

Research Article

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AI Readiness and Technology Adoption Processes in SME's in Emerging Economies

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ABSTRACT

Small firms in emerging economies are often unaware of technology's benefits. Technology assimilation tools are not common in their skill domain or business culture. Their absorptive capacity is very low, since they are usually pressed with operational problems. But Artificial intelligence and digital technologies are powerful changes, modifying their competitive environment. The use of AI tools, and particularly generative AI, represents a further domain in which traditional businesses' ability to assimilate the technology will be further challenged. Our research operationalizes specific capabilities that small firms must develop to assimilate and use AI in their operations, particularly in strategic decision-making. Evidence from case studies and AI use-case analyses from small firms in Latin America is used to illustrate the stages and capabilities that enable a firm to assimilate AI into strategic decision-making. Use case analysis explains the relationship between the use of artificial intelligence in small firms and their innovation capabilities in the Latin American economic context. A model of the process of dynamic capability development and the growth of absorptive capacity is proposed for guidance in future research in the Latin American context.

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Small Firm Competitiveness in Latin America: a Structurally Difficult Path

In Latin American countries, during the second half of the last century, economies developed mainly through resource exploitation. Few enterprises are able to develop significant technological capabilities and grow into international markets (Kolbe et al., 2022). In Latin America, most studies have focused on the adoption of traditional information and communication technologies (ICTs), ERP systems, e-commerce platforms, or broader digitalization processes. These contributions are important, but do not include specific artificial intelligence. So, we have a gap in understanding how SMEs approach the adoption of artificial intelligence in emerging economies.

In resource-constrained contexts, they tend to lack enough resources to invest in new technologies and operate in a “vicious circle” in which their reliance on external R&D and chronic resource shortfalls restrict their ability to build internal capabilities, assimilate technologies and increase their productivity and competitiveness; they seem to be locked into traditional methods and low productivity (Avenyo et al. 2024; Ferreira & da Silva, 2015; McMillan et al., 2014; Teixeira et al., 2020). New Artificial Intelligence technologies, however, are poised to deliver strong opportunities for those firms that are able to use them effectively. They are very low-cost, as compared to other digital technologies, even though their effective utilization is less certain and cannot be taken as given.

Economic sectors in Latin American countries tend to be highly stratified, with modern sectors improving in productivity and growing into international markets, and traditional sectors that tend to stagnate or even reduce their productivity levels relative to those of modern enterprises (Ferreira & da Silva, 2015; Katz, 2000; Katz & Stumpo, 2001; McMillan et al., 2014; Pagés, 2010; Rodrik, 2013). In the Mexican case, a study by McKinsey Global Institute (MGI, 2014) presents the country’s economy as sharply divided into two sectors: one with low and diminishing productivity, and a modern one, highly productive and internationally competitive. As this study shows, a paradoxical and intriguing phenomenon is that traditional-sector firms even tend to diminish their productivity, relative to those in the more technologically advanced sector.

Many small businesses in emerging economies are not fully aware of the benefits that technology can offer (Caldeira & Ward, 2002; Shofi & Ghina, 2025). They have limited access to tools for adopting it and continue to depend on manual production methods (Arévalo et al., 2018; Osorio et al., 2016).

The most common pattern is that their small firms have had little incentive to develop absorptive and technological capabilities (Cohen & Levinthal, 1990) or have not reached maturity levels that enable them to develop those. Many small firms in the region lack the maturity, resources, and incentives necessary to build these capabilities, especially in resource-constrained environments. Their absorptive capacity is very low, since they are usually pressed with operational problems and crises that threaten their survival and hinder their growth and evolution (Teixeira et al., 2020). Small firms under operational pressure often lack the resources to invest in learning and assimilating new technologies, and therefore their ability to innovate and grow (Sun et al., 2023; Veseli-Kurtishi & Chaushi, 2024; Zahra & George, 2002).

