want now being a central theme. Paula et al. (2021) contrast the idea of design thinking with that of technology drive, arguing that while the former arises from consumer need, the second originates from a technological advancement (Figure 1).

Figure 1

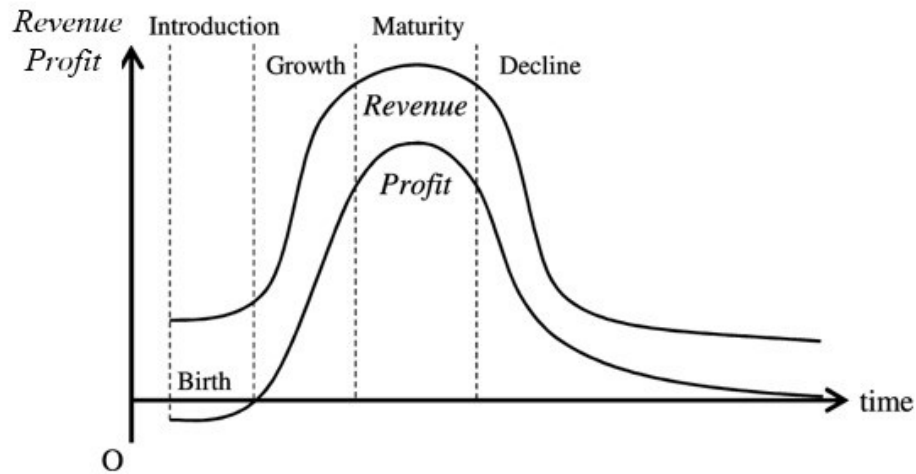
Business Design Process Model



Source: Eckert and Luo (2022).

PRODUCT INNOVATION

In turn, Murakami (2023) takes up the classic Schumpeterian theory of growth and highlights the role of product innovation within the economy and its development. The product life cycle is considered where the newest products are those that provide greater customer satisfaction, while displacing existing products (Grossman and Helpman, 1991, chap. 12; Seggerstorm et al., 1990). Day (1981) postulates that all products have a life cycle, which is made up of four stages: Introduction, Growth, Maturity and Decline (Figure 2)

Figure 2*Product lifecycle*

Source: Murakami (2023).

Considering the context of innovation, the topic of robots emerges in the current context, where their role in businesses is increasingly relevant. Aghion et al. (2023) point out that robots are classified as capital goods, as they are used as manufacturing tools. However, this is more complex than simply classifying them in this way, as they are increasingly capable of performing more functions with very little reprogramming. Therefore, the use of these robots has become a key factor for product innovation (Antonioli et al., 2024).

In this sense, it is worth highlighting that the fourth industrial revolution is based on the coordinated use of various hardware and software technologies for the same objective, which exponentially increases the level of flexibility of technologies such as robots, marking an increasingly evident trend (Antonioli et al., 2024; Benassi et al., 2022; Martinelli et al., 2021).

Likewise, Antonioli et al. (2024) argues that robots are part of larger systems, such as cyber-physical systems and advanced digital production technologies (UNIDO, 2019). When studying these trends, it is common to hypothesize that the introduction of robots into business activities will generate changes in behaviour, in addition to the already known replacement and productivity effects. Thus, the expected new changes are related to the capabilities of businesses.

According to studies by Antonioli et al. (2024), all companies that use robots are contributing to process technology. Therefore, it can be determined that, as they are innovative products and form part of business processes, the use of robots is considered a process innovation (Damanpour and Gopalakrishnan, 2001; Klepper, 1996; Utterback and Abernathy, 1975). From a decision-making

approach, the significance of using robots is direct in the company's routines, and how they change and what the response to these changes is analysed (Gilbert, 2005; Nelson and Winter, 1982).

Finally, it is pertinent to emphasize that technology is the main means by which innovation in services is promoted, however, the creation of conditions that allow innovation initiatives to be successful must also be sought (Edvardsson and Tronvoll, 2020; Edvardsson et al., 2020).

ECO-INNOVATION

Now, with respect to innovation in environmental areas such as recycling, Adomako and Tran (2024) point out that the substitution of materials and the reduction of pollution are typical of what is sought within eco-innovation (Adomako et al., 2023; Hellström, 2007). However, this concept is not only evaluated based on the degree to which ecological products are integrated, but also on the general way in which companies seek to generate a benefit to the environment through their activities (Hart, 1995; Liao and Tsai, 2018).

