The impact of innovation systems: The case of Latin American business culture

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Abstract*– Using a qualitative, case-study method, this paper investigates innovation systems in Latin America by looking at Small and Medium-sized Enterprises (SMEs), the hotel industry, and universities to identify cultural and institutional obstacles to innovation acceptance. While evaluating the premise that high-level innovation is possible despite regional limitations, the study goals emphasize identifying important restrictions (e.g., risk aversion, resource scarcity) and facilitators (e.g., human capital, adaptive methods) across sectors. Methodologically, the research ensures rigor by using thematic analysis of three case studies—Colombian hotels, Latin American SMEs, and an Ecuadorian university—triangulating data from Scopus-indexed literature, surveys, and institutional reports. The main findings show that (1) cultural resistance usually surpasses financial constraints in suppressing creativity, (2) focused human capital development greatly improves innovative ability, and (3) hybrid "top-down/bottom-up" governance structures (e.g., the university scenario) turn out to be most successful. Conclusions underline that Latin America's innovation gap results from misaligned policies and organizational cultures rather than natural constraints; successful examples show that smart investments in training and adaptable leadership may break down obstacles. Among the suggestions are academic multidisciplinary research centers, public-private collaborations for infrastructure transformation, and legislative incentives for SME innovation. Future studies should use mixed techniques to measure the effect of certain initiatives and comparative studies with other developing areas, hence fine-tuning context-sensitive innovation frameworks for emerging economies.

***Keywords*-- Innovation systems, business culture, human capital, organizational barriers, developing economies.**

I. Introduction

Though its acceptance is still unequal around the world, innovation has become a cornerstone of economic development and competitive advantage in the 21st century. Although rich countries often score well in innovation rankings, underdeveloped countries—especially in Latin America—struggle continuously to close the innovation gap [1]. Often, the company culture of the area, marked by risk aversion, low Research and Development (R&D) funding, and structural constraints, struggles to include systematic innovation methods [2]. This contradiction begs an important question: How can Latin American companies promote high-level innovation despite cultural and institutional obstacles? What tools may support consistent sector-wide adoption?

Globalization's double forces emphasize the importance of this question. Technological developments and digital transformation provide unmatched chances for expansion on one side; companies that do not innovate run the danger of becoming obsolete in cutthroat marketplaces on the other [3]. Reflecting systematic underinvestment in innovation infrastructure, for instance, Latin America's R&D spending averages just 0.7% of Gross Domestic Product (GDP)—well below the Organization for Economic Cooperation and Development (OECD) average of 2.5% [4]. Cultural opposition to change, however, firmly ingrained in hierarchical organizational structures and short-term profit-oriented thinking, hampers development even more [5]. Small and Medium-sized Enterprises (SMEs), which make up more than 90% of Latin America's companies but often lack the means to put innovative systems in place, feel these difficulties more strongly [6].

Using a multi-sector perspective and case examples from SMEs, the hotel sector, and higher education in Latin America, this paper explores these constraints. The research finds shared enablers—e.g., human capital development, adaptive leadership—and systematic limitations—e.g., resource scarcity, cultural inertia—by looking at how innovation shows up or fails across various settings. Empirical data from Scopus-indexed publications—including innovation management theories [7], dynamic capabilities frameworks [8, 9], and knowledge-creation models [10]—ground the study.

The literature on innovation in emerging countries is enriched by three main contributions of this study:

1. Contextual Analysis: Beyond deterministic perspectives of "innovation gaps," it offers a complex knowledge of how Latin America's cultural and economic environment impacts innovation uptake.
2. The case studies provide practical solutions for companies and governments to use hybrid innovation models (top-down + bottom-up) and human capital investment.
3. Theoretical Integration: The paper promotes frameworks including the 5th-generation innovation model [7] by integrating innovation management theories with regional reality, hence proving its relevance to Latin American settings.

I. Literature Review

Though its use in underdeveloped countries is still a difficult issue, the study of innovation systems has changed much

since Reference [11] foundational work on creative destruction. Directly addressing the gaps noted in the introduction, this paper synthesizes modern research from Scopus-indexed journals to create a theoretical basis for examining innovation adoption in Latin America, so complementing the methodological approach and case study results.

The conceptual basis of innovation systems

Modern innovation theory sees innovation as a systematic process instead of separate technical developments [12]. The National Innovation Systems (NIS) concept stresses how institutions, policies, and cultural elements interact to either support or limit innovation [13]. Structural flaws hinder NIS efficacy in Latin America: whereas states like Brazil and Chile have improved research infrastructure, regional R&D spending averages just 0.7% of GDP in contrast to 2.5% in OECD countries [2]. This difference underlines the assumption of the introduction: underinvestment builds systematic obstacles to the adoption of innovation.