Firms that operate at this level are stuck in a rut, where low productivity hinders their ability to explore and think strategically. They are unable to invest resources in searching for available technologies to solve their most immediate problems and thus, their absorptive and dynamic capabilities fail to develop (Barney, 2001; Komara et al., 2025; Munawar, 2025; Sun et al., 2023).

The Role of Absorptive Capacity and Dynamic Capabilities in Digital Technologies Adoption

Diverse conceptual frameworks have been developed to characterize and explain how these firm characteristics are more competitive in other contexts, mainly in industrialized economies. The absorptive capacity concept, first introduced by Cohen and Levinthal (1991) and later applied explicitly to assess the development of technological capabilities in small firms (Jang & Lee, 2025; Sun et al., 2023; Zahra & George, 2002), explains the difference between firms that have developed a strong capacity to search for, and to assimilate technologies that enable their competitiveness, and firms that have not (Munawar 2025).

Findings reported by Cimino et al. (2025) indicate that well-developed dynamic capabilities enable firms to adapt more effectively to changes in their technological and competitive environments, including the adoption of artificial intelligence tools. Sun et al. (2023) analyze how dynamic capabilities (Teece et al., 1997), such as learning, adapting, and reconfiguring resources, help SMEs sense and seize opportunities to innovate (Amaya et al., 2025) and thus overcome structural gaps and competitive lags compared to more advanced firms or those in industrialized economies. They highlight that the ability to identify and assimilate technology and innovation opportunities is often severely hampered by resource limitations and a lack of organizational flexibility (Majhi et al. 2025).

Some studies have documented similarities and differences between developing and industrialized economies, using these conceptual frameworks in explaining observed gaps and lags between larger firms and those in resource-constrained settings. Blalock and Gertler (2004) found that higher R&D investment and human capital in Indonesian firms facilitate technology adoption that bridges existing gaps. Vu (2018) documents that Vietnamese firms' absorptive capacity—measured as efficiency differentials—is positively related to firm size, technology level, and employee skills, even as an efficiency gap persists relative to foreign counterparts.

However, these approaches offer few elements that may be used to identify effective means or specific factors on which to build or to strengthen small firms' ability and strategic impulse to find and assimilate technologies that may improve their growth and competitiveness in current economic conditions. These approaches tend to take technological capabilities and their sources for granted and to explain the sources of their already present capabilities and competitive abilities as given. They lack an evolutionary focus to guide managers' decision-making and policy measures that build the dynamic and absorptive capabilities and resources they need to become technologically adept and able to search, evaluate, assimilate, and productively use new technologies (Majhi et al., 2025).

Even though these conceptual frameworks provide fertile criteria for identifying characteristics that differentiate firms with the competencies to adeptly identify and assimilate technologies in their competitive endeavors, they are less useful for identifying actionable strategies to develop

and strengthen small firms' technological assimilation capabilities. Their conceptualization of small firms is static and not evolutionary. They do not provide a developmental perspective of small firms that can be used to help enable firms that lack the necessary characteristics to develop them.

At the firm level, these frameworks also lack specificity regarding factors that facilitate the strategic adoption of new technologies in resource-constrained environments. Recent studies emphasize the importance of dynamic capabilities and absorptive capacity in fostering digital technology adoption and innovation within small and medium-sized enterprises (Cimino et al. 2025).

Studies in emerging economies, however, have identified some of the preconditions that small firms in resource-constrained environments need to achieve when trying to traverse the gap towards more technologically advanced stages. Absorptive capacity has been used in the context of emerging economies to explain differences in innovation timing and performance across firm sizes and economic contexts. Fuentes and Dutrénit (2011, 2013) report that, in low-tech manufacturing, small and medium-sized enterprises benefit from organizational capabilities and spillovers—achieved via backward linkages and employee mobility—from larger firms. Gray (2006) finds that greater firm age, education, and size are associated with higher absorptive capacity. Jeon et al. (2015) also note that, following technology acquisition, large firms experience a three-year innovation lag compared with one to two years in smaller firms.

