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The role of artificial intelligence in strengthening dynamic capabilities: Proposal for a conceptual model

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Abstract. Using organizational innovation as a mediating variable and a digitally focused organizational culture as a moderating variable, this literature review investigates the function of artificial intelligence (AI) in creating dynamic capacities. According to recent studies, AI improves an organization's capacity to spot opportunities, take advantage of shifts in the market, and reallocate resources all of which support ongoing strategic adaptation. However, how AI is incorporated into organizational procedures, practices, and culture has just as much of an impact as the technology itself. In theory, this study advances our knowledge of how digital technologies contribute to the development of dynamic skills by putting forth an integrative conceptual model that connects technology, innovation, and culture. It draws attention to the organizational processes that enable AI to act as a catalyst for resilience, learning, and agility. From a managerial standpoint, this review emphasizes that in order to turn AI's potential into a long-term competitive advantage and strategic performance, leaders must invest not only in AI tools but also in creating an open digital culture and encouraging organizational innovation. Lastly, future study directions are proposed, such as the empirical investigation of these linkages in other sectors and new situations.

Keywords: *Artificial intelligence; Dynamic capabilities; Organizational innovation; Digital culture; Organizational agility.*

1. Introduction

Digital transformation has significantly upended organizational operational procedures and economic structures over the last ten years, posing previously unheard-of difficulties for businesses in terms of performance, agility, and strategic adaption. Due to its capacity to handle enormous amounts of data, automate intricate procedures, and enhance the caliber of decision-making, artificial intelligence (AI) has become a crucial technology of current digital era (Dwivedi et al., 2021; Davenport et al., 2020). AI is now viewed as a strategic lever for boosting competitiveness and encouraging creativity within firms rather than just as a technical instrument.

Dynamic capabilities theory (Teece, 2007) provides a useful conceptual framework for comprehending how businesses identify opportunities (sensing), seize opportunities (seizing), and reconfigure their resources and capabilities (reconfiguring) to sustain a sustainable competitive advantage in the face of growing uncertainty and complexity in economic environments. By enhancing the responsiveness, precision, and efficacy of strategic decisions, integrating AI into organizational processes appears to increase these dynamic capacities (Mikalef et al., 2020; Prasad & Junni, 2017). However, new research indicates that how AI is incorporated and utilized within the company has a significant impact on the value it produces.

In this sense, organizational innovation shows up as a crucial mediating factor for converting AI's technological potential into tangible organizational advantages. It creates an environment that is favorable to the development of dynamic skills by encouraging new management techniques, adaptable structures, and creative forms of collaboration (Fainshtein et al., 2024; Han et al., 2025). Concurrently, a digitally focused corporate culture serves as an important moderating factor, influencing how individuals and groups embrace, understand, and value the application of AI in their day-to-day operations (An et al., 2024). The impact of AI on the development of dynamic capacities is amplified by a robust digital culture that is defined by risk tolerance, openness to experimentation, and the encouragement of learning.

Despite the rapid expansion of research on artificial intelligence and dynamic capabilities, existing studies often adopt a technologically deterministic perspective, implicitly assuming that AI automatically enhances firms' adaptive capacities (Dwivedi et al., 2021; Davenport et al., 2020; Mikalef et al., 2020). This perspective tends to overlook the organizational processes through which AI reshapes routines, learning mechanisms, and strategic decision-making (Mahringer et al., 2024; Agarwal & Kumar, 2024; Han et al., 2025). Moreover, the micro-foundations linking AI-enabled cognition, organizational innovation, and the reconfiguration of dynamic capabilities remain insufficiently theorized, particularly in contexts characterized by uncertainty and accelerated digital transformation (Fainshtein et al., 2024; Fosso Wamba et al., 2024; Gao et al., 2025; Al-Moaid & Almarhdi, 2024). As a result, the conditions under which AI effectively contributes to firms' dynamic capabilities are still not fully understood.

