

Article

Strategic model for strengthening SMEs: An empirical study based on Porter's Five Forces

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Abstract: This study aims to develop and validate a strategic model tailored to the unique challenges and contexts faced by micro, small, and medium-sized enterprises (MSMEs) in Ecuador, enhancing their operational efficiency and access to financing. Employing a quantitative approach, the research utilized a non-experimental, cross-sectional design to gather data from a sample of 358 companies. The study revealed that MSMEs are significantly hindered by limited access to financing, lack of managerial skills, and technological gaps. Despite these challenges, MSMEs demonstrated considerable adaptability and resilience, underscoring their critical role in the local economy. The strategic model proposed leverages Porter's Diamond Model to identify and address the specific competitive and operational challenges encountered by these enterprises. Key findings include the necessity for enhanced financial literacy, simplified regulatory frameworks, and the integration of digital technologies to improve competitiveness. The proposed model focuses on strategic training, fostering innovation, and creating a more supportive financing environment. The implications of this study are profound, suggesting that policymakers and practitioners should streamline regulatory processes, enhance financial and technological support frameworks, and provide tailored training programs. These strategies are intended to bolster the sustainability and growth of MSMEs, contributing to broader economic development. This research contributes to the academic literature by providing empirical evidence on the challenges faced by MSMEs in developing economies and proposing a contextually adapted strategic model to mitigate these challenges, thereby enhancing their economic impact and sustainability.

Keywords: MSMEs; strategic model; business management; access to financing

1. Introduction

Micro, small, and medium-sized enterprises (MSMEs) are fundamental to the economy of Latin America, representing 99.5% of the total enterprises, with the majority being microenterprises (88.4%) (Dini and Stumpo, 2019). These companies play a crucial role in economic development, job creation, and regional competitiveness (Rocha et al., 2018). For instance, in countries like China, MSMEs

significantly contribute to innovation and technological advancement, driving 65% of all patents, 75% of technical innovations, and 80% of new products in the market (Ibyzhanova et al., 2023).

MSMEs face numerous challenges that hinder their growth and sustainability. One of the primary obstacles is access to financing (Akkad and Mouselli, 2023). Despite their crucial role in economic development, MSMEs often struggle to obtain credit and other financial services due to information asymmetry and insufficient guarantees (Stefanovic and Barjaktarovic, 2019). The absence of an appropriate institutional framework exacerbates this issue, further limiting the growth and competitiveness of these businesses. Promoting investments in R&D&I significantly enhances productivity and competitiveness indicators, yet it necessitates a supportive environment that includes access to financing, adequate infrastructure, and favourable policies (Busom and Vélez-Ospina, 2017; Castillo et al., 2014). However, the pro-cyclicality of SME loans, as observed in Korean banks, complicates access to financing. Seo (2016) found that long-term loans for investment in equipment and R&D are highly pro-cyclical, meaning their availability fluctuates significantly with economic conditions. This volatility poses additional risks for MSMEs that rely on long-term financing for growth and innovation. The findings suggest that policies, such as credit enhancement through guarantees, are necessary to mitigate these effects and provide more stable financing options.

Furthermore, the role of private equity in supporting MSMEs has been highlighted as an important but often overlooked source of financing. Private equity funds not only provide capital but also enhance the quality and performance of their investments through internal processes and total quality management (Stefanovic and Barjaktarovic, 2019). Meanwhile, digitalisation and Industry 4.0 present significant opportunities for MSMEs. Lichy and McLeay (2020) emphasise that the adoption of advanced digital technologies can enhance competitiveness and operational efficiency, but it requires significant investments and advanced technical capabilities (Carvalho et al., 2018; Chauhan et al., 2021). The implementation of these technologies must be accompanied by supportive policies and programmes that facilitate the transition and maximise the benefits (Buer et al., 2018). Financial management practices also play a key role in the sustainability of MSMEs. Lam and Liu (2020a, 2020b) argue that strategic financial planning and access to diverse sources of financing are essential for the survival and growth of SMEs in challenging economic environments.

In Ecuador, MSMEs face significant challenges that limit their growth and sustainability. These challenges include low productivity, lack of access to financing, insufficient training, and unsafe working conditions (Valenzuela et al., 2024). These limitations not only affect the operational efficiency of businesses but also have a negative impact on the local and regional economy. Access to financing is one of the main obstacles faced by MSMEs in Ecuador. Despite their economic importance, these businesses often struggle to access credit and other financial services due to information asymmetry and a lack of sufficient guarantees (Wang et al., 2023). The absence of an effective institutional framework that facilitates the transmission of information between financial entities and businesses exacerbates this problem, limiting the growth and competitiveness of MSMEs. Another critical issue is the lack

of managerial and strategic capabilities within MSMEs. Low productivity and limited innovation capacity are largely due to a lack of adequate training and resources for business management (Valenzuela et al., 2024). Without proper support and effective strategies, MSMEs cannot fully leverage their potential to contribute to economic and social development.

Despite their importance, MSMEs in Latin America face substantial challenges. Low productivity, limited innovation capacity, and difficult access to financing are common barriers that hinder their growth (Valenzuela et al., 2024). Studies such as Wang et al. (2023) have indicated that information asymmetry and the lack of an efficient institutional framework hinder access to credit and other financial services for these businesses. In Ecuador, these problems are exacerbated by a lack of managerial training and unsafe working conditions. Valenzuela et al. (2024) indicate that local MSMEs require specific strategies to overcome these challenges and improve their operational efficiency and innovation capacity.

Given the significant challenges faced by MSMEs in accessing financing and enhancing competitiveness, it becomes essential to explore structured theoretical frameworks that offer deeper insights into improving their operational environment (Bouchra and Hassan, 2023). This study utilizes Porter's Diamond Model as a foundational theoretical framework to address these challenges. Porter's Diamond Model systematically identifies and examines four broad attributes—factor conditions, demand conditions, related and supporting industries, and firm strategy, structure, and rivalry—that collectively shape the competitive environment of industries within a region or nation (Afzal et al., 2019; Vladoš, 2019). By understanding these attributes, the proposed strategic model based on Porter's Five Forces aims to tailor strategies that enhance the competitive advantage of MSMEs, focusing on enhancing their innovation capacity, operational efficiency, and access to financial resources (Porter, 1990; Thibeault et al., 2023). This approach is particularly relevant in the context of Latin America, where local conditions and the structure of industries significantly influence business success and economic development (Ponce et al., 2024). Incorporating Porter's Diamond Model helps ensure that the strategies developed are robust, contextually relevant, and capable of fostering sustainable economic growth among MSMEs (De Chiara, 2016).

Despite the abundance of studies on the importance and challenges of MSMEs, there is a significant gap in the literature regarding specific and contextualized models that can improve their business management and access to financing in emerging economies. Most research focuses on broader contexts or developed countries, leaving a gap in the understanding and development of strategies applicable to the local realities of Latin America. This study aims to fill this gap by proposing a strategic model based on Porter's Five Forces, tailored to the specific needs and contexts of MSMEs. This model seeks not only to improve the operational efficiency and innovation capacity of these businesses but also to facilitate their access to financial resources and strengthen their contribution to local economic development. By addressing these issues, this study offers a novel and applicable perspective that can be used to guide policies and business practices in similar contexts.

2. Materials and methods

To investigate the strengthening of MSMEs in Ecuador, a quantitative approach was adopted, focusing on the collection and analysis of numerical data. This methodology allowed for the identification of patterns, relationships, and trends affecting MSMEs, evaluating their organizational processes, economic, and financial environment, and contributing to the development of a strengthening model based on quantitative evidence (Creswell, 2014). Regarding the methodological design, a non-experimental, cross-sectional study was chosen. This design involved the collection of data at a specific point in time without manipulating the study variables, making it ideal for describing characteristics, inferring correlations between variables, and observing states or phenomena at a given time (Salkind, 2010). The cross-sectional nature of the research facilitated a snapshot of the current conditions of MSMEs, allowing for comparative analysis and identification of needs and opportunities for improvement in a temporally defined context (Coopers and Lybrand, 1998).

2.1. Population, sample, and sampling

To conduct the research, a sample of 