The Development of Capabilities for the Adoption of Digital Technologies

Some advances have been reported in the literature on understanding the processes by which small traditional firms develop absorptive capacity and dynamic capabilities that enable them to adopt and assimilate new technology. Chadee (2011) found that small exporters in the Philippines use social capital to acquire export knowledge as a resource they configure to enter international markets. Small export firms can adopt entrepreneurial tactics and achieve positive returns by leveraging their relational capital to acquire export knowledge and improve performance. Price and Stoica (2015) also used the resource view of the firm to analyze the ways in which SMEs combine human, social, organizational, and knowledge-based resources to overcome tangible deficiencies and narrow the gap with respect to larger firms in the Philippines. Kerr et al. (2005) also documented the ability of small firms to develop their capabilities through careful investments in management and professional employee training, in strategic planning, and careful management of informal control and communication methods within the firm (Komara et al. 2025). Pal et al. (2024) found that knowledge management processes are also critical antecedents for small firms to be able to build dynamic capabilities and resilience in turbulent environments.

Van Hoang et al. (2025) found that leadership outlook positively affects the development of digital capabilities and absorptive capacity in Vietnamese firms. Business leaders who understand and champion digital technologies become a critical factor in the development of their firms' ability to assimilate digital technologies productively. More recent studies have emphasized that the adoption of digital technologies in turn significantly strengthens absorptive capacity, which is crucial for translating digital investments into competitive advantage (Azizi et al., 2025; Wahab & Radmehr, 2025).

The reviewed research thus consistently shows that internal organizational factors, such as process standardization, basic information systems, and external ecosystem support, are key determinants of technological adaptation in developing country contexts (Díaz-Arancibia et al. 2024).

Thus, while operating in resource-constrained environments in developing countries, the ability of small firms to develop dynamic capabilities and absorptive capacity for digital technology adoption is primarily determined by strategic outlook in their leadership, by organizational adaptability, and by external ecosystem support.

Currently, however, as Industry 4.0 and 5.0 bring new technologies underway, Artificial Intelligence and digital technologies are powerful changes, modifying small firms' internal capabilities and competitive environment (Dimoso & Utonga, 2024). The use of AI, and particularly generative AI, represents a further domain in which traditional businesses' ability to assimilate the technology will be further challenged. These technologies, however, will also be more available because of their low initial cost and low skill and ability to use the initial threshold.

In the case of Artificial Intelligence tools, and particularly Large Language Models (LLMs), two specific factors mark a strong difference with respect to the ability to use other digital technologies. The first is the availability of low-cost technology tools for many specific processes within a firm, and the second is their apparent ease of use.

In this research, our aim is to explore factors that enable small firms to overcome the gaps that they present with respect to modern, technologically more advanced firms and to cross the threshold that will help them overcome the resource limitations that hold them back. We seek to develop a conceptual framework that enables managers to make decisions that help their firms overcome the vicious cycle that limits their evolution. Since this is an exploratory study, our only hypothesis is that specific factors may be identified that enable or hinder the adoption of digital technologies in SMEs in the region, and that these factors may be identified and described by middle and higher management in small and medium enterprises

Our research operationalizes specific capabilities that small firms must develop to assimilate and use AI in their operations, particularly in strategic decision-making. The goal is to identify specific factors and variables that define a process through which their digital technology readiness and their ability to assimilate artificial intelligence into their operations can be enhanced.

There is limited evidence on how SMEs in Latin America are incorporating AI into their operations, despite the growing global relevance of generative AI. Absorptive Capacity and Dynamic capabilities have been applied extensively in industrialized economies but are now being explored for AI adoption in emerging economies like Latin America. In this study, we combine these frameworks with empirical evidence from SMEs in Mexico, Peru, and Colombia, and provide a perspective on how firms progressively build the capabilities necessary to adopt AI tools.