The originality of this study lies in its process-oriented and capability-based perspective, which conceptualizes artificial intelligence as a cognitive and learning-enabling technology embedded within organizational routines rather than as a standalone digital resource. By explicitly linking AI to the sensing, seizing, reconfiguring, and learning dimensions of dynamic capabilities (Teece, Pisano, & Shuen, 1997; Khan et al., 2021; Bornay-Barrachina et al., 2025), and by integrating organizational innovation and digital-oriented organizational culture as key explanatory mechanisms, this research advances a more nuanced understanding of how dynamic capabilities are actively transformed in the digital era (Gao et al., 2025; Al-Moaid & Almarhdi, 2024; Le & Behl, 2023).

From a theoretical standpoint, this study enriches dynamic capabilities theory by clarifying the role of artificial intelligence as an enabler of higher-order organizational learning and strategic reconfiguration, rather than as a purely technical or operational tool (Mahringer et al., 2024; Dwivedi et al., 2021; Machucho & Ortiz, 2025). It contributes to the literature by articulating the organizational and cultural conditions under which AI-driven insights are converted into adaptive and reconfigurable capabilities. From a managerial perspective, the study provides actionable guidance by identifying organizational innovation practices and digital cultural attributes that allow firms to effectively translate AI investments into sustained agility, resilience, and performance in turbulent environments (Velyako & Musa, 2024; Fassnacht et al., 2024; Sullivan & Wamba, 2024).

With an emphasis on the moderating function of a digitally oriented organizational culture and the mediating function of organizational innovation, this literature review attempts to investigate the role of AI in the development of dynamic capacities. It aims to discover the structural and cultural factors that support the achievement of this digital revolution while offering a comprehensive grasp of the theoretical and empirical mechanisms via which AI affects organizational agility, performance, and resilience. Thus, the central question guiding this research is: To what extent does AI contribute to the development of firms' dynamic capabilities?

This article is organized as follows. In Section 1, we integrate our theoretical framework on AI and dynamic capabilities. In Section 2, we develop the main research proposals that can explain the relationship between AI and dynamic capabilities. As we approach the conclusion, we highlight the implications and limitations of this research and suggest some avenues for further exploration.

2. Conceptualization: AI and dynamic capabilities

a. Artificial intelligence

i. Conceptual genesis and definitions

The origins of artificial intelligence (AI) predate the current era of computing. Philosophers and inventors have used logic and automata to try to comprehend and mimic human thought processes since ancient times. However, John McCarthy first used the phrase "Artificial Intelligence" at the Dartmouth Conference in 1956, marking the beginning of AI as a scientific field. The goal of this research was to build machines that could mimic human cognitive processes like learning, reasoning, and problem-solving. AI underwent multiple stages during the ensuing decades: statistical techniques in the 1990s and 2000s, symbolic systems in the 1960s and 1980s, and machine learning and deep learning starting in 2010 (Russell and Norvig, 2021).

AI is now a component of a multidisciplinary dynamic at the nexus of data management, computer science, mathematics, and cognitive science. Russell and Norvig (2021) define it as "the science and engineering of making intelligent machines." In 2022, the Stanford Human-Centered Artificial Intelligence Institute defined it as "the set of techniques that enable a machine to learn, adapt, and act autonomously in an uncertain environment." This method places a strong emphasis on both the ability to simulate human reasoning and contextual adaptation.

According to (Bécue et al., 2024), recent definitions of AI tend to be more expansive, viewing it as a technology, a cognitive capacity, and a strategic asset. Based on big data analysis, pattern recognition, and behavior prediction, it is now thought of as a system capable of cognitive mimicking. AI, according to Gil et al. (2024), is "the design of computer systems capable of imitating human behavior involving learning, contextualization, and problem-solving".

