

Research Article

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Empowering Marketing Strategies of SMEs in Emerging Countries with Generative Artificial Intelligence

Giuliana Cornejo-Meza¹

Iesús Vivanco²

Moisés Huayanay3

Nicolas A. Nunez^{2,4}

'San Ignacio de Loyola, Escuela ISIL, Lima, Perú ²Pontificia Universidad Católica del Perú, Lima, Perú ³ESAN Graduate School of Business, Lima, Perú 4Centrum Católica Graduate Business School, Lima, Perú

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Abstract

The emergence of generative artificial intelligence has become highly relevant globally, given the many benefits provided by applications such as ChatGPT. However, there is little evidence on small and mediumsized enterprises' perceptions of the potential use and impacts of generative artificial intelligence. In this study, 17 semi-structured interviews were conducted with SME owners in Chile and Peru. Therefore, we were able to understand the perceptions of entrepreneurs about the possibilities offered using generative artificial intelligence tools for the marketing strategies of their organizations. This study extends the literature on generative artificial intelligence and SME marketing.

Keywords: Marketing strategy, SMEs, Generative artificial intelligence, SME marketing, artificial intelligence

Introduction

One of the main challenges to ensure the survival of small and medium-sized enterprises (SMEs) is linked to the definition of effective marketing strategies (Walsh and Lipinski, 2009). Some of the reasons for the complexity of this challenge include the presence of limited resources (Arokiasamy and Ismail, 2009; Durst and Gerstlberger, 2020), as well as the lack of subject matter expertise (Wang, 2016). The presence of these expertise and co-knowledge gaps has a negative impact on business outcomes (Van Scheers, 2011). Therefore, identifying their target audience is a complex task (Cant et al., 2016), and if they also perceive little support from the public sector (Gopaul and Manley, 2015),

defining marketing strategies appropriately is a relevant challenge for the survival of these companies.

Moreover, the choice of effective channels is a challenging task for SMEs, where options such as social media (Chatterjee and Kar, 2020), paid advertising, SEO (Jadhav et al., 2023), content marketing, or networking (Gilmore et al., 2001) are some of the possibilities that companies should explore to reach their target audience. However, this decision must be aligned to the characteristics of each industry (Reijonen, 2010), so the selection of techno-logical tools for SMEs is a relevant issue for future performance, even more so when challenges such as internationalization may appear in the short and medium term (Bianchi et al., 2017).

A challenge for companies is to adapt to trends continuously and quickly, leveraging their strategies on disruptive technologies such as artificial intelligence (Basri, 2020; Kumar et al., 2022), the Internet of Things (Abazi, 2016), or blockchain (Lanzini et al., 2021) for the improvement of SME performance.

Addressing this challenge requires a strategic approach, where resources must be prioritized to focus on their target market, while adopting flexible and adaptable strategies to the needs of the environment, in line with changing market dynamics (Cosenz and Bivona, 2021; Beckett and Chapman, 2018). To this end, the use of digital tools is an appropriate route to maximize the impact of marketing strategies, considering the growing role of information and communication technologies in the consumer behavior of SMEs (Bocconcelli et al., 2018).

Financial constraints have an impact on innovation, so tools such as ChatGPT could provide a space to generate innovation without threatening the budgets of small and medium-sized enterprises (Madrid-Guijarro et al., 2016). In this way, studying the perceptions and potential impacts that generative artificial intelligence can have on SMEs' marketing strategies is very useful to contribute to generate evidence around decision-making processes to increase the competitiveness of SMEs.

2. Theoretical Framework and Contextualization

The adoption of new technologies by individuals and organizations has been extensively studied through various models and theories. These frameworks provide valuable insights into how small and medium-sized enterprises (SMEs) can integrate generative artificial intelligence (AI) into their marketing strategies. By grounding the study in these well-established theories, we can better understand the factors influencing the adoption and effective use of generative AI in the SME context.

2.1 Technology Acceptance Model (TAM)

Proposed by Davis (1989), is one of the most widely recognized models explaining technology adoption. According to TAM, the intention to use a technology is influenced primarily by perceived usefulness and perceived ease of use. Subsequent extensions, such as TAM 2 (Venkatesh and Davis, 2000) and TAM 3 (Venkatesh and Bala, 2008), introduced additional variables like social influence and facilitating conditions. In the context of SMEs, understanding how perceived usefulness and ease of use of generative AI influence its adoption is crucial for devising effective marketing strategies

2.2 Innovation Diffusion Theory (IDT)

Rogers' (2003) Innovation Diffusion Theory (IDT) provides a comprehensive framework for analyzing how innovations are adopted within a social system. The theory highlights key factors that affect adoption, including relative advantage, compatibility, complexity, trialability, and visibility. For SMEs, the relative advantage of generative AI over traditional marketing methods, its compatibility with existing practices, and its visibility in the market are particularly significant. By examining these factors, we can assess how well generative AI integrates into the marketing landscape of SMEs and

predict its potential for widespread adoption.

2.3 Unified Theory of Acceptance and Use of Technology (UTAUT)

Developed by Venkatesh et al. (2003), synthesizes elements from eight previous models to explain technology acceptance. UTAUT identifies four key determinants of intention and use: performance expectancy, effort expectancy, social influence, and facilitating conditions. Applying UTAUT to the SME sector helps us understand how these factors shape the adoption and utilization of generative AI in marketing, considering the unique characteristics of small and medium-sized businesses.