Evidence from case studies and AI use-case analyses of small Latin American firms is used to explore and illustrate the stages and capabilities that enable a firm to assimilate AI into strategic

decision-making and specific operational processes. The perspective used is that of evolutionary stages that firms need to achieve in order to be able to effectively use technology in general, and digital technologies and AI in particular. Specific attention is given to those dimensions that enable them to approach and traverse the gap between their capabilities and those of more advanced firms.

Use case analysis is used to explain the relationship between the use of artificial intelligence in small firms and their innovation capabilities in the Latin American economic context.

Method

We use an exploratory multiple-case study approach to identify variables that shape managers' decisions about whether to use AI in their firms across different functional areas. In each firm, one or several use cases may be identified. They were documented from February 2024 to August 2025 through semi-structured interviews and fieldwork, which addressed their evaluation of the challenges and opportunities posed by the use of AI tools and other digital technologies.

We define AI use cases as specific processes within the firm where AI is used to improve efficiency and outcomes. Each case study describes the profile of the firm in terms of size, age, sector, and geographic and economic context. Each case study may include one or more AI use cases across one or more functional areas.

During 2024 and 2025, AI use cases were documented through semi-structured interviews with managers of the corresponding organizational units, and site visits were conducted when possible. Interviews address the challenges and opportunities that managers see as they consider the assimilation and implementation of artificial intelligence in their firms.

Due to security concerns in many Latin American contexts, firms are very reluctant to share information about their processes and strategies. For this reason, sampling by design is not possible, but we do attempt to take cases from different sectors and economic activities. Statistical generalizations are not even attempted. Following case study methodology, we emphasize the analysis of how and why the relationships among variables exist. The main objective is to understand which variables hinder or enable the development of dynamic capabilities, absorptive capability, and digital technology readiness in small firms.

Interviews and use case documentation were transcribed and analyzed using inductive and deductive category coding (Grodal, 2020), under a grounded theory approach (Glaser & Strauss, 2017; Hodkinson, 2008). Inductive coding was used to identify challenges and opportunities identified by management, whether they were found to be documented in the specialized literature or not. Deductive coding was also used to identify those that corresponded to problems and opportunities reported in the literature, within the described conceptual frameworks. No preconceived notions were assumed as to whether specific dimensions had been reported in the literature. Once inductive coding was done, deductive coding was used to assess if the dimensions identified corresponded to those documented in the specialized literature.

Results

Within 12 months in 2024 and 2025, 35 case studies were conducted in Mexico, Peru, and Colombia. They include firms from the manufacturing, service, and agri-business sectors. Firm

size ranges from 3 to 180 employees. All of them are either founder-owned or first- or second-generation family-owned businesses. The number of use cases per firm ranged from one to seven, and each was documented and analyzed separately. Table 1 shows the number of case studies and use cases by country and by sector.

Table 1

Case studies Per Country and Industry Sector

Country	Manufacturing	Service	Agri-business	Use Cases
Argentina	1(AM)			1
Peru	1 (PM)	2 (PS)	2 (PA)	7
Colombia	3 (CM)	2 (CS)	2 (CA)	9
Mexico	9 (MM)	11 (MS)	3 (MA)	30

Beyond sectoral or geographic differences, the analyzed cases reveal that a firm's digital maturity trajectory carries more weight than its size or industry type. In companies that have developed a strategic outlook and established organizational routines, the adoption of artificial intelligence tools emerges as a natural extension of their continuous improvement processes. In firms that still operate in disorganized environments, technology tends to be perceived more as a burden or threat as a transformative asset. This cross-cutting observation suggests that internal organizational conditions are more decisive than external factors in determining the effective adoption of AI.