Further complexity is added by the Generational Innovation Model, which separates five evolutionary phases of innovation management [14]. While industrialized countries move toward 5th-generation integrated systems, Latin American companies mostly run under 2nd- and 3rd-generation systems (technology adaption and marketing integration) [15]. The SME case studies, where resource limits cause incremental rather than revolutionary innovation to prevail, show especially pertinent this theoretical perspective.

Cultural and organizational obstacles

The influence of organizational culture on innovation resistance is a common issue in the literature. Reference [16] cultural dimensions theory helps to clarify Latin America's high-power distance and uncertainty avoidance ratings, which reflect resistance to disruptive change—a result that directly guides the methodology's emphasis on cultural diagnostics. With only 38% of companies using formal innovation procedures, recent research validates that hierarchical arrangements in Latin American SMEs hinder knowledge exchange [17].

The resource-based perspective [18] helps to explain even more why hotels in the Colombian case study had problems with innovation adoption. Companies without complementary assets—such as digital infrastructure, qualified labor—cannot take use of technology possibilities, which leads to a "capability trap" [19]. This theoretical understanding predicts the findings indicating that hotels with training programs outperformed peers under comparable resource limitations.

Innovation performance and human capital

The knowledge-based paradigm of the company [20] emphasizes human capital's significance in the results. Latin America's educational inequalities - with only 15% of workers reaching postsecondary education compared to 40% in OECD nations [6, 21, 22] - cause major innovation obstacles. Case studies from Mexico's manufacturing sector, on the other hand, show that focused training may boost innovation output by 27% even in low-tech companies [23], anticipating the university case's focus on skill development.

Recent studies on innovation ecosystems [24] provide the last theoretical component clarifying how the university's "top-down/bottom-up" approach generated synergies between policy and practice. This is consistent with the analytical approach to investigating multi-level interactions within innovation systems.

Although current studies on sector-specific solutions are rare, existing research thoroughly records innovation obstacles in developing countries [25]. The study fills this need by:

1. Combining NIS theory with company-level innovation management frameworks
2. Investigating how cultural obstacles show up differently in SMEs, services, and academics
3. Suggesting methods of adaptation responsive to context

Visualizing these relationships, the conceptual framework (Fig. 1) reveals how macro-level institutional elements interact with meso-level organizational cultures and micro-level human capital traits to shape innovation results—a framework operationalized in the approach and validated by case studies.

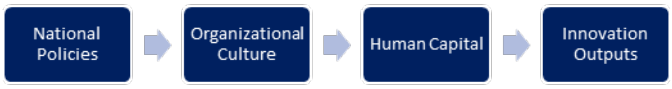

Fig. 1 Conceptual framework of innovation adoption in Latin America

The three main ideas examined in the study set up this literature review:

1. Cultural obstacles restrict creativity more than financial ones.
2. Development of human capital can compensate for structural disadvantages
3. Hybrid governance structures maximize the performance of the innovation system

These ideas provide the theoretical foundation for reading findings across sectors and directly guide the case selection and analysis criteria of the approach.

III. Methodology

Focusing on three sectors—SMEs, the hotel industry, and universities—this paper uses a qualitative research method to investigate how innovation systems affect corporate culture in Latin America. Given that it permits an in-depth examination of complicated phenomena—such as cultural and organizational elements affecting innovation—which cannot be completely represented by quantitative measurements alone, the qualitative approach is especially appropriate for this study [26]. Grounded in case study analysis—a technique well known for its capacity to provide empirical insights into real-world settings—the research [27, 28].

Case selection criteria

The examples were chosen for their relevance to the study goals and their portrayal of various sectors across Latin America. The following were the criteria used:

1. The instances include SMEs, the hotel industry, and universities to catch a wide range of innovative activities.
2. Geographical Representation: The chosen cases—Colombia, Ecuador, and Latin America in general—reflect regional differences in innovation uptake.
3. Every instance had enough publicly accessible data—academic evaluations, business records, and surveys—to guarantee a thorough investigation.
4. The scenarios were selected to reflect both low-level and high-level innovation, as described in the research, therefore evaluating the cultural and human capital obstacles to innovation.

Data collection and analysis

To guarantee triangulation and improve validity, the data for this research came from many sources [29]:

1. To situate the results within current theoretical frameworks, peer-reviewed papers indexed in Scopus and other respected databases were examined.
2. Examined was empirical data from SMEs in Latin America, hotels in La Guajira (Colombia), and the Catholic University of Cuenca (Ecuador). These instances were chosen for their illustrative usefulness in showing innovation issues and solutions.
3. Reports and Surveys: Survey data from 20 La Guajira hotels was examined to evaluate organizational structures and innovative practices in the hotel industry.

Using thematic analysis, one might find consistent patterns and motifs throughout the instances [30]. This included coding the data for important ideas like "cultural barriers," "human capital," and "innovation strategies," which were then connected to the theoretical framework and literature study. As underlined in the literature [31, 32], the study also looked at how organizational culture, technological adoption, and economic limitations interacted.