Adomako and Tran (2024) consider that another feature of innovation is that its proper functioning can also generate positive benefits in other areas, such as the social one, by satisfying the needs of the population, such as access to drinking water, clean energy and a better quality of life through sustainable solutions. It is worth highlighting that not only society and the environment benefit, but eco-innovation is also a factor that contributes to a good reputation more effectively, influencing both directly and indirectly the performance obtained by the company (Adomako et al., 2023; Cainelli et al., 2011; Russo and Fouts, 1997).

In this context, the main objective of eco-innovation is to create and use new products that reduce environmental damage compared to other products of their type. Meanwhile, product performance is used to measure the extent to which products meet business objectives (Adomako and Tran, 2024; Atuahene-Gima et al., 2005; Kemp and Pearson, 2007).

METHODS

This contribution is based on the documentary information methodology. In this sense, documentary analysis is a method for gathering information, comprised of stages that allow the researcher to access specific and key information from documentary sources. These sources provide the necessary elements to scientifically substantiate any study, as it is essential to understand the background of previous studies, explore the theories that structure the topic, support the variables in question, and establish appropriate parameters for the established objectives.

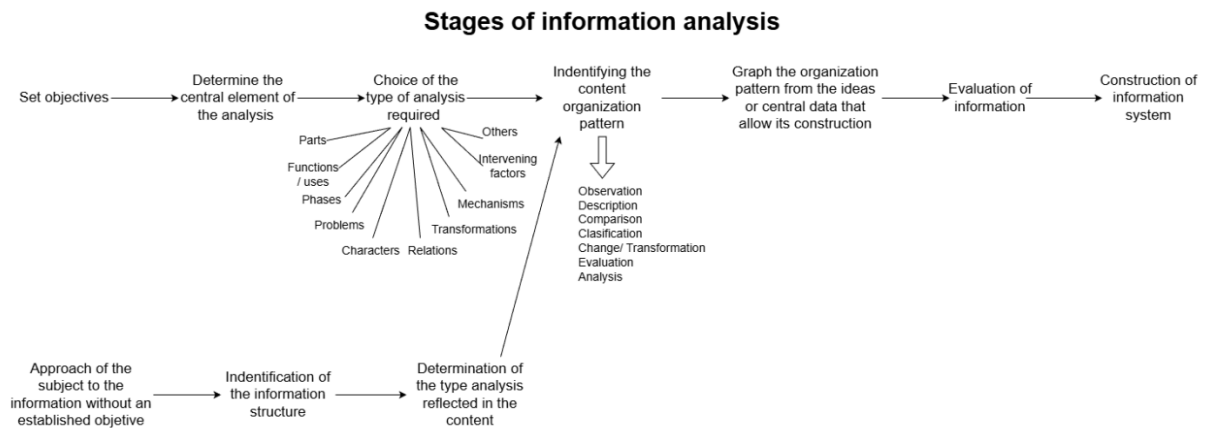
Furthermore, since most research goes through these phases, information analysis is an essential cognitive resource in any scientific search and, therefore, contributes to the creation of new knowledge. According to Rodríguez (2006), performing this type of analysis generates intelligence and provides added value that meets the client's needs. Similarly, Dulzaides and Molina (2004) affirm that analysing information constitutes a form of research, while Peña and Pirela (2007) emphasize that:

“Document analysis helps bridge the gap between increasingly abundant sources of information and the limited human capacity to utilize this content; in this sense, it facilitates the intellectual growth of individuals, as it contributes to the satisfaction of their cognitive needs” (p. 78).

Accordingly, for the literature review and data analysis, we used Peña (2022) diagram (Figure 3). In this context, Peña (2022) suggests beginning by establishing a clear objective and defining the central element to be analysed. Next, the appropriate type of analysis should be selected, which could be phased, relational, or another method. Following this, the method for organizing the analysed content should be chosen, and techniques such as observation, comparison, classification, or evaluation should be applied. Finally, the main ideas should be graphically represented to synthesize the key information and generate useful knowledge. The proposed diagram was incorporated into the results of this research to facilitate the reader's understanding of the topic (Figure 4).

Figure 3

Stages of information analysis by Peña (2022)



Source: Own translation by Peña (2022).

In the present article a documentary information methodology is implemented. To carry out this process, a search was made for various scientific articles in scientific databases that would allow an in-depth analysis of the topic of innovation in organizational contexts and its effects on

competitiveness. Thus, scientific articles retrieved through queries in Web of Science, a database owned by Clarivate Analytics, were selected for its rigor and reliability in the field of research.