All things considered, artificial intelligence has evolved from a scientific goal to replicate human intellect to a tool for social and economic change with applications in organizational strategy, decision-making, and creativity. It is currently a cognitive technology in the center of the fourth industrial revolution, significantly influencing how businesses learn, create, and engage with their surroundings (Machucho & Ortiz, 2025).

ii. Main components

These days, artificial intelligence (AI) is a crucial tool for enhancing an organization's dynamic capabilities, especially for SMEs operating in unpredictable conditions. There are five primary aspects that can be identified.

1. By enabling businesses to examine enormous amounts of data in order to predict trends and spot new opportunities, the cognitive and analytical dimension enhances the sensing capability (Wong & Ngai, 2025; Fosso Wamba et al., 2024).
2. By using automation and generative AI to make processes more adaptable and flexible, the operational and intelligent automation dimension supports the reconfiguration capabilities (Yu et al., 2024; Fosso Wamba et al., 2024).

3. By guaranteeing greater integration and exploitation of data from various systems, the informational and connectivity dimension enhances strategic responsiveness and makes it easier to grasp data (Khan et al., 2021; Fassnacht et al., 2024).
4. By encouraging ongoing learning, knowledge development, and innovation inside the organization, the organizational learning dimension strengthens adaptive capacities (Agarwal & Kumar, 2024; Yahya, 2024).
5. The sensing-seizing-reconfiguring cycle is covered by the strategic and decision-making dimension, which facilitates proactive and data-driven decision-making that is crucial for organizational performance and resilience (Al-Moaid & Almarhdi, 2024).

In summary, AI functions as a dynamic strategic resource that may improve the identification, capture, and reconfiguration of opportunities and resources, guaranteeing a long-term competitive advantage. It is not merely an automation technology.

b. Dynamic capabilities

i. Conceptual origins and definitions

The Resource-Based View (RBV), created by Barney (1991), is where the idea of dynamic capabilities first appeared. However, Teece, Pisano, and Shuen (1997) codified it to go beyond the static character of this method. The ability of an organization to integrate, develop, and rearrange its internal and external resources in order to adapt to changing surroundings is referred to as dynamic capabilities. Sensing, seizing, and transforming/reconfiguring are their three basic activities (Teece, 2007).

This paradigm has been further developed in recent research, with a focus on its technological, strategic, and processual components. According to Mahringer et al. (2024), dynamic capabilities are a collection of procedures that allow resources to be continuously aligned with market demands. According to Le & Behl (2023), they are the capacity to construct and reassemble resources in order to capitalize on external shifts. A sustainability component is added by López-Solís (2025), who views these capacities as a means of producing and safeguarding long-term intangible assets. Lastly, Fosso Wamba et al. (2024) stress that by speeding up detection and strategic reconfiguration, digital technologies -especially artificial intelligence- are now important levers for enhancing these capacities.
In conclusion, dynamic capabilities are an organizational meta-competence that enables the business to innovate, adapt, and sustain its performance in a complex and digitalized environment.

ii. Main components

Companies can adapt and innovate in changing contexts thanks to the four complimentary characteristics of dynamic capabilities.

- **Sensing capability**

The ability of a business to recognize and foresee possibilities or hazards in its surroundings is referred to as detection capability. It depends on data analysis, market intelligence, and strategic monitoring. Through automated data collection and predictive analytics algorithms, AI improves this dimension by increasing detection speed and accuracy (Fosso Wamba et al., 2024).

- **Seizing capability**

The mobilization and exploitation of opportunities found through strategic choices and focused investments is correlated with the capacity to take opportunities. By assisting with strategic

review and modeling procedures, AI helps to improve resource allocation and provide more flexible decision-making (Teece, 2007; López‑Solís, 2025; Le & Behl, 2023).

- **Reconfiguration capability**

To keep resources in line with a changing environment, reconfiguration entails rearranging and modifying them. Through automation, simulation, and intelligent knowledge management, AI plays a significant role in this dimension by promoting organizational flexibility and process restructuring (Mahringer et al., 2024; Fosso Wamba et al., 2024).