By operationalizing important theoretical ideas, the approach complements the literature study. The case studies were examined, for example, via the four categories of innovation management systems—vision and strategy, leadership and culture, development and operations, and digitalization. The generational model of innovation—from 1st to 5th generation—likewise offered a framework for evaluating the maturity of innovation methods in the chosen industries [33-35].

Limitations and mitigations

Although the research provides insightful analysis, it admits several shortcomings:

1. Generalizability: The results are context-specific and may not be globally relevant. Future studies could increase the sample size to include additional nations and industries.
2. The depth of study might be hampered using secondary data and a small number of surveys. Future research may be improved by collecting primary data, including interviews with stakeholders.
3. Cultural nuances: The research emphasizes cultural obstacles but could not completely reflect regional variances. Comparative research across Latin American sub-regions might help to close this gap.

The technique includes accepted qualitative research criteria—including triangulation, thematic analysis, and alignment with indexed literature (Scopus)—thereby improving the rigor of the study. This method guarantees that the results are based on actual data and support the larger discussion on innovation systems in poor countries [36, 37].

The approach emphasizes the main finding of the research: cultural and human capital issues limit innovation in Latin America; but, with focused policies high-level innovation is possible. Future studies should investigate similar patterns in other emerging countries, including Asia and Africa, to provide a more complete knowledge of worldwide innovation systems.

IV. Results

Through three case studies—SMEs, the hotel industry in Colombia, and a university in Ecuador—this paper investigates how innovation systems affect corporate culture in Latin America. The findings fit the study questions raised in the introduction and are contextualized within the theoretical framework set out in the literature review. Emphasizing their links to larger issues of innovation, cultural obstacles, and human capital growth, we provide the results below.

Case 1: Innovation in SME enterprises in Latin America.

Studies of Latin American SMEs show a contradictory link between cultural resistance and the acceptance of innovation. Although globalization and technology developments provide chances for expansion [38], many SMEs find implementation difficult because of cultural and structural limitations. Among the main results are:

1. Reflecting a risk-averse company culture, SMEs often give short-term profitability top priority above long-term creative initiatives [39]. This is consistent with the research on poor countries, where insufficient institutional support and little R&D funds stifle innovation [40].
2. Companies that effectively include innovation management systems give priority to cultural change and staff development [41]. For instance, SMEs using digital technologies in marketing and operations reported increased competitiveness, hence confirming the theory that human capital is a major engine of innovation.
3. As mentioned in the introduction, Latin American SMEs are under growing competition from worldwide markets. Those that used organized innovation techniques—such as lean management and digital marketing—showed tenacity, hence supporting the case that innovation is not a choice but rather a need for survival [42].

Case 2: Innovation management like a competitive strategy in the hotel sector: La Guajira department case, Bogotá, Colombia.

Examining 20 La Guajira hotels emphasizes the importance of organizational structure and human resources in driving innovation. The findings show:

1. Structural limits: Many hotels confirmed the research on resource limits in underdeveloped countries by lacking the physical and technical infrastructure to enable high-level innovation. However, those with excellent leadership and flexible cultures did better than rivals.
2. Hotels that spent in staff training and knowledge management said their service excellence and customer happiness were better [43]. This underlines the importance of soft skills—e.g., creativity, flexibility—as major innovation facilitators in the literature study.
3. The most creative hotels combined digital marketing, customer relationship systems, and quality management—three elements mentioned in the beginning as vital for contemporary tourist companies.

Case 3: Innovation model for the university environment, proposed for the Catholic University of Cuenca, Ecuador.

The university case study shows how cultural and hierarchical elements affect academic acceptance of innovation. Important new ideas are:

1. Top-Down vs Bottom-Up Innovation: Best practices in innovation management are reflected in the university's hybrid model—combining strategic directives ("top-down") with grassroots projects ("bottom-up"). This is in line with the conversation on systematic innovation frameworks in the literature study.
2. Key to sustaining innovation was integrity, consistency, and interdisciplinary cooperation, hence supporting the introduction's claim that organizational culture influences technological adoption [44]. Sustaining innovation depended on integrity, consistency, and multidisciplinary cooperation, hence supporting the introduction's claim that corporate culture influences technology adoption [45].
3. The university's emphasis on digital teaching technologies mirrors larger trends in Latin America, where colleges serve as innovation centers under financial limits [46].

Cross-case synthesis

The three instances taken together show that:

1. Though not impossible, cultural and structural obstacles are widespread. Higher levels of innovation are produced by SMEs, hotels, and universities that invest in human resources and flexible policies.
2. Motivated and knowledgeable people across industries propel innovation, hence supporting the literature review's focus on soft skills and organizational learning [47].
3. Globalization as a Catalyst: As predicted in the introduction, outside forces—such as competition and digital transformation—drive companies to innovate or face extinction.