In addition to the above, this database offers extensive coverage of highly relevant scientific journals related to the research topic and a diverse range of information based on a rigorous evaluation and selection process of the data available in its collection of scientific articles. Furthermore, the budgetary constraints of this research were adapted to allow access to this database through the Universidad de Guanajuato.

To ensure the pertinence and relevance of the reviewed literature, inclusion and exclusion criteria were established, considering articles published within the last five years (2021–2025). The thematic relevance of the articles and their focus on innovation typologies were also considered. This process facilitated a robust and well-founded analysis of the reviewed literature. The search for articles was conducted between January and June 2025, using keywords such as “innovation”, “organizational innovation”, “types of innovation”, and its relationship with “competitiveness”, as well as coherent combinations thereof to guarantee coverage of relevant results.

Finally, the articles from the database searches were subjected to an initial thematic selection review, and subsequently a second exhaustive review of the information in the articles, verifying compliance with the inclusion and exclusion criteria of this research. Only the articles that provided relevant information on the research topic were integrated into the final analysis of the study.

RESULTS AND DISCUSSION

This section presents the main results of the research. Therefore, Figure 4 below summarizes the relevant findings in the analysis, integrating the factors that influence innovation, the risks of not innovating, the strategic benefits and the types of innovation, and highlights the relevance of innovation as a determining factor for performance and adaptation in the current dynamic environments of the globalized world.

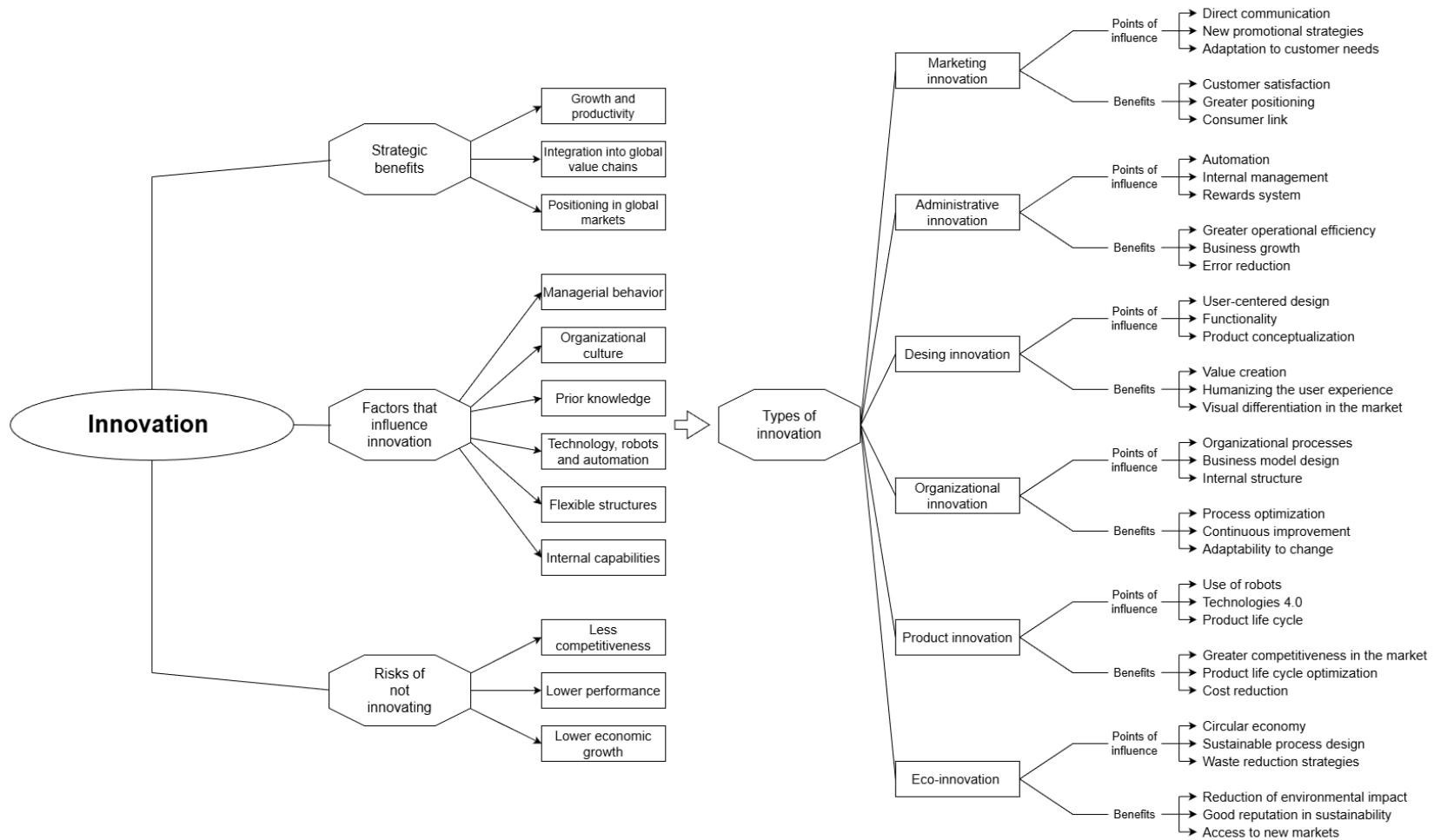
The diagram's content organizes the core aspects related to business competitiveness. On the one hand, it shows that some of the strategic benefits of innovation for companies include growth and productivity, positioning in global markets, and integration into international value chains. On the other hand, it explains that various factors can influence the innovation process, such as the company's organizational culture, prior experience, available technology, structural flexibility, and internal organizational capabilities (Figure 4).