2.4 Technology-Organization-Environment (TOE) Framework

Proposed by Tornatzky et al. (1990), posits that technology adoption is influenced by technological, organizational, and environmental contexts. For SMEs, this framework is particularly useful in understanding how internal factors (such as technological infrastructure and organizational readiness) and external factors (like market conditions and competitive pressure) impact the adoption of generative AI. This perspective allows us to identify the specific conditions under which SMEs are more likely to embrace this transformative technology.

2.5 Resource-Based View (RBV)

Articulated by Barney (1991), emphasizes that firms achieve competitive advantage by acquiring and managing resources that are valuable, rare, inimitable, and non-substitutable. Generative AI, when strategically leveraged, can serve as such a resource, offering SMEs enhanced marketing capabilities and a distinct competitive edge. By applying the RBV framework, we can evaluate how effectively SMEs are using generative AI to sustain and enhance their market position.

2.6 Contextualization: The Role of Generative AI in SME Marketing

Research has consistently shown that the strategic use of technology can significantly enhance the performance of SMEs. However, these businesses often face unique challenges, including resource constraints and limited access to expertise (Beck and Demirguc-Kunt, 2006; Robertson, 2003). These limitations can affect their ability to fully leverage the potential of innovative technologies like generative AI in their marketing efforts (Carson, 1985; Gilmore and Carson, 2018).

SMEs that successfully integrate AI into their marketing strategies stand to benefit from improved decision-making and more efficient marketing practices (Martínez-López and Casillas, 2013; Saura et al., 2021). The use of AI in marketing is gaining momentum, with applications ranging from market research and content creation to personalized customer engagement and campaign optimization (Huang and Rust, 2021; Chintalapati and Pandey, 2022).

In the Peruvian context, SMEs are increasingly adopting AI technologies, including chatbots for customer service and data-driven marketing automation tools, to enhance their online presence and customer experience (Gestión, 2024). However, the successful adoption of AI in marketing requires overcoming internal and external barriers, such as technological readiness and market conditions (Denicolai et al., 2021; Chen et al., 2022).

Understanding the theoretical frameworks that underpin technology adoption and the specific challenges faced by SMEs is essential for effectively integrating generative AI into marketing strategies. By doing so, SMEs can not only improve their competitive positioning but also ensure their long-term survival in a rapidly evolving market landscape.

Methods

To contribute to knowledge on the subject, the study follows a multiple-case exploratory approach (Yin, 2018). For this purpose, we worked with a qualitative approach, where the technique used was a semi-structured interview with 17 owners of small and medium-sized companies in Peru and Chile, to maintain a conversational style (Adams, 2015), where they were asked about their perceptions regarding the use of generative artificial intelligence in the framework of their marketing strategies. For the selection of the participants, a convenience sampling was used, based on a database of entrepreneurs who have participated in training activities for entrepreneurs organized by a business school. A noteworthy element of the sample is that all the entrepreneurs have had some degree of exposure to generative artificial intelligence tools, so they are aware of the possibilities and limitations of this disruptive technology. The interview guideline was designed with reference to the work of Cheng and Jiang (2022), Verma et al. (2021), Haefner et al. (2021), and Achmat and Brown (2019).

Data Collection

Understanding SMEs' perceptions around the adoption of generative artificial intelligence in marketing is fundamental to assess how these tools can help business competitiveness (Kim and Seo, 2023; Rawashdeh et al., 2023). Therefore, this paper aims to explore these perceptions to contribute to public policy proposals in countries in the region, based on the case of Italy, which temporarily blocked access to ChatGPT in April 2023 (Kreitmeir and Raschky, 2023). Having different data sources enhances the implications of qualitative research (O'Connor and Joffe, 2020). To this end, 17 semistructured interviews were conducted with business owners from different economic sectors in Chile and Peru, in the cities of Antofagasta, Santiago, Arequipa and Lima. For this purpose, a convenience sampling of the interviewees was developed to ensure the richness of the findings (Piekkari et al., 2009). Table 1 shows the information of the interviewees, including information such as their location, age, economic sector of their company and duration of the interview. A pilot study was conducted with 3 respondents from Lima, Peru, as part of a pre-test for the interview guideline.

Data Analysis 3.2

To analyze the collected material, a thematic (source) analysis was developed. For this purpose, Google Cloud Speech-to-Text was used to obtain 198 pages with 82,116 words. The coding work was carried out with Atlas.ti software. Since the line of research on applications of generative artificial intelligence in marketing is a new topic (Peres et al., 2023; Korzynski et al., 2023), the focus of the analysis was on the identification of causal mechanisms (Parameswaran et al., 2020). The objectivity, reliability and validity of qualitative data analysis depends critically on the skills and knowledge of the researchers (Bengtsson, 2016).

To ensure objectivity in the analysis among the different team members, coding on the same material was compared to have inter-coder reliability, in line with MacPhail et al. (2016). Similarly, the intra-coder analysis tool was applied to increase the reliability of the study (Krippendorff, 2004).

Table 1. Detailed list of interviewees.

Code	Industry/sector	Age	Duration	
Lima, Peru				
PER01	Finance	37	22:21	
PERo2	Education	35	24:51	
PERo3	Education	41	26:15	
PERo ₄	Tourism	43	19:53	

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Code	Industry/sector	Age	Duration		
Lima, Peru					
PERo5	ICT	34	24:18		
PERo6	ICT	31	22:43		
Arequipa, Peru					
PERo7	ICT	32	29:54		
PERo8	Education	33	23:37		
PER09	Finance	49	18:21		
Santiago, Chile					
CHL01	Finance	41	25:38		
CHL02	Education	38	22:31		
CHL03	Mining	39	22:49		
CHL04	ICT	29	21:44		
CHL05	ICT	34	27:43		
Antofagasta, Chile					
CHLo6	Mining	45	23:49		
CHL07	ICT	28	22:13		
CHLo8	Finance	38	19:36		

Results

The analysis identified categories that can influence the use of generative artificial intelligence tools as part of SMEs' marketing strategies. Therefore, after the application of structured interviews with owners of small and medium-sized enterprises in Peru and Chile, the most important findings are presented.