V. Discussions

The results of the three case studies—SMEs in Latin America, the hotel industry in Colombia, and a university in Ecuador—show important new perspectives on the dynamics of innovation adoption within Latin American corporate culture. This study clarifies typical obstacles, facilitators, and strategic routes for promoting innovation in underdeveloped countries by combining these findings with recognized theoretical frameworks from Scopus-indexed literature.

Theoretical alignment and cross-case findings

1. *Cultural resistance and structural obstacles*

One constant across all instances is the conflict between cultural resistance and creative possibility. Reflecting Reference [5] finding that organizational inertia in developing countries results from risk aversion and resource shortages, short-term economic goals often take precedence over long-term innovation investments in SMEs. Likewise, hotels in La Guajira lacked infrastructure, but those with strong leadership cultures found competitive advantages in line with Reference [48] dynamic capacities theory, which holds that adaptation is essential to overcome structural limitations.

The university instance emphasizes, even more, this contrast: whereas hierarchical structures have "top-down" policies) provide strategic guidance, grassroots "bottom-up" projects propelled actual innovation. This dichotomy reflects Reference [7] 's assertion that effective innovation systems strike a balance between employee empowerment and institutional governance.

2. *The linchpin of innovation: Human capital*

All three instances show human capital to be the most important element in the adoption of innovation. SMEs that gave training and cultural change top priority claimed more flexibility, hence supporting Reference [10] knowledge-creation theory, which stresses tacit knowledge and staff involvement. Investments in staff capabilities in the hotel industry directly enhanced service quality and customer loyalty, therefore validating the research on service innovation [49].

The university's achievement in incorporating technology into education confirms this result even more. Reflecting the more general idea that creativity flourishes in societies of trust and multidisciplinary cooperation, faculty and staff interaction was essential [50].

3. *Globalization: A double-edged sword*

The examples taken together show how globalization drives creativity even as it increases inequality. Consistent with Reference [51] theory that Latin American companies had to "innovate or die," SMEs and hotels that adopted digital technologies—e-commerce, and customer relationship systems—gained market resilience. The university scenario, meantime, showed a disparity between technical availability and fair implementation—a difficulty highlighted in research on digital inequalities in underdeveloped areas [49].

Theoretical contributions and practical implications

1. *Closing the innovation-culture divide*

By showing that cultural obstacles are not fixed, the research pushes the conversation on innovation in poor countries forward. For example, hotels and small businesses that matched innovative ideas with local values—such as community-centric business models—saw greater adoption rates. This result is in line with Reference [52] appeal for context-sensitive innovation frameworks.

2. *Organizational and policy suggestions*

- Governments and business groups could encourage innovation for SMEs using grants and tax incentives, aiming for cultural resistance by highlighting peer success examples [53].
- For the hotel sector: Training programs (e.g., UNESCO's sustainable tourism projects) might improve human capital while public-private partnerships could update infrastructure.
- Universities could grow hybrid innovation models—"top-down" + "bottom-up"—across Latin America under policies supporting multidisciplinary research centers [54].

3. *Future study and constraints*

Although the instances provide deep analysis, more extensive regional comparisons—such as with Asian or African settings—are required to generalize results. Future research might potentially use mixed-methods techniques to measure innovation results, hence correcting the qualitative bias of this study.

By stressing that innovation in Latin America is both possible and necessary, this conversation lays the groundwork for the conclusions. Answering the research question raised in the introduction and contextualized in the literature review, the nexus of human capital, adaptable cultures, and strategic policies emerges as the foundation of development.

VI. Conclusions

This research sought to investigate how innovation systems operate within Latin American corporate culture, hence tackling the main issue of whether cultural and structural obstacles limit the region's ability for high-level innovation. Using three case studies—SMEs, the hotel industry in Colombia, and a university in Ecuador—we have identified both the obstacles and possibilities that characterize innovation adoption in developing countries. The results not only confirm the predictions put forward in the introduction but also develop the theoretical frameworks set in the literature review, hence providing practical ideas for academic institutions, corporate leaders, and government officials.

Key findings and their implications

The findings show that although possible, innovation in Latin America is neither consistent nor readily attained. For example, SMEs typically give short-term profits priority over long-term innovation investments and struggle with cultural resistance to change. This corresponds to the claim in the introduction that Latin American companies in an ever more competitive worldwide market "innovate or die" [55]. The examples, meanwhile, also show that small businesses able to promote a culture of flexibility—using strategic investments and staff training—can surmount these challenges. These results support the notion that cultural resistance is not insurmountable but rather needs intentional intervention by underlining the importance of human capital as a major engine of innovation, hence supporting the focus of the literature review.

The hotel industry in La Guajira also shows how outmoded infrastructure among other structural constraints may hinder creativity. Hotels that engaged in human resources and included dynamic ideas—such as digital marketing, and quality management—showed clear competitive benefits, but This underlines the point of the debate that, in developing countries, innovation depends on the capacity to match technology adoption with local cultural and economic reality [54]. The university instance adds to these revelations by demonstrating how hybrid innovation models—mixing top-down policies with bottom-up projects—can promote systematic transformation. Given the emphasis on integrated and adaptable methods, this result is especially pertinent to the literature review's treatment of 5th-generation innovation systems [7].