- **Learning capability**

By allowing the business to generate, disseminate, and incorporate new knowledge from both internal and external events, organizational learning serves the three aforementioned characteristics. Through cognitive analytics and decision support systems, which convert data into useful information, AI promotes this ongoing learning (Han et al., 2025; Le & Behl, 2023).

c. Interaction between artificial intelligence and dynamic capabilities

Artificial intelligence (AI) and dynamic capabilities are complementary and synergistic, with AI serving as a catalyst or amplifier of pre-existing dynamic skills.

i. AI as a catalyst for dynamic capabilities

Organizations gain greater agility by incorporating AI into their operational and decision-making processes. This allows them to recognize, take advantage of, and transform opportunities brought about by digital transformation.

- **AI as a lever for Sensing**

In order to foresee opportunities and risks, dynamic capabilities necessitate environmental monitoring and interpretation. AI increases this detection's speed and accuracy through big data, machine learning, and predictive analytics, allowing businesses to respond sooner and with better insights (Fosso Wamba et al., 2024).

- **AI for seizing opportunities**

Dynamic capacities necessitate the efficient mobilization and use of resources after opportunities have been identified. AI strengthens the organization's capacity to convert insights into tangible actions by facilitating strategic decision-making, efficient resource allocation, and initiative prioritization (López‑Solís, 2025; Le & Behl, 2023).

- **AI and resource reconfiguration (Reconfiguring)**

Rearranging procedures, competencies, and structures is essential to organizational adaptation. By automating procedures, streamlining value chains, and modeling various resource allocation scenarios, AI facilitates this reconfiguration and speeds up strategic flexibility (Mahringer et al., 2024).

- **AI and organizational learning**

Knowledge integration and ongoing learning are components of dynamic capacities. AI makes it possible to convert data and experiences into knowledge that can be put to use, which promotes better routines and ongoing innovation (Han et al., 2025).

By acting on their dimensions (sensing, seizing, reconfiguration, and learning), AI enhances and speeds up dynamic capacities. It turns these skills into a tangible strategic lever for businesses to adapt, innovate, and perform sustainably in challenging and digital settings.

ii. Interdependence between the two concepts

Artificial intelligence (AI) and dynamic capabilities are complementary because of their synergistic interplay, in which AI amplifies and catalyzes organizational processes. AI makes it possible for businesses to respond to environmental changes more swiftly and intelligently by enhancing the detection of opportunities and risks (sensing). Additionally, it facilitates ongoing organizational learning, internal process and structural reconfiguration (transforming), and the mobilization and efficient allocation of resources (seizing). Therefore, AI and dynamic capabilities complement one another: AI offers the automated and analytical tools required to turn data and insights into strategic actions, while dynamic capabilities make sure that these technologies are appropriated, integrated, and leveraged to produce innovation, adaptability, and sustainable performance (Teece, 2007; Wamba et al., 2024; Fassnacht et al., 2024).

3. Modelling: AI and dynamic capabilities

Organizations must build dynamic capabilities -that is, the capacity to identify opportunities and threats (sensing), seize opportunities (seizing), and proactively reconfigure resources and processes (reconfiguring)- to stay competitive in an economic environment marked by rapid digital transformation and increased volatility (Teece, 2007; Mikalef et al., 2020). With tools for data analysis, process automation, and intelligent algorithm-assisted decision-making, artificial intelligence (AI) is a key strategic lever for bolstering these dynamic capacities (Dwivedi et al., 2021; Davenport et al., 2020). However, only when AI is incorporated into creative organizational practices will its impact on dynamic capabilities be completely recognized.

Therefore, organizational innovation serves as a mediating variable, converting the technological potential of AI into tangible dynamic capabilities. Organizational innovation is defined as the adoption of new practices, processes, and structures to improve organizational flexibility and performance (Fainshtein et al., 2024; Han et al., 2025).