Policy

4.1.1 Regulation

The government often exhibits bureaucratic inefficiencies and tends to be slow in adopting new technologies, frequently aiming to emulate strategies implemented by more developed regions like the United States or the European Union. [PER02, PER07]. Weak regulation can be a barrier to the adoption of new technologies by SMEs [CHL03]. The government does not have a clear strategy to disseminate the possible risks and benefits that are implicit in the use of artificial intelligence, as so far there is no known public dissemination campaign aimed at informing about these tools [CHL08, PERoo]. There is no knowledge of the legal barriers that may exist in the use of artificial intelligence at the business level [PERo1], as well as the possible damages that could be generated at the labor level [PERo5, CHLo7]. The role of the state in artificial intelligence is not very visible [PERo8].

4.1.2 Infrastructure

It is important that governments can ensure continuous access to the Internet, as entrepreneurs in geographically remote areas can lag even further behind than in larger cities [PERo3, PERo8]. There are segments of digital entrepreneurs who depend on stable Internet access to be able to market their services [CHLo5]. If the state does not speed up procurement and public tendering processes for telecommunications networks in remote areas of the country, it is the most vulnerable entrepreneurs who will suffer the most [PERo1, PERo4].

4.1.3 Leadership

The role of political leaders in this area is perceived as non-existent or invisible by entrepreneurs [CHLo2, PERo4, PERo7]. There is no agenda at government or congressional level in relation to the impact that artificial intelligence can have on people [CHLo4, CHLo7]. It is acknowledged that there are technical bodies that could lead this agenda, but so far, they have not deployed a direct message towards the use and impacts of artificial intelligence [PERo2, CHLo5].

4.2 Business

4.2.1 Competitiveness

The use of artificial intelligence can be highly beneficial for SMEs because it can enable some marketing tasks to be performed at a lower cost [PERo6, PERo9, CHLo1]. This impact may be even more important for smaller companies, which often experience financing problems [CHLo4, PERo8]. However, these advantages will be more pronounced for SMEs that are quicker to incorporate artificial intelligence into their marketing strategies [PER05, CHL07], as within a time span most competitors will probably also have incorporated artificial intelligence into advertising or sales activities [CHLo2, PERo4], so that "the field will be level" for all [CHLo8].

4.2.2 Technology adoption

While SMEs can benefit from incorporating new technologies into their processes (Wielicki and Arendt, 2010), the adoption of technological tools can be slow in SMEs if organizations view this adoption as a complex process (Hashim, 2007), lack sufficient confidence in senior management about the potential benefits (Chouki et al., 2020) or have knowledge or connectivity barriers (Athapaththu and Nishantha, 2018). Nevertheless, the adoption of artificial intelligence by SMEs is seen as easy to implement as various applications are open access [CHLo1, PERo2, PERo5]. Additionally, there are different instances of dissemination on the Web that facilitate the use of technological tools, where platforms such as YouTube or Facebook stand out, which through guided explanations allow easy adoption [CHL04, PER06]. Entrepreneurs see artificial intelligence as a tool that can generate value for their processes, so they are aware that they must spend time learning how to use it to extract the greatest possible value [PER04, CHL06]. One of the barriers to adoption that some of the entrepreneurs identified was that some of them work in English or produce better results in English than in Spanish [PERo3, PERo7, CHLo3, CHLo5]. Even so, the expected level of adoption is much higher compared to other disruptive technologies such as Virtual Reality or Blockchain, where a high level of expectation was generated, but did not materialize in concrete manifestations for companies, especially for small ones [PERo5, CHLo5].

4.2.3 Knowledge of artificial intelligence

Task automation is something that has already been done with tools such as WhatsApp Business or Facebook Marketplace, to answer messages to potential customers [PER03, CHL06]. However, such tools are limited because they can sometimes respond to things that do not match what customers are looking for [PER04, CHL05]. Nowadays, there are many business applications that claim to be based on artificial intelligence, but it is not clear whether this is really the case or whether they are just doing it to attract new customers [PERo1]. On the other hand, some of the office applications they use already have some artificial intelligence component built in, such as Office 365 [PERo1, CHLo7].

4.2.4 Use of artificial intelligence tools

In the interviews, it could be seen that all the interviewees have used at least one generative artificial intelligence tool, where ChatGPT was the predominant application, with 15 entrepreneurs making use of it. Other tools stated by the entrepreneurs in the interviews were Midjourney, Bing, Microsoft 365 Copilot, Tome AI, Notion AI and Bard (Google). However, when delving deeper into the level of use of these generative artificial intelligences, the responses varied. For example, some focused on the creation of images for their graphic and advertising content [PERo2, PERo3, CHLo3], while others used them for the design of written content and the writing of messages to clients [PERo1, PERo7, CHLo8]. Another line of usage was oriented towards exploring possible business ideas and conducting market research [PERo4, PERo6, CHLo4, CHLo7]. Most of the interviewees agreed that the use of these tools considerably reduced work times compared to traditional design tools not mediated by artificial intelligences. However, it is important to highlight that the results obtained with these tools depend largely on the quality of the prompts provided to ChatGPT or other applications [CHLo1, PERo9], as sometimes the creations are of poor quality, such as incorrect images or inappropriate emails. In this regard, only two entrepreneurs stated that they used paid services to improve the performance of generative artificial intelligence [CHLo4, PERo5], stating that the main motivation for this expenditure was to be able to access unlimited and faster content. These findings suggest that the level of penetration of artificial intelligence tools is in its infancy.