Theoretical and practical contributions

The research adds two important insights to the current body of knowledge. First, it questions the deterministic perspective that cultural or economic elements naturally limit Latin America's creative potential. Rather, the examples show that innovation flourishes in settings where strategic planning, human capital development, and leadership intersect. This fits the introduction's need for a complex knowledge of innovation in underdeveloped settings [56]. Second, the research provides feasible routes to promote innovation including regulatory incentives for SMEs, public-private partnerships for infrastructure upgrading, and academic multidisciplinary cooperation. Based on the findings and debate, these suggestions guarantee their applicability to actual problems.

Future research lines

Although this work offers a strong basis, it also emphasizes the necessity of further investigation. For instance, comparative research across other emerging areas—such as Asia, Africa—could show whether the obstacles and facilitators found here are exclusive to Latin America or part of a more general trend. Mixed-methods strategies might also measure the effect of certain interventions, including training courses or policy changes, on innovation results. Such studies would provide a more complete knowledge of innovation dynamics by building on the qualitative insights of this work.

Ultimately, this research emphasizes that although high-level innovation is possible in Latin America, it calls for a coordinated effort to overcome cultural, institutional, and human capital obstacles. The stories taken together show that innovation is a journey depending on context, not a one-size-fits-all approach. Stakeholders all around may create ecosystems where innovation thrives by using the knowledge

from universities, the hospitality industry, and SMEs. The stakes are great, as underlined in the introduction: in a worldwide market, innovation is not optional but rather a need for survival and expansion. The results of this research not only confirm this fact but also provide a road map for transforming obstacles into possibilities.

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REFERENCES

[1] C. Zhong, "The Innovation-Driven Development and Nation-Building Strategy," *Chinese Finance Policy for a New Era,* pp. 83-97, 2021, doi: https://doi.org/10.1007/978-981-33-4054-1_4.

[2] M. Murshed and I. Ozturk, "Rethinking energy poverty reduction through improving electricity accessibility: A regional analysis on selected African nations," *Energy,* vol. 267, p. 126547, 2023, doi: https://doi.org/10.1093/cjres/rsaa043.

[3] P. Lidder, A. Cattaneo, and M. Chaya, "Innovation and technology for achieving resilient and inclusive rural transformation," *Global Food Security,* vol. 44, p. 100827, 2025/03/01/ 2025, doi: https://doi.org/10.1016/j.gfs.2025.100827.

[4] L. Xia, S. Baghaie, and S. Mohammad Sajadi, "The digital economy: Challenges and opportunities in the new era of technology and electronic communications," *Ain Shams Engineering Journal,* vol. 15, no. 2, p. 102411, 2024/02/01/ 2024, doi: https://doi.org/10.1016/j.asej.2023.102411.

[5] J. I. Criado, A.-M. L., and I. Liarte, "Two decades of public sector innovation: building an analytical framework from a systematic literature review of types, strategies, conditions, and results," *Public Management Review,* vol. 27, no. 3, pp. 623-652, 2025/03/04 2025, doi: https://doi.org/10.1080/14719037.2023.2254310.

[6] Y. P. Romero Alvarez, K. Salas-Navarro, L. B. Martínez, and R. Zamora-Musa, "Financing innovation in SMEs: a systematic review of financing channels," *International Journal of Innovation Science,* vol. ahead-of-print, no. Ahead-of-print, 2025, doi: https://doi.org/10.1108/IJIS-06-2024-0151.

[7] J. Tidd, "Managing innovation," *IEEE Technology and Engineering Management Society Body of Knowledge (TEMSBOK),* pp. 95-108, 2023, doi: https://doi.org/10.1002/9781119987635.ch6.

[8] R. Bhardwaj and S. Srivastava, "Dynamic Capabilities of Social Enterprises: A Qualitative Meta-Synthesis and Future Agenda," *Journal of Social Entrepreneurship,* vol. 15, no. 2, pp. 400-428, 2024/05/03 2024, doi: https://doi.org/10.1080/19420676.2021.1972030.

[9] C. N. Pitelis, D. J. Teece, and H. Yang, "Dynamic capabilities and MNE global strategy: A systematic literature review-based novel conceptual framework," *Journal of Management Studies,* vol. 61, no. 7, pp. 3295-3326, 2024, doi: https://doi.org/10.1111/joms.13021.

[10] S. Durst and Y. Khadir, "Organizational Knowledge and Its Creation," *Knowledge Management at the Crossroads: Navigating Risks and Benefits,* pp. 53-63, 2025, doi: https://doi.org/10.1007/978-3-031-79003-4_6.