Common patterns in the adoption of AI tools, revealed through interview data analysis, are largely due to the size and age of the firm, especially when they reflect an evolutionary stage in the digital technology maturity level. Successive stages in the coding process led to the identification of certain operational capabilities in firms as they evolve from intuitive problem-solving and manual processes into stages where they develop both a more strategic stance and the normalization of their processes and operations. Both dimensions identify specific operational and strategic capabilities that serve as preconditions for the firm's ability to assimilate and productively leverage digital technologies.

Strategic Outlook in Management

Interviewees and technology service providers were well aware that higher management needs to establish objectives for the firm that go beyond solving immediate problems to enable the use of AI technologies and tools to assess potential value. In the absence of this outlook, managers tend to see the technology as risky and without clear-cut benefits. When strategic objectives are clear, the firm is better able to see the use and potential benefits of the technology.

A firm that operates in a very specific niche market and seeks to consolidate its position in it has a very specific focus on taking advantage of AI in order to improve its design process:

“In our twenty-year experience we have gained a sound prestige in building furniture made with reclaimed wood (...) we need to improve our design capabilities and to optimize our manufacturing processes while tending to the needs and tastes of our specialty market. (...) we have clearly seen the potential

for this technology to potentiate creativity in our designs. (With this technology) we can create both personalized and very creative designs (...) that take advantage of reclaimed wood properties that are much appreciated by our customers.”

“I do not see that it is worth my time or resources. I have more important issues to handle right now, like getting my production line running again, as we face lack of raw materials, since our provider has stopped delivering.” (MM5)

Operational Capabilities (Process standardization)

Specific operational capabilities cited by interviewees as critical factors enabling the adoption of AI tools were process standardization and management’s ability to plan ahead and anticipate contingencies, rather than improvising solutions to overcome immediate problems. This capability, in turn, was also related to the standardization of processes within the firm.

“(...) we saw that our post-sales service to clients was too haphazard to be able to implement a client-service oriented chatbot, since many of the service requests that we received needed personal attention, and the device of ad hoc solutions (...) our (AI service provider) was not able to implement the technology without specific case by case instructions...” (MM3).

“(...) we haven’t been able to apply (the technology), since the scheduling of our deliveries has to be changed constantly, to accommodate exceptions requested by higher management. (...) As they are looking to expand our sales into new regions, they are still exploring opportunities and possibilities. (...) We are still finding out if there would be real benefits in using it.” (PM1)

“(Implementing the technology) has been straightforward, since our risk assessment procedures are well established and used in our different branches. (MS2)

A Learning Culture in the Organization

Learning culture development must be led by senior management. And that in itself requires that firm leaders understand new technologies. Employees need to be provided with the necessary training and empowered to identify opportunities to apply the technology in the processes they are responsible for. They need to be assured of opportunities to learn from mistakes, but also to receive recognition for their achievements in this domain.

“Higher management has made sure that innovation and technology are explicit dimensions in the firm’s development. (...) they have made sure that each area has constant training (in the use of AI tools) and teams that identify opportunities in their operation.” (PS2)

“Seen like that, (the technology) seems easy to use, and I can now think of many uses for it within our management team, even for training purposes.” (MM)

“We easily learned to use it in assessing problems and possibilities in our supply chain management, even though we still have to formally assess its usefulness (...) but we are much encouraged by what we have seen.” (MM7)

Record-keeping and Cost-Benefit Analysis

Data availability is in itself an enabling factor for the successful implementation of the technology and is regarded as a necessary precondition for the cost-benefit analysis of digital technologies in general, and of AI. Particularly in management and manufacturing applications, data availability is crucial in order to use AI technologies productively. Many small firms in the region fail to maintain reliable records for critical processes, and this seems to be a particularly difficult hurdle to implementing digital technologies across managerial, manufacturing, and service processes. Moreover, this seems to be a particularly difficult issue for management to understand and to solve. Many small-firm managers fail to see the point of keeping records when the economic environment is turbulent and their markets and supply chains are unstable.