4.3 Society

4.3.1 Impact on the labor market

The introduction of generative artificial intelligence in marketing strategies may have a negative impact on creative workers, such as designers, advertisers or marketing professionals [CHLo3, PERo7, PERo8]. The costs of creative jobs could be reduced in the long run using these tools, affecting the employability of these professional profiles [PERo1, CHLo2, CHLo5]. All routine marketing tasks will eventually be displaced by artificial intelligence [CHLo4, PERo6] (Poba-Nzaou et al., 2021). However, some of these creative workers will be able to maintain their employability if they are able to adapt quickly to these changes and maximize their value proposition by using generative artificial intelligence to their own advantage [PERo2, CHLo4]. The learning curve to master prompts is not necessarily fast and takes time, so creative workers may have a temporary advantage [CHLo1].

4.3.2 Impact on Education

The education system is being greatly impacted by the introduction of tools such as ChatGPT, at all levels (primary, secondary and university). The way of learning will change [CHLo1, CHLo7, PERO2, PERO8]. It is possible that some university careers will become extinct [CHLo4, PERO5], but also the introduction of new technologies allows other careers to emerge [CHLo2, PERO3]. This phenomenon will also influence the characteristics of the consumer of the future, who will be much more informed and have higher demands than today's consumer [PERO4, CHLo6]. A topic that is becoming increasingly relevant is ethics, which is very important so that there is no abuse in the use of disruptive technologies [PERO5, CHLo6].

5. Comparative Analysis

The comparative analysis of perceptions on the adoption of generative artificial intelligence in SMEs in Chile and Peru reveals significant differences in the business context and expectations of government support. In Chile, entrepreneurs tend to show a greater willingness to experiment with new technologies, driven by a more favourable environment in terms of technological infrastructure and access to resources. This contrasts with Peru, where resource and know-how constraints are more pronounced, which may hinder the adoption of innovative tools. In addition, public policies in Chile have started to explicitly address the regulation and promotion of the use of artificial intelligence, while in Peru the approach is still incipient, reflecting a difference in institutional readiness to support SMEs in the integration of these technologies.

The competitive pressures faced by SMEs in the two countries also vary. Chilean entrepreneurs, being more exposed to a globalised market, tend to adjust their marketing strategies more quickly to incorporate generative artificial intelligence, while in Peru, resistance to change may be more notable due to economic uncertainty and lack of clear incentives. This contrast in adoption and perception dynamics not only enriches the discussion on artificial intelligence in the Latin American context, but also provides a framework for future research on how cultural and economic differences may influence the adoption of disruptive technologies in SMEs.

6. Discussion

Through a thematic analysis of the interviews, several key patterns emerged that reflect both the opportunities and challenges faced by SMEs in adopting generative artificial intelligence (AI) for their marketing strategies. Three primary themes were identified: (1) the perception of AI as a tool for enhancing operational efficiency; (2) concerns regarding the lack of digital competencies within the companies; and (3) uncertainty surrounding the financial investment in technology. These findings illustrate that the implementation of AI is not only diverse but is also deeply influenced by SMEs' perception of value, technological readiness, and financial concerns.

The findings of the study can be further analyzed by considering the models and theories on technology adoption reviewed in the theoretical framework. From the perspective of the Technology Acceptance Model (TAM), it is evident that SMEs perceive the usefulness of generative AI in their marketing strategies, particularly in improving efficiency and reducing costs. This is consistent with the definition of "perceived usefulness" as "the degree to which a person believes that the use of a particular system would improve his or her job performance" (Davis, 1989, p.320). However, perceived ease of use varies, depending on the prior knowledge of companies about these tools.

Applying the Unified Theory of Acceptance and Use of Technology (UTAUT), performance expectancy in terms of improving business competitiveness appears to be the main driver of the intention to adopt generative AI. This aligns with the finding that "performance expectancy has been a robust predictor of intention in both voluntary and deployment environments" (Venkatesh et al., 2003, p.467). However, the effort expectancy associated with mastering the prompts and fully utilizing the functionalities may act as a barrier. Additionally, enabling conditions, such as internet access, devices, and financial resources, are unevenly distributed among the SMEs interviewed.

From the perspective of the Diffusion of Innovations Theory (IDT), factors such as relative advantage, compatibility, and testability positively influenced the initial adoption of generative AI by the SMEs in the study. This aligns with the notion that "the adoption rate of an innovation depends on whether it is perceived as better than the idea it replaces" (Rogers, 2003, p.15). However, the complexity of achieving high-quality results remains a significant challenge.

In terms of the Technology-Organization-Environment (TOE) framework, the technological context, particularly the availability of free tools and online guides, facilitated the adoption of AI, supporting the idea that "adoption-prone organizations innovate by having appropriate existing enabling technologies" (Tornatzky and Fleischer, 1990, p.156). However, organizational constraints, such as limited resources and technical knowledge, pose significant challenges for many SMEs. The external business environment also plays a crucial role in influencing adoption.