[11] A. Datta and S. Srivastava, "(Re)conceptualizing technological breakthrough innovation: A systematic review of the literature and proposed framework," *Technological Forecasting and Social Change,* vol. 194, p. 122740, 2023/09/01/ 2023, doi: https://doi.org/10.1016/j.techfore.2023.122740.

[12] C. R. Haddad, V. Nakić, A. Bergek, and H. Hellsmark, "Transformative innovation policy: A systematic review," *Environmental Innovation and Societal Transitions,* vol. 43, pp. 14-40, 2022/06/01/ 2022, doi: https://doi.org/10.1016/j.eist.2022.03.002.

[13] S. L. Engerman and N. Rosenberg, "Innovation in Historical Perspective," *Handbook of Cliometrics,* pp. 2211-2223, 2024, doi: https://doi.org/10.1007/978-3-031-35583-7_26.

[14] Y.-C. Tsao, F. A. S. Barus, and C.-W. Ho, "Impacts of the fifth-generation technology on sustainability," *International Journal of Logistics Research and Applications,* vol. 27, no. 1, pp. 129-148, 2024/01/02 2024, doi: https://doi.org/10.1080/13675567.2022.2026903.

[15] L. Zapata-Cantu and F. González, "Challenges for Innovation and Sustainable Development in Latin America: The Significance of Institutions and Human Capital," *Sustainability,* vol. 13, no. 7, p. 4077, 2021, doi: https://doi.org/10.3390/su13074077.

[16] C. E. de Oliveira, R. A. Profeta, and V. M. H. Yoshida, "Relationship between organizational culture and business innovation in micro and small enterprises," *International Journal of Innovation: IJI Journal,* vol. 10, no. 4, pp. 579-609, 2022, doi: https://doi.org/10.5585/iji.v10i4.21166.

[17] H. Kapoor, A. Ticku, A. Tagat, and S. Karandikar, "Innovation in isolation? COVID-19 lockdown stringency and culture-innovation relationships," *Frontiers in psychology,* vol. 12, p. 593359, 2021, doi: https://doi.org/10.3389/fpsyg.2021.593359.

[18] S. El Nemar, H. El-Chaarani, I. Dandachi, and S. Castellano, "Resource-based view and sustainable advantage: a framework for SMEs," *Journal of Strategic Marketing,* pp. 1-24, doi: https://doi.org/10.1080/0965254X.2022.2160486.

[19] S. Zang, J. Zhou, H. Wu, and M. Sun, "How can enterprises enhance their digital innovation capability in the context of technological leapfrogging," *Technology Analysis & Strategic Management,* pp. 1-15, doi: https://doi.org/10.1080/09537325.2025.2465846.

[20] Z. Nie, R. Zhang, Z. Wang, and X. Liu, "Code-style in-context learning for knowledge-based question answering," *Proceedings of the AAAI Conference on Artificial Intelligence,* vol. 38, no. 17, pp. 18833-18841, 2024, doi: https://doi.org/10.1609/aaai.v38i17.29848.

[21] L. A. Gonzalez-Tamayo, G. Maheshwari, A. Bonomo-Odizzio, M. Herrera-Avilés, and C. Krauss-Delorme, "Factors influencing small and medium size enterprises development and digital maturity in Latin America," *Journal of Open Innovation: Technology, Market, and Complexity,* vol. 9, no. 2, p. 100069, 2023/06/01/ 2023, doi: https://doi.org/10.1016/j.joitmc.2023.100069.

[22] G. Cardoza, G. Fornes, V. Farber, R. Gonzalez Duarte, and J. Ruiz Gutierrez, "Barriers and public policies affecting the international expansion of Latin American SMEs: Evidence from Brazil, Colombia, and Peru," *Journal of Business Research,* vol. 69, no. 6, pp. 2030-2039, 2016/06/01/ 2016, doi: https://doi.org/10.1016/j.jbusres.2015.10.148.

[23] A. Torres and J. Jasso, "Capabilities, Innovation, and Entrepreneurship: Startups in Latin America," *The Emerald Handbook of Entrepreneurship in Latin America,* pp. 177-200, 2022, doi: https://doi.org/10.1108/978-1-80071-955-220221012.

[24] J. Rabelo Neto, C. Figueiredo, B. C. Gabriel, and R. Valente, "Factors for innovation ecosystem frameworks: Comprehensive organizational aspects for evolution," *Technological Forecasting and Social Change,* vol. 203, p. 123383, 2024/06/01/ 2024, doi: https://doi.org/10.1016/j.techfore.2024.123383.

[25] B. Ariono, M. Wasesa, and W. Dhewanto, "The Drivers, Barriers, and Enablers of Building Information Modeling (BIM) Innovation in Developing Countries: Insights from Systematic Literature Review and Comparative Analysis," *Buildings,* vol. 12, no. 11, p. 1912, 2022, doi: https://doi.org/10.3390/buildings12111912.