Accordingly, the diagram also highlights some of the most significant risks of not innovating, such as loss of competitiveness, reduced performance, and economic stagnation in the business sector. Furthermore, the diagram classifies the types of innovation, including marketing, administrative,

organizational, design, product, and eco-innovation, describing the key factors influencing each type, such as process automation or the use of robots, and their associated benefits, such as increased market positioning or differentiation. To summarize, the diagram integrates the value, consequences, and pathways to innovation, as well as the potential benefits for companies that are innovative (Figure 4).

Figure 4

Innovation as a strategy for organizational competitiveness



Note: The diagram integrates the essential elements, as well as the risks and benefits associated with different types of innovation in organizational competitiveness. Source: Author's own elaboration.

CONCLUSIONS

In conclusion, it is pertinent to mention that companies face dynamic and competitive environments, where it is essential to implement strategies to remain current in the market. As a result, various studies agree that generating competitive advantages requires adopting these innovative processes, whether in the product, processes, marketing, or organization.

It is also worth mentioning that this contribution is of great relevance to literature, as it is a comprehensive review of innovation over the years. This contributes to the fulfilment of one of the United Nations Sustainable Development Goals (2025), specifically SDG 9, Industry, Innovation, and Infrastructure, by contributing to building resilient infrastructure, promoting sustainable industrialization, and fostering innovation.

Finally, it is important to clarify that innovation is not limited to product development, as is often believed, but rather is embedded in the entire organizational structure, the behaviour of the organization's members, and even the relationship with the customer. Ultimately, applying innovation to areas of need, identifying needs, and fostering a culture of constant learning is something companies must do to ensure their success with innovation as a tool.

Theoretical implications

- The article presents a completely new conceptual model of innovation, considering the theory analysed.
- The results of the study suggest that classic approaches to innovation for improving organizational competitiveness must be adapted to current global contexts.
- This research confirms that some aspects of innovation have different effects depending on the specific characteristics of each organization.

Practical implications and future research lines

- It is essential that companies manage their innovation strategies considering current market needs; in this way, they have the possibility of generating and maintaining sustainable competitive advantages in the long term.
- It is important for companies to allocate resources to training and skills development for their human capital, to ensure that the opportunities offered by technological innovation are taken advantage of in a timely manner.
- Considering the relevance of innovation to the competitiveness of organizations, it would be pertinent to conduct a study of innovation with a quantitative approach, using scales to measure the direct effects of innovation on the reduction of operating costs, seeking to identify the variables that contribute to the optimization of resources, thus providing a financial perspective that maximizes sustainable competitiveness.
- In response to current environmental needs, a research project is proposed to evaluate how the application of eco-innovation strategies contributes to reducing the carbon footprint and combating global warming, while also helping to determine the viability and profitability of implementing these strategies in companies.
- To study whether the use of robots in companies will be able to replace human capital and displace it from the workforce, as well as to evaluate the effects that these implementations would have on business competitiveness, the economy, and society.

- Considering that integration and innovation in technologies is essential today, it is relevant to study how the use of artificial intelligence in organizational processes can directly contribute to the competitiveness of companies.

Limitations

- The study is limited to conducting an in-depth review of literature, so it is recommended to carry out practical studies in organizations to measure the effect of different types of innovation.
- The absence of a practical study with its respective fieldwork makes it impossible to accurately measure the effects that each type of innovation has on competitiveness in the context of organizations.

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