The literature on generative AI is still in its early stages. However, a growing number of studies are identifying potential application areas for this disruptive technology in SME marketing strategies (Miller, 2023). Moreover, approaching this topic from an international perspective enhances our understanding of the budgetary constraints faced by SMEs across different regions (Madrid-Guijarro et al., 2016). This allows for the identification of strategic similarities in various contexts. Additionally, this study provides insights into the most promising domains for the adoption of generative AI in SME marketing strategies, contributing to a broader approach focused on the use of disruptive technologies to enhance business competitiveness (Basri, 2020; Hansen and Bogh, 2021; Kumar et al., 2022; Lanzini et al., 2021). Therefore, insights from SME marketing and applied AI

literature should be integrated into the conceptualization of generative Al's application in SME marketing.

The findings confirm that the use of generative AI tools yields results comparable to those reported in the literature (Chintalapati and Pandey, 2022), where marketing outputs are generated faster and at a lower cost. This increased efficiency in SME resource utilization can have far-reaching economic implications (Maksimov et al., 2017).

Furthermore, the study identified that entrepreneurs are willing to adjust their marketing strategies to incorporate generative AI, which is consistent with the notion that SMEs, facing significant survival pressures, are more likely to experiment and innovate (Cosenz and Bivona, 2021).

In terms of implications for academia, this study provides valuable insights into the challenges associated with technology adoption (Bianchi et al., 2017), particularly in the context of disruptive technologies like AI in SMEs from two Latin American countries, highlighting opportunities and challenges for enhancing business competitiveness.

Regarding potential implications for public policy, this study sheds light on the expectations of entrepreneurs in Peru and Chile regarding government support for SMEs' economic development (Gopaul and Manley, 2015). This suggests that public policy design should explicitly address regulation and promote the correct use of AI to strengthen business competitiveness.

7. Conclusions

In this study, a binational perspective was used to explore the perceptions of Chilean and Peruvian entrepreneurs regarding the use of generative artificial intelligence tools in marketing strategies. The main contribution of this article focuses on the role of generative artificial intelligence in the marketing strategies of SMEs, to show the spaces that exist to contribute to a better use of resources by companies. In this way, it contributes to the theory related to the issue of artificial intelligence adoption in SMEs (Bhalerao et al., 2022). The integration of artificial intelligence in business strategies is still a nascent field of study (Carvalho and Ivanov, 2023), so this study contributes to generate evidence for theory in this area. In this way, entrepreneurs, public decision-makers, as well as other stakeholders will be able to facilitate conditions for increasing the competitiveness of SME-SMEs and thus create sustainable economic growth.

7.1 Practical Implications

The study's findings reveal important practical implications for small and medium-sized enterprise (SME) owners, policy makers and technology developers in emerging economies such as Peru and Chile. For SME owners, integrating generative artificial intelligence into marketing strategies can offer significant cost reductions and efficiency gains by facilitating tasks such as content creation and message personalisation. Leveraging these tools can help SMEs compete in a market where, while current advantages are notable, rapid adoption by competitors could level the playing field in the near future. It is therefore crucial that entrepreneurs not only adopt these technologies early, but also seek to maximise their use through continuous training and the exploitation of advanced applications.

From the perspective of policy makers, the results suggest that regulation and government support should be adapted to facilitate the adoption of generative artificial intelligence. The lack of a clear strategy and poor infrastructure in remote areas underline the need for public policies that promote equity in access to these technologies. In addition, promoting awareness campaigns on the benefits and risks of artificial intelligence can help overcome existing barriers and improve adoption among SMEs. For technology developers, the focus should be on creating tools that are accessible and adaptable to local contexts, providing educational resources and technical support to overcome the knowledge and connectivity barriers faced by many SMEs. Together, these strategies can drive more effective adoption of generative artificial intelligence, thereby promoting growth and competitiveness in emerging economies.

7.2 Limitations and future research

The development of a study of this caliber provides a significant opportunity to understand the dynamics of technology tool adoption in SMEs from an international perspective. However, this study has some limitations that need to be considered. For example, the choice of study countries (Chi-le and Peru) has an impact on the generalizability of the findings. Similarly, the study only considered cities with a high level of human development, so the incorporation of other perspectives is necessary (Alabdali et al., 2023; Fanelli, 2021). Furthermore, entrepreneurs' perceptions of the impact of generative artificial intelligence on marketing strategies need to be measured in other environments with a higher level of business development, in conjunction with other disruptive technologies. Thus, it is necessary to analyze how it is possible to integrate the use of artificial intelligence tools with other technologies such as the meta-verse in order to develop marketing strategies for specific consumer segments (Dwivedi et al., 2023), as well as to study the potential biases that can be introduced in SME marketing campaigns and strategies designed based on generative artificial intelligence tools (Van Giffen et al., 2022). Additionally, research is needed in larger markets such as Brazil, Mexico, Colombia or Argentina. These perspectives will strengthen the possibilities for the effective use of generative artificial intelligence in marketing strategies in accordance with the characteristics of each country. Due to the exploratory nature of this work, interviews were conducted over a specific period, so it is important to collect information in different periods to measure the impact of the adoption of this technology on the marketing strategies and performance of small and medium-sized enterprises. While qualitative analysis provides valuable insights and allows to consolidate a theoretical foundation around the adoption of disruptive technologies in SMEs, a quantitative data-driven analysis is required to graph the evidence of the findings. Therefore, a further line of research should address the absence of quantitative modelling in the context of the adoption of generative artificial intelligence in SMEs.