Additionally, the success of this change depends on the organization's digitally oriented culture, which emphasizes technology acceptance, experimentation, and digital learning. This culture acts as a moderator by either strengthening or weakening the connection between AI and dynamic capabilities (An et al., 2024).

In light of these factors, the research framework puts forth five major research proposals that investigate: (i) the direct connection between AI and dynamic capabilities; (ii) the impact of AI on organizational innovation; (iii) the impact of organizational innovation on dynamic capabilities; (iv) the mediating function of organizational innovation; and (v) the moderating function of a digitally oriented organizational culture. This integrated paradigm makes it possible to comprehend how organizational procedures and digital technology work together to improve businesses' agility and strategic adaptability.

a. Artificial intelligence and dynamic capabilities

These days, artificial intelligence is a strategic tool for promoting organizational responsiveness and agility. It helps businesses identify opportunities and threats in their environment early on (sensing capability), mobilize the resources needed to take advantage of these opportunities (seizing capability), and reconfigure their assets in response to changes (reconfiguration capability) by facilitating the quick collection, analysis, and interpretation of data. Therefore, organizational learning processes, knowledge integration, and adaptive decision-making -all of which are seen as essential elements of dynamic capabilities- are directly supported by AI

(Teece, 2007). As a result, businesses that make investments in AI are better equipped to revitalize and enhance their strategic capabilities in the face of unstable environmental conditions. Based on these theoretical and empirical arguments, it is possible to formulate the following main research proposal :

P1: Artificial intelligence is positively linked to dynamic capabilities.

- **AI and sensing capability**

AI enhances the business's capacity to continuously analyze its surroundings, spotting new patterns, consumer behavior, or faint signals that are challenging for human analysis to pick up on. Advanced analytics, machine learning, and natural language processing capabilities enable businesses to identify new possibilities, modify their strategy, and anticipate changes in the market more rapidly. The foundation of developing dynamic capabilities is this capacity for anticipation (Teece, 2018; Gao et al., 2025). Given the components covered above, the following sub-research proposal can be proposed :

P1a: AI is positively related with sensing capability.

- **AI and seizing capability**

Businesses can make quicker decisions based on trustworthy data thanks to artificial intelligence, which lowers uncertainty while taking advantage of possibilities. Additionally, by facilitating experimentation and modeling of various situations, it encourages the design of new goods, services, or business models (Sullivan & Wamba, 2024).
The ability to seize opportunities, which is the core of organizational transformation, is improved by this decision-making agility and innovative tendencies. In light of the arguments presented, we can deduce the following specific research proposal :

P1b: AI is positively related to seizing ability.

- **AI and reconfiguration capability**

Through intelligent automation and ongoing learning, AI facilitates organizational reconfiguration. Decision support systems and adaptive algorithms enable businesses to efficiently reallocate resources and rearrange internal procedures in response to changes in the external environment (Gao et al., 2025; Babashahi et al., 2024).
As a result, AI becomes a catalyst for agility, enabling routines to change and organizational abilities to be updated continuously. Based on the theoretical justifications presented, the following sub-research proposal can be proposed :

P1c: AI is positively related to reconfiguration capability

b. Artificial intelligence and organizational innovation

These days, artificial intelligence (AI) is a key tool for innovation and organizational change. Businesses may make better use of their data, enhance their decision-making procedures, and create new types of value creation by combining machine learning, natural language processing, and predictive analytics technology (Dwivedi et al., 2021; Davenport et al., 2020). These skills encourage the development of organizational innovation, which is defined as the application of novel management techniques, procedures, organizational structures, or management models intended to enhance efficiency and flexibility (Wang et al., 2024).

By automating some repetitive operations and freeing up human resources for higher-value jobs, AI fosters innovation (Haefner et al., 2021). In addition, it facilitates cross-functional collaboration and knowledge integration within the organization, thereby enhancing the

capacity to design and adopt innovative organizational practices (Syam & Sharma, 2018; Li et al., 2025; Fassnacht et al., 2024).