[26] G. Bryda and A. P. Costa, "Qualitative Research in Digital Era: Innovations, Methodologies, and Collaborations," *Social Sciences,* vol. 12, no. 10, p. 570, 2023, doi: https://doi.org/10.3390/socsci12100570.

[27] W. M. Lim, "What Is Qualitative Research? An Overview and Guidelines," *Australasian Marketing Journal,* vol. 0, no. 0, p. 14413582241264619, 2024, doi: https://doi.org/10.1177/14413582241264619.

[28] C. Wohlin, "Case Study Research in Software Engineering—It is a Case, and it is a Study, but is it a Case Study?," *Information and Software Technology,* vol. 133, p. 106514, 2021/05/01/ 2021, doi: https://doi.org/10.1016/j.infsof.2021.106514.

[29] B. T. Khoa, B. P. Hung, and M. Hejsalem-Brahmi, "Qualitative research in social sciences: data collection, data analysis, and report writing," *International Journal of Public Sector Performance Management,* vol. 12, no. 1-2, pp. 187-209, 2023, doi: https://doi.org/10.1504/IJPSPM.2023.132247.

[30] D. Mortelmans, "Thematic Coding," *Doing Qualitative Data Analysis with NVivo,* pp. 57-87, 2025, doi: https://doi.org/10.1007/978-3-031-66014-6_8.

[31] A. Butt, F. Imran, P. Helo, and J. Kantola, "Strategic design of culture for digital transformation," *Long Range Planning,* vol. 57, no. 2, p. 102415, 2024/04/01/ 2024, doi: https://doi.org/10.1016/j.lrp.2024.102415.

[32] T. Vargas-Halabi and R. M. Yagüe-Perales, "Organizational culture and innovation: exploring the "black box"," *European Journal of Management and Business Economics,* vol. 33, no. 2, pp. 174-194, 2024, doi: https://doi.org/10.1108/EJMBE-07-2021-0203.

[33] A. R. J. Chaudhuri, K. B. P., S. D., and R. Kumar Behera, "Industry 5.0: a conceptual cybersecurity model for secured digital transformation of enterprises," *EDPACS,* vol. 70, no. 4, pp. 1-38, 2025/04/03 2025, doi: https://doi.org/10.1080/07366981.2024.2445413.

[34] B. D. Sarkar, V. Shardeo, A. Dwivedi, and D. Pamucar, "Digital transition from industry 4.0 to industry 5.0 in smart manufacturing: A framework for sustainable future," *Technology in Society,* vol. 78, p. 102649, 2024/09/01/ 2024, doi: https://doi.org/10.1016/j.techsoc.2024.102649.

[35] S. Fosso-Wamba and C. Guthrie, "Artificial intelligence and industry 4.0 and 5.0: a bibliometric study and research agenda," *Procedia Computer Science,* vol. 239, pp. 718-725, 2024/01/01/ 2024, doi: https://doi.org/10.1016/j.procs.2024.06.228.

[36] G. R. Bauer, S. M. Churchill, M. Mahendran, C. Walwyn, D. Lizotte, and A. A. Villa-Rueda, "Intersectionality in quantitative research: A systematic review of its emergence and applications of theory and methods," *SSM - Population Health,* vol. 14, p. 100798, 2021/06/01/ 2021, doi: https://doi.org/10.1016/j.ssmph.2021.100798.

[37] C. Makri and A. Neely, "Grounded Theory: A Guide for Exploratory Studies in Management Research," *International Journal of Qualitative Methods,* vol. 20, p. 16094069211013654, 2021, doi: https://doi.org/10.1177/16094069211013654.

[38] B.-Å. Lundvall, "Transformative innovation policy – lessons from the innovation system literature," *Innovation and Development,* vol. 14, no. 2, pp. 297-314, 2024/05/03 2024, doi: https://doi.org/10.1080/2157930X.2022.2158996.

[39] D. Dahlan, P. Yana, and S. Rahmawati, "The Influence of Innovation, Creativity, and Risk-Taking on Entrepreneurial Growth and SMEs Performance in Sukabumi City," *West Science Business and Management,* vol. 1, no. 02, pp. 50-60, 2023 2023, doi: https://doi.org/10.58812/wsbm.v1i02.36.

[40] O. Peia and D. Romelli, "Did financial frictions stifle R&D investment in Europe during the great recession?," *Journal of International Money and Finance,* vol. 120, p. 102263, 2022/02/01/ 2022, doi: https://doi.org/10.1016/j.jimonfin.2020.102263.

[41] C. A. Makridis and E. McGuire, "The quality of innovation "Booms" during "Busts"," *Research Policy,* vol. 52, no. 1, p. 104657, 2023/01/01/ 2023, doi: https://doi.org/10.1016/j.respol.2022.104657.