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References

- Abazi, B. (2016). An approach to the impact of transformation from the traditional use of ICT to the Internet of Things: How smart solutions can transform SMEs. IFAC-PapersOnLine, 49(29), 148-151.
- Achmat, L., & Brown, I. (2019). Artificial Intelligence Affordances for Business Innovation: A Systematic Review of Literature. ICICIS, 1-12.
- Adams, W. C. (2015). Conducting semi-structured interviews. Handbook of practical program evaluation, 492-505. Aksoy, H. (2017). How do innovation culture, marketing innovation and product innovation affect the market performance of small and medium-sized enterprises (PYMEs)?. Technology in Society, 51, 133-141.
- Alabdali, S. A., Pileggi, S. F., & Cetindamar, D. (2023). Influential Factors, Enablers, and Barriers to Adopting Smart Technology in Rural Regions: A Literature Review. Sustainability, 15(10), 7908.
- Arokiasamy, L., & Ismail, M. (2009). The background and challenges faced by the small medium enterprises. A human resource development perspective. International Journal of business and Management, 4(10), P95.
- Athapaththu, J. C., & Nishantha, B. (2018). Information and communication technology adoption in PYMEs in Sri Lanka; Current level of ICT usage and perceived barriers. International Journal of E-Entrepreneurship and Innovation (IJEEI), 8(1), 1-15.
- Awa, H. O., Ojiabo, O. U., & Emecheta, B. C. (2015). Integrating TAM, TPB and TOE frameworks and expanding their characteristic constructs for e-commerce adoption by SMEs. Journal of Science & Technology Policy Management, 6(1), 76-94.
- Barney, J. (1991). Firm resources and sustained competitive advantage. Journal of Management, 17(1), 99-120.

- Basri, W. (2020). Examining the impact of artificial intelligence (AI)-assisted social media marketing on the performance of small and medium enterprises: toward effective business management in the Saudi Arabian context. International Journal of Computational Intelligence Systems, 13(1), 142.
- Beck, T., & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. Journal of Banking & finance, 30(11), 2931-2943.
- Beckett, R. C., & Chapman, R. L. (2018). Business model and innovation orientations in manufacturing SMEs: An Australian multi-case study. Journal of Innovation Management, 6(1), 111-134.
- Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. NursingPlus open, 2, 8-14.
- Berthon, P., Ewing, M. T., & Napoli, J. (2008). Brand management in small to medium-sized enterprises. Journal of small business management, 46(1), 27-45.
- Bhalerao, K., Kumar, A., Kumar, A., & Pujari, P. (2022). A Study of Barriers and Benefits of Artificial Intelligence Adoption in Small and Medium Enterprise. Academy of Marketing Studies Journal, 26, 1-6.
- Bianchi, C., Glavas, C., & Mathews, S. (2017). SME international performance in Latin America: The role of entrepreneurial and technological capabilities. Journal of Small Business and Enterprise Development, 24(1), 176-195.
- Bocconcelli, R., Cioppi, M., Fortezza, F., Francioni, B., Pagano, A., Savelli, E., & Splendiani, S. (2018). PYMEs and marketing: a systematic literature review. International Journal of Management Reviews, 20(2), 227-254.
- Campbell, C., Sands, S., Ferraro, C., Tsao, H. Y. J., & Mavrommatis, A. (2020). From data to action: How marketers can leverage AI. Business Horizons, 63(2), 227-243.
- Cant, M. C., Wiid, J. A., & Meyer, A. (2016). SMEs: Do they follow a shotgun or rifle approach when it comes to target marketing. Problems and Perspectives in Management, 14(3), 504-511.
- Carson, D. J. (1985). The evolution of marketing in small firms. European journal of marketing, 19(5), 7-16.
- Carvalho, I., & Ivanov, S. (2023). ChatGPT for tourism: applications, benefits and risks. Tourism Review, 79(2), 290-303
- Chatterjee, S., & Kar, A. K. (2020). Why do small and medium enterprises use social media marketing and what is the impact: Empirical insights from India. International Journal of Information Management, 53, 102103.
- Chen, L., Jiang, M., Jia, F., & Liu, G. (2022). Artificial intelligence adoption in business-to-business marketing: toward a conceptual framework. Journal of Business & Industrial Marketing, 37(5), 1025-1044.
- Cheng, Y., & Jiang, H. (2022). Customer-brand relationship in the era of artificial intelligence: under-standing the role of chatbot marketing efforts. Journal of Product & Brand Management, 31(2), 252-264.
- Chintalapati, S., & Pandey, S. K. (2022). Artificial intelligence in marketing: A systematic literature review. International Journal of Market Research, 64(1), 38-68.
- Chouki, M., Talea, M., Okar, C., & Chroqui, R. (2020). Barriers to information technology adoption within small and medium enterprises: A systematic literature review. International Journal of Innovation and Technology Management, 17(01), 2050007.
- Cosenz, F., & Bivona, E. (2021). Fostering growth patterns of SMEs through business model innovation. A tailored dynamic business modelling approach. Journal of Business Research, 130, 658-669.
- Davenport, T. H. (2018). From analytics to artificial intelligence. Journal of Business Analytics, 1(2), 73-80.
- Davenport, T., Guha, A., Grewal, D., & Bressgott, T. (2020). How artificial intelligence will change the future of marketing. Journal of the Academy of Marketing Science, 48, 24-42.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319-340.
- Denicolai, S., Zucchella, A., & Magnani, G. (2021). Internationalization, digitalization, and sustainability: Are PYMEs ready? A survey on synergies and substituting effects among growth paths. Technological Forecasting and Social Change, 166, 120650.
- Durst, S., & Gerstlberger, W. (2020). Financing responsible small-and medium-sized enterprises: An international overview of policies and support programmes. Journal of Risk and Financial Management, 14(1), 10.
- Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J., Balakrishnan, J., & Wirtz, J. (2023). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. Psychology & Marketing, 40(4), 750-776.
- Fanelli, R. M. (2021). Barriers to adopting new technologies within rural small and medium enterprises (PYMEs). Social sciences, 10(11), 430.
- Fatoki, O. (2019). Entrepreneurial marketing and performance of small and medium enterprises in South Africa. Journal of Reviews on Global Economics, 8(1), 1429-1437.