Additionally, businesses can constantly experiment and modify their internal structures in response to market signals thanks to AI's capacity for adaptive learning (Han et al., 2025). According to Mikalef et al. (2020), businesses that include AI into their management processes are therefore more equipped to rethink their organizational routines and promote sustainable innovation.

The strategic use of AI fosters the development of new organizational practices, internal structure adaptability, and innovative talents, according to a number of recent empirical research (An et al., 2024; Mariani & Dwivedi, 2024). To put it another way, AI is not just a technological advancement; it also changes how companies coordinate, communicate, and make decisions.

Consequently, in light of these arguments, it is reasonable to suggest that the adoption and use of artificial intelligence exerts a positive influence on the development of organizational innovation.

P2: Artificial intelligence is positively related to organizational innovation.

c. Organizational innovation and dynamic capabilities

According to Wang et al. (2024), organizational innovation is the introduction of new coordination mechanisms, organizational structures, or management practices that enable the firm's performance and flexibility to be improved.

This type of innovation focuses on how the organization learns, adapts, and changes; it goes beyond technology advancement. The ability of a business to integrate, develop, and rearrange its resources in order to react swiftly to changes in the environment is known as dynamic capabilities (Teece, 2007; Mikalef et al., 2020). These traits are directly consistent with the logic of dynamic capabilities.

Because it fosters experimentation, group learning, and managerial adaptability, organizational innovation is essential to the development of dynamic skills (Fainshtein et al., 2024). Businesses improve their ability to detect and analyze market signals by implementing new procedures and routines (Fainshtein et al., 2024). Additionally, improvements in corporate communication and decision-making structure foster grabbing capacity, allowing for quicker opportunity exploitation and more effective resource mobilization (Khan et al., 2021). Lastly, by enabling the reorganization of resources and abilities in response to environmental changes, the redefining of organizational practices enhances the capacity for reconfiguration (Mikalef et al., 2020; Bornay-Barrachina et al., 2025).

This beneficial association is empirically supported by multiple investigations. Velyako & Musa (2024), for instance, demonstrate how organizational innovation enhances businesses' ability to replenish their resources and preserve a long-term competitive edge. In a similar vein, Khan et al. (2021) stress that innovation in managerial procedures enhances organizational flexibility and strategic responsiveness, two crucial aspects of dynamic capabilities. Additionally, An et al. (2024) note that businesses with a strong organizational innovation culture are better able to translate knowledge into tangible actions, which enhances their adaptability.

Therefore, organizational innovation promotes the ongoing reinvention of routines, structures, and decision-making models, serving as both an antecedent and a catalyst for the creation of dynamic capacities. Therefore, we propose the following research proposal :

P3: Organizational innovation is positively related to dynamic capabilities.

d. Artificial intelligence, organizational innovation, and dynamic capabilities

Companies must create adaptation strategies to preserve their competitive edge in an economic climate marked by high levels of uncertainty and quick changes. A key strategic lever in this situation is dynamic capabilities, which are described as an organization's capacity to identify opportunities and dangers (sensing), take these chances (seizing), and reconfigure its resources and processes (reconfiguring) (Teece, 2007; Mikalef et al., 2020). As a cognitive and adaptive technology, artificial intelligence (AI) allows businesses to handle and analyze enormous amounts of data, automate some operational and decision-making processes, and produce strategic insights from weak signals (Dwivedi et al., 2021; Davenport et al., 2020). However, the influence of AI depends on how its features are incorporated into organizational procedures; it does not automatically provide dynamic capacities.

Organizational innovation is essential in this situation. According to Wang et al. (2024); Fainshtein et al. (2024), it is the introduction of new managerial techniques, procedures, or structures with the goal of enhancing the organization's performance, flexibility, and adaptability. By encouraging the restructuring of routines, the experimentation of new working techniques, and the adoption of novel processes, organizational innovation enables the transformation of AI's potential into tangible actions.