“Management has made sure that every project is periodically assessed and that productivity gains are shown, and when they fail to show a return on investment, they are terminated.” (MM9)

“We don’t keep records of the relative impact of our sales promotions (...). We would have to rely on external providers to help us with that.” (MS7)

Knowledge Management

Most small firms in the region lack knowledge of the competition. Even in the competitive intelligence field, small firms tend to lack awareness of their competitors, their strategies and trajectories, and thus the need to acquire and assimilate new technologies, in order to be able to compete.

(Interviewer): “Are you aware of whether your competitors are using AI technology?”

(Interviewee): “...” (MM9)

Firms that have clear strategic objectives are better able to identify knowledge, technologies and innovations needed to achieve them, and thus to consider:

“We have been able to use it in the assessment of international strategies for our clients and, even though it has (some) drawbacks and risks, it has been worth looking into.” (CSI)

“This technology seems straightforward in its use, particularly as we have come to see how many tools it has for the design of our products.” (AMI)

“We are considering the possibilities of (AI technology) as we look to expand our product deliveries and distribution into new regions in the country, but we are still unsure of its benefits. The company, however, is looking into a sound assessment of this issue, and willing to invest in it as we go forward.” (PMI)

Attitudes Toward Risk and Uncertainty

Many small firms are either first- or second-generation family businesses. A fact that tends to make managers risk-averse and stick to methods and processes that are “time-proven”. In many cases, these time-tested traditional methods seem indistinguishable from those the founder developed during past crises, as the firm managed to survive and establish itself.

“No, we haven’t considered this technology. We do not need it, since we have well-established procedures that are able to handle known problems. We wouldn’t want to face unknown problems, and we are happy to keep to our well-established routines.” (CA1).

“At this time, we are only using it for internal reporting purposes. We know that our distribution networks could be much improved with AI tools... at least that is what we hear from external advisors, but our founder and head of the firm is too comfortable with managing them as his personal contacts, from a long time ago (...) and he is not ready to risk upsetting them, or run the risk of making the wrong decisions.” (MA3)

Beyond risk aversion, many of the analyzed cases reflect a widespread perception of technological change as a threat rather than an opportunity. This attitude is often linked to past failures in implementing digital tools or to a general lack of understanding about practical application. In this sense, the subjective perception of change becomes a relevant, intangible barrier. Promoting training spaces and practical demonstrations could help reshape this initial perception, generating more favorable conditions for small firms to begin technology adoption processes with greater confidence.

Discussion

In this exploratory research, we have addressed the identification of small-firm internal factors that appear to be associated with a maturity stage or threshold that enables their capacity to assimilate digital technologies, particularly artificial intelligence. As we seek to identify factors that may enable a firm to develop new capabilities and an ability to recognize, assimilate, and productively use AI tools, we aim to develop a framework that may assist decision-makers within the firm and policymakers in public institutions in identifying key enabling factors to work on.

As several research traditions have found in the Latin American context, firms face structural factors in their environments that have led them to work in low-productivity paths. These constraints have led to a sharp division within the region, with many countries facing difficulties in integrating low-productivity sectors into more dynamic, productive economies. We have assumed a perspective in which firms may identify and address specific dimensions where improvements will lead to higher maturity and competitive stages, in order to be able to take advantage of these technologies.

Digital technologies, particularly AI, have shown promise of greater productivity at lower cost, but many firms lack awareness of the utility AI tools may deliver. As with other technologies, the main issue is that upper management has not developed sufficient internal capabilities in the firm to enable it to look farther out into technological opportunities. Our research is still exploratory, but it has enabled us to identify specific factors that are constraining the development of

absorptive capacity and dynamic capabilities in small firms in the region. Further developments will enable us to more thoroughly address geographic and sectoral differences in factors that may be developed in order to enable firms to fully exploit these technologies, and to close the gap between traditional and modern firms in the region, leading to a model of the process of dynamic capability development and the growth of absorptive capacity for small firms in the Latin American context.