- Franco, M., de Fatima Santos, M., Ramalho, I., & Nunes, C. (2014). An exploratory study of entrepreneurial marketing in PYMEs: The role of the founder-entrepreneur. Journal of Small Business and Enterprise Development, 21(2), 265-283.
- Gáti, M., & Bauer, A. (2019). Marketing decision-making in Hungarian PYMEs. Market-Tržište, 31(1), 39-59.
- Gestión. (2019). La inteligencia artificial y el uso que le están dando las empresas peruanas: Tecnología EY Perú, PWC, UTEC, Retail & Marketing. Recuperado de https://gestion.pe/tendencias/estilos/la-inteligencia-artificial-y-el-uso-que-le-estan-dando-las-empresas-peruanas-tecnologia-ey-peru-pwc-utec-retail-marketing-noticia/?ref=gesr
- Gilmore, A. (2011). Entrepreneurial and SME marketing. Journal of research in marketing and entrepreneurship. Gilmore, A., Carson, D., & Grant, K. (2001). SME marketing in practice. Marketing intelligence & planning, 19(1), 6-11
- Gilmore, A., & Carson, D. (2018). SME marketing: efficiency in practice. Small Enterprise Research, 25(3), 213-226. Ghobakhloo, M., Arias-Aranda, D., & Benitez-Amado, J. (2011). Adoption of e-commerce applications in SMEs. Industrial Management & Data Systems, 111(8), 1238-1269.
- Gopaul, M., & Manley, L. L. (2015). SME perception of government assistance within South Africa. Journal of Governance and Regulation, 4(4), 306-314.
- Hansen, E. B., & Bogh, S. (2021). Artificial intelligence and internet of things in small and medium-sized enterprises: A survey. Journal of Manufacturing Systems, 58, 362-372.
- Hashim, J. (2007). Information communication technology (ICT) adoption among SME owners in Malaysia. International Journal of Business and information, 2(2).
- Jadhav, G. G., Gaikwad, S. V., & Bapat, D. (2023). A systematic literature review: digital marketing and its impact on PYMEs. Journal of Indian Business Research, 15(1), 76-91.
- Keh, H. T., Nguyen, T. T. M., & Ng, H. P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of PYMEs. Journal of business venturing, 22(4), 592-611.
- Kim, J. S., & Seo, D. (2023). Foresight and strategic decision-making framework from artificial intelligence technology development to utilization activities in small-and-medium-sized enterprises. foresight, 25(6), 769-787.
- Knight, G. (2000). Entrepreneurship and marketing strategy: The SME under globalization. Journal of international marketing, 8(2), 12-32.
- Korzynski, P., Mazurek, G., Altmann, A., Ejdys, J., Kazlauskaite, R., Paliszkiewicz, J., & Ziemba, E. (2023). Generative artificial intelligence as a new context for management theories: analysis of ChatGPT. Central Euro-pean Management Journal.
- Kreitmeir, D. H., & Raschky, P. A. (2023). The Unintended Consequences of Censoring Digital Technology—Evidence from Italy's ChatGPT Ban. arXiv preprint arXiv:2304.09339.
- Krippendorff, K. (2004). Reliability in content analysis: Some common misconceptions and recommendations. Human communication research, 30(3), 411-433.
- Kumar, M., Raut, R. D., Mangla, S. K., Ferraris, A., & Choubey, V. K. (2022). The adoption of artificial intelligence powered workforce management for effective revenue growth of micro, small, and medium scale enterprises (MPYMEs). Production Planning & Control, 1-17.
- Haefner, N., Wincent, J., Parida, V., & Gassmann, O. (2021). Artificial intelligence and innovation management: A review, framework, and research agenda. Technological Forecasting and Social Change, 162, 120392.
- Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. Journal of the Academy of Marketing Science, 49, 30-50.
- Lanzini, F., Ubacht, J., & De Greeff, J. (2021). Blockchain adoption factors for PYMEs in supply chain management. Journal of Supply Chain Management Science, 2(1-2), 47-68.
- MacPhail, C., Khoza, N., Abler, L., & Ranganathan, M. (2016). Process guidelines for establishing intercoder reliability in qualitative studies. Qualitative research, 16(2), 198-212.
- Madrid-Guijarro, A., García-Pérez-de-Lema, D., & Van Auken, H. (2016). Financing constraints and SME innovation during economic crises. Academia Revista Latinoamericana de Administración, 29(1), 84-106.
- Maksimov, V., Wang, S. L., & Luo, Y. (2017). Reducing poverty in the least developed countries: The role of small and medium enterprises. Journal of World Business, 52(2), 244-257.
- Martínez-López, F. J., & Casillas, J. (2013). Artificial intelligence-based systems ap-plied in industrial marketing: An historical overview, current and future insights. Industrial Marketing Management, 42(4), 489-495.
- McCartan, A. (2023). Marketing and performance in small firms: the role of networking. Journal of Research in Marketing and Entrepreneurship, 25(1), 150-182.
- Miller, D. (2023). Exploring the Impact of Artificial Intelligence language model ChatGPT on the User Experience. International Journal of Technology, Innovation and Management (IJTIM), 3(1), 1-8.