Therefore, by enabling experimentation, scenario simulation, and cross-functional coordination while freeing up human resources for more value-added tasks, AI fosters the emergence of organizational innovation (Haefner et al., 2021; Mariani & Dwivedi, 2024).

By enhancing the ability to detect opportunities and threats (sensing), seize opportunities (seizing), and reorganize resources and processes (reconfiguring), this organizational innovation in turn strengthens dynamic capabilities (Fainshtein et al., 2024; Bornay-Barrachina et al., 2025).

As a result, organizational innovation serves as a mediating mechanism, converting AI's technological promise into useful dynamic capabilities. Based on these arguments, we can suggest the following research proposal :

P4: Organizational innovation mediates the positive relationship between artificial intelligence and dynamic capabilities.

e. Artificial intelligence, the organisational culture oriented toward digitalization and dynamic capabilities

Organizations must create adaptation strategies to preserve their competitive edge in an economic environment marked by high levels of uncertainty and swift technical advancements. A crucial strategic tool for addressing these issues is dynamic capacities (Teece, 2007; Mikalef et al., 2020).

Organizations can use artificial intelligence (AI) to handle and analyze large amounts of data, automate some operational and decision-making processes, and produce strategic insights from weak signals (Dwivedi et al., 2021; Davenport et al., 2020). However, increased dynamic capabilities are not assured by merely implementing AI. How AI's features are embraced and incorporated into organizational procedures has a significant impact on how effective it is.

In this case, Digital-Oriented Organizational Culture (DOOC) is essential. Digital technologies are accepted and integrated, technological innovation is valued, experimentation is tolerated, and digital learning is encouraged in this culture (An et al., 2024; Velyako & Musa, 2024).

Employees adopt AI technology more rapidly, make better use of its features, cooperate more readily, and translate technological insights into practical organizational practices in companies with a strong culture.

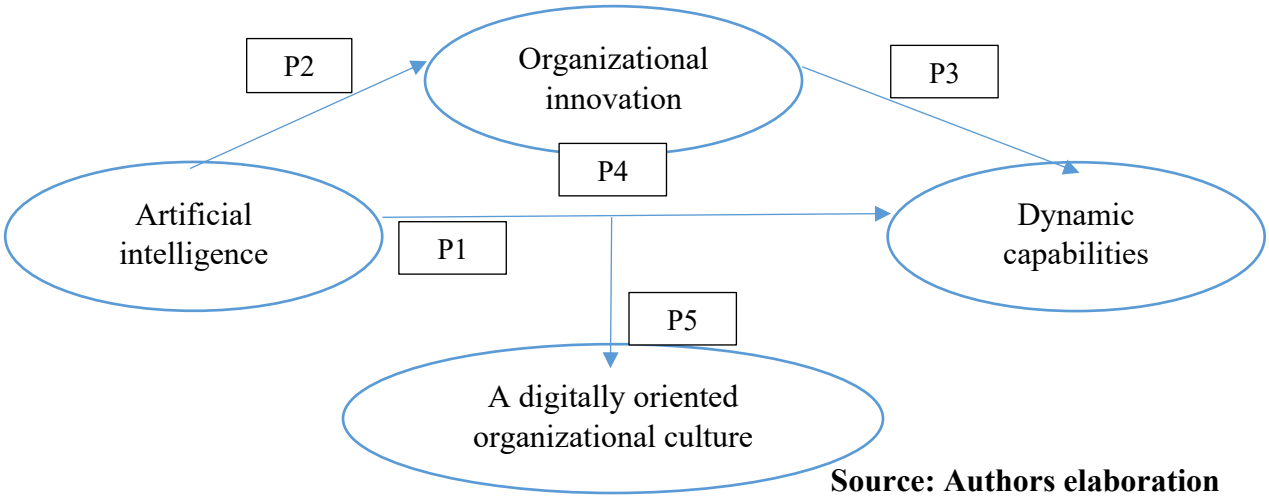
Therefore, the relationship between AI and dynamic capacities is moderated by an organizational culture that is digitally oriented. Strong digital cultures enhance the beneficial impact of AI on the development of dynamic capacities, but poor cultures can restrict this potential by encouraging resistance to change, a lack of skills, and incomplete technology adoption (An et al., 2024). Based on these arguments, we propose the following research proposal :

P5: A digitally oriented organizational culture moderates the positive relationship between artificial intelligence and dynamic capabilities.