In this context, it is relevant to consider that the adoption of technologies such as artificial intelligence should not be seen as a one-time event, but rather as a progressive process that requires adjustments to organizational structure and culture. Empirical evidence suggests that the integration of these tools is facilitated when firms possess certain capabilities related to strategic planning, systematic data use, and an open attitude toward experimentation. Digital maturity should be viewed as a continuum in which firms can progress through targeted interventions that strengthen key dimensions of their absorptive capacity.

The role of leadership in SMEs is very important because the vision of top management influences both the openness to exploring new technologies and the allocation of resources toward their adoption. Strategic decisions focused on learning can drive significant transformations. The ability to absorb and implement emerging technologies does not rely solely on the external availability of digital tools, but rather on an internal commitment to organizational evolution.

Future research could expand the empirical base by gathering sufficient data to enable comparative analyses of AI adoption across Latin American countries and economic sectors. Furthermore, it would be valuable to conduct longitudinal studies that track how absorptive capacities evolve in SMEs that adopt AI incrementally over time. This kind of research could evaluate whether internal capability development leads to measurable improvements in productivity and competitiveness.

This research contributes to the literature by integrating classical conceptual frameworks into the analysis of artificial intelligence adoption in SEMs from emerging economies. While existing studies assume technological capabilities in organizations as a given, the article shows that these capabilities should be understood as evolving processes subject to contextual constraints and changing organizational conditions. This provides a dynamic, progressive perspective on how small firms gradually build the digital maturity required to integrate technologies such as large language models.

The absorptive capacity should not be limited to the recognition of external knowledge; it needs internal strategic capacities such as process standardization, knowledge management capabilities (Khan et al., 2024; Pal et al., 2024), and a strong learning culture. This study offers an update to these frameworks in the context of artificial intelligence, making connections with consolidation theories and the current challenges of digital transformation. And this is a valuable contribution to the academic field and a starting point for future research.

Our research is based on documentation of thirty-five case studies in Latin America. Case studies were conducted across the manufacturing, service, and agribusiness sectors in Argentina, Mexico, Peru, and Colombia. We provide exploratory evidence about the ways in which internal factors facilitate or limit the adoption of digital and AI technologies in high-uncertainty and

resource-restricted contexts. Among the findings, we identify some recurrent factors: a strategic vision in management, process standardization, well-established knowledge management processes within a learning oriented organizational culture, data management, and positive attitudes toward risk. These elements seem to be critical conditions for SMEs' advancement toward a strategic use of digital technologies and artificial intelligence. The role of these digital and AI adoption enablers depends on sectoral dynamics and the level of uncertainty and stability organizations face.

The study provides managers with a guiding framework to understand which capabilities must be developed before investing in digital and AI technologies. These capabilities include a strategic outlook in management, process standardization and systematic record keeping, continuous employee training, and well-established management processes. It may also be useful for business organizations as they seek to develop training programs and consulting services for their members.

The conclusions offer managers a roadmap for developing critical enablers for digital and AI technology adoption in their firms. Building these capabilities will help prevent the failed or superficial implementation of AI tools. Successful assimilation of these technologies will also help to continue the development of more absorptive and dynamic capabilities and thus contribute to the competitiveness and sustainability of the firms.

The study must evidently go on to gather more systematic and quantitative evidence, with a sufficiently representative sample from different sectors, since the availability of digital and AI tools continues to evolve in different directions for them. Also, the study must expand to provide more evidence from a broader range of Latin American countries, as differences in their economic development patterns continue to evolve.

These contributions confirm the relevance of this study and open new avenues for research. In this analysis, we begin by describing how the integration of Artificial Intelligence in SMES in Latin America does not depend solely on the availability of technological tools. It is more a function of internal operational capabilities and strategic outlook in management, as they contribute to the adoption, adaptation, and strategic use of knowledge and new technologies.

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Conflict of Interests

No, there are no conflicting interests of the output of this research.

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