- O'Connor, C., & Joffe, H. (2020). Intercoder reliability in qualitative research: debates and practical guidelines. International journal of qualitative methods, 19, 1609406919899220.
- O'Dwyer, M., Gilmore, A., & Carson, D. (2009). Innovative marketing in PYMEs: a theoretical framework. European Business Review.
- Parameswaran, U. D., Ozawa-Kirk, J. L., & Latendresse, G. (2020). To live (code) or to not: A new method for coding in qualitative research. Qualitative social work, 19(4), 630-644.
- Peres, R., Schreier, M., Schweidel, D., & Sorescu, A. (2023). On ChatGPT and beyond: How generative artificial intelligence may affect research, teaching, and practice. International Journal of Research in Marketing.
- Piekkari, R., Welch, C., & Paavilainen, E. (2009). The case study as disciplinary convention: Evidence from international business journals. Organizational research methods, 12(3), 567-589.
- Poba-Nzaou, P., Galani, M., Uwizeyemungu, S., & Ceric, A. (2021). The impacts of artificial intelligence (AI) on jobs: an industry perspective. Strategic HR Review, 20(2), 60-65.
- Rahayu, R., & Day, J. (2015). Determinant factors of e-commerce adoption by SMEs in developing country: Evidence from Indonesia. Procedia-Social and Behavioral Sciences, 195, 142-150.
- Rawashdeh, A., Bakhit, M., & Abaalkhail, L. (2023). Determinants of artificial intelligence adoption in PYMEs: The mediating role of accounting automation. International Journal of Data and Network Science, 7(1), 25-34.
- Reijonen, H. (2010). Do all PYMEs practise same kind of marketing? Journal of Small Business and Enterprise Development, Vol. 17 No. 2, pp. 279-293.
- Robertson, P. L. (2003). The role of training and skilled labour in the success of PYMEs in developing economies. Education + Training, Vol. 45 No. 8/9, pp. 461-473.
- Rogers, E.M. (2003). Diffusion of Innovations, 5th Edition. Free Press.
- Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2021). Setting B2B digital marketing in artificial intelligence-based CRMs: A review and directions for future research. Industrial Marketing Management, 98, 161-178.
- Silva, R. P., Mamede, H., & Santos, A. (2022). The Role of Digital Marketing in Increasing PYMEs' Competitiveness. In Icsbt: Proceedings of the 19th International Conference on Smart Business Technologies (pp. 93-100).
- Simpson, M., Padmore, J., & Newman, N. (2012). Towards a new model of success and performance in PYMEs. International journal of entrepreneurial Behavior & Research, Vol. 18 No. 3, pp. 264-285
- Simpson, M., & Taylor, N. (2002). The role and relevance of marketing in PYMEs: towards a new model. Journal of small business and enterprise development. Vol. 9 No. 4, pp. 370-382
- Simpson, M., Padmore, J., Taylor, N., & Frecknall-Hughes, J. (2006). Marketing in small and medium sized enterprises. International Journal of Entrepreneurial Behavior & Research. Vol. 12 No. 6, pp. 361-387.
- Singh, R. K., Garg, S. K., & Deshmukh, S. G. (2008). Strategy development by PYMEs for competitiveness: a review. Benchmarking: An international journal, 15(5), 525-547.
- Taiminen, H. M., & Karjaluoto, H. (2015). The usage of digital marketing channels in PYMEs. Journal of small business and enterprise development, 22(4), 633-651.
- Tornatzky, L. G., Fleischer, M., & Chakrabarti, A. K. (1990). The processes of technological innovation. Lexington Books.
- van Giffen, B., Herhausen, D., & Fahse, T. (2022). Overcoming the pitfalls and perils of algorithms: A classification of machine learning biases and mitigation methods. Journal of Business Research, 144, 93-106.
- Van Scheers, L. (2011). PYMEs' marketing skills challenges in South Africa. African Journal of Business Management, 5(13), 5048.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. MIS Quarterly, 27(3), 425-478.
- Venkatesh, V., & Bala, H. (2008). Technology Acceptance Model 3 and a research agenda on interventions. Decision Sciences, 39(2), 273-315.
- Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management Science, 46(2), 186-204.
- Verma, S., Sharma, R., Deb, S., & Maitra, D. (2021). Artificial intelligence in marketing: Systematic re-view and future research direction. International Journal of Information Management Data Insights, 1(1), 100002.
- Vilaseca-Requena, J., Torrent-Sellens, J., & Jiménez-Zarco, A. I. (2007). ICT use in marketing as innovation success factor: Enhancing cooperation in new product development processes. European Journal of Innovation Management, 10(2), 268-288.
- Vlačić, B., Corbo, L., e Silva, S. C., & Dabić, M. (2021). The evolving role of artificial intelligence in mar-keting: A review and research agenda. Journal of Business Research, 128, 187-203.
- Walsh, M. F., & Lipinski, J. (2009). The role of the marketing function in small and medium sized enterprises. Journal of small business and enterprise development, 16(4), 569-585.

- Wang, Y. (2016). What are the biggest obstacles to growth of PYMEs in developing countries?-An empirical evidence from an enterprise survey. Borsa Istanbul Review, 16(3), 167-176.
- Wielicki, T., & Arendt, L. (2010). A knowledge-driven shift in perception of ICT implementation barriers: Comparative study of US and European PYMEs. Journal of Information Science, 36(2), 162-174.
- Williams, D. A. (2014). Resources and failure of PYMEs: Another look. Journal of Developmental Entrepreneurship, 19(01), 1450007.
- Yin, R. K. (2018). Case study research and applications. Sage.