In other words, the stronger the digital culture, the greater the impact of AI on dynamic capabilities.

The conceptual model proposed in Figure 1 examines the impact of artificial intelligence on the development of organizations' dynamic capabilities. This relationship is both direct and indirect, through the mediating role of organizational innovation, which transforms the technological potential of AI into organizational routines, practices, and processes that promote strategic adaptation. At the same time, the model incorporates digitally-oriented organizational culture as a moderating variable, which can amplify or limit the effect of AI on dynamic capabilities depending on the degree of technological acceptance, experimentation, and digital learning within the organization. This conceptual framework thus provides a better understanding of the mechanisms by which artificial intelligence, combined with key organizational factors, contributes to strengthening sensing, seizing, and reconfiguring capabilities and, consequently, to the agility and strategic adaptability of organizations in environments characterized by high uncertainty and accelerated digital transformation.

Figure 1- Proposal for a conceptual model



Source: Authors elaboration

4. Conclusion

An increasing body of research on the strategic contribution of digital technologies to agility and organizational performance is shown by an analysis of the literature on the role of artificial intelligence (AI) in the creation of dynamic capabilities. The three essential components of dynamic capabilities—opportunity identification (sensing), opportunity capturing, and resource reconfiguration—are encouraged by AI as a learning and intelligent automation technology

(Teece, 2007; Mikalef et al., 2020). It helps businesses make better decisions, enhance process coordination, and foresee environmental changes, all of which support ongoing adaptation and a long-term competitive edge.

The literature, however, highlights that the advantages of AI are not automatic and mostly rely on the organization's capacity to convert this technology into organizational added value. In this sense, organizational innovation seems to be a crucial mediating mechanism that converts AI's promise into new routines, structures, and practices that encourage adaptability and group learning (Fainshtein et al., 2024; Han et al., 2025).AI fosters innovation, teamwork, and internal process reconfiguration, which improves the organization's capacity to adjust to a changing environment.

Additionally, an important moderating factor in this relationship is a corporate culture that is focused on digital technology. A culture that values innovation, openness to technology, and ongoing learning makes it easier to incorporate AI into organizational procedures and increases its impact on the creation of dynamic capabilities (An et al., 2024).

On the other hand, a culture that is inflexible or unreceptive to digitalization tends to impede the adoption of technology, so reducing their impact on organizational transformation. An integrative paradigm connecting AI, organizational innovation, and digital culture to dynamic capacities is highlighted in this overview of the research. It demonstrates that creating dynamic capacities in the digital age depends on a harmonic blend of technology, innovation, and organizational culture in addition to technological availability.

From a theoretical standpoint, this paradigm provides a strong foundation for upcoming empirical studies that seek to examine these connections in various organizational settings, especially in SMEs undergoing digital transformation.

Still, there are certain restrictions. To the detriment of SMEs or emerging situations, the literature is still dispersed and frequently concentrates on big businesses and the technology sector. Additionally, most research uses cross-sectional methods, which makes it difficult to observe how these correlations dynamically change over time.

Therefore, utilizing longitudinal and comparative methods, future research directions could empirically investigate the role of AI in the gradual development of dynamic skills. Analyzing the impact of contextual elements, such as business size, industry, or level of digital maturity, would also be pertinent in order to gain a deeper understanding of how AI, when bolstered by innovation and a robust digital culture, may sustainably improve organizational performance and resilience.

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