[42] S. Wang and H. Zhang, "Enhancing SMEs sustainable innovation and performance through digital transformation: Insights from strategic technology, organizational dynamics, and environmental adaptation," *Socio-Economic Planning Sciences,* vol. 98, 2025, doi: https://doi.org/10.1016/j.seps.2024.102124.

[43] C. Papademetriou, S. Anastasiadou, and S. Papalexandris, "The Effect of Sustainable Human Resource Management Practices on Customer Satisfaction, Service Quality, and Institutional Performance in Hotel Businesses," *Sustainability,* vol. 15, no. 10, p. 8251, 2023, doi: https://doi.org/10.3390/su15108251.

[44] Z. Mingaleva, E. Shironina, E. Lobova, V. Olenev, L. Plyusnina, and A. Oborina, "Organizational Culture Management as an Element of Innovative and Sustainable Development of Enterprises," *Sustainability,* vol. 14, no. 10, p. 6289, 2022, doi: https://doi.org/10.3390/su14106289.

[45] D. Chakraborty, A. Behl, I. Golgeci, and A. Nazrul, "Understanding Blockchain Adoption in SMEs: A Mixed-Method Study of Digital Transformation, Resilience, and Senior Leadership Support," *IEEE Transactions on Engineering Management,* pp. 1-15, 2025, doi: https://doi.org/10.1109/TEM.2025.3556371.

[46] S. Dörry, "The dark side of innovation in financial centers: legal designs and territorialities of law," *Regional Studies,* vol. 59, no. 1, p. 2107629, 2025/12/31 2025, doi: https://doi.org/10.1080/00343404.2022.2107629.

[47] K. Szabo and P. Vıktor, "Corporate Knowledge Creation and Motivation," *The Eurasia Proceedings of Educational and Social Sciences,* vol. 32, pp. 33-38, 2023, doi: https://doi.org/10.55549/epess.1412789.

[48] L. B. Liboni, L. O. Cezarino, O. S. Donaires, and M. Zollo, "Systems approach in dynamic capabilities," *Systems Research and Behavioral Science,* vol. 40, no. 6, pp. 863-875, 2023, doi: https://doi.org/10.1002/sres.2917.

[49] M. A. Alaghbari, A. Ateeq, M. Alzoraiki, M. Milhem, and B. A. H. Beshr, "Integrating Technology in Human Resource Management: Innovations and Advancements for the Modern Workplace," *2024 ASU International Conference in Emerging Technologies for Sustainability and Intelligent Systems (ICETSIS),* pp. 307-311, 28-29 Jan. 2024 2024, doi: https://doi.org/10.1109/ICETSIS61505.2024.10459498.

[50] A. M. Felicetti, V. Corvello, and S. Ammirato, "Digital innovation in entrepreneurial firms: a systematic literature review," *Review of Managerial Science,* vol. 18, no. 2, pp. 315-362, 2024/02/01 2024, doi: https://doi.org/10.1007/s11846-023-00638-9.

[51] M. I. Tabash, Y. Elsantil, A. Hamadi, and K. Drachal, "Globalization and Income Inequality in Developing Economies: A Comprehensive Analysis," *Economies,* vol. 12, no. 1, p. 23, 2024, doi: https://doi.org/10.3390/economies12010023.

[52] A. J. Kess-Momoh, S. T. Tula, B. G. Bello, G. B. Omotoye, and A. I. Daraojimba, "Strategic human resource management in the 21st century: A review of trends and innovations," *World Journal of Advanced Research and Reviews,* vol. 21, no. 1, pp. 746-757, 2024, doi: https://doi.org/10.30574/wjarr.2024.21.1.0105.

[53] N. Aryani *et al.*, "A Systematic Review of Disruptive Innovation on Entrepreneurship," *Procedia Computer Science,* vol. 234, pp. 1236-1243, 2024/01/01/ 2024, doi: https://doi.org/10.1016/j.procs.2024.03.120.

[54] T. Komkowski, J. Antony, J. A. Garza-Reyes, G. L. Tortorella, and T. Pongboonchai-Empl, "Integrating Lean Management with Industry 4.0: an explorative Dynamic Capabilities theory perspective," *Production Planning & Control,* vol. 36, no. 5, pp. 607-625, 2025/04/04 2025, doi: https://doi.org/10.1080/09537287.2023.2294297.

[55] Y. Alsafadi and H. Y. Aljuhmani, "The influence of entrepreneurial innovations in building competitive advantage: the mediating role of entrepreneurial thinking," *Kybernetes,* vol. 53, no. 11, pp. 4051-4073, 2024, doi: https://doi.org/10.1108/K-11-2022-1540.

[56] O. Koshelieva, O. Tsyselska, O. Kravchuk, I. Baida, V. Mironov, and N. Miatenko, "Knowledge management as a new strategy of innovative development," *International Journal of Professional Business Review: Int. J. Prof. Bus. Rev.,* vol. 8, no. 5, p. 46, 2023, doi: https://doi.org/10.26668/businessreview/2023.v8i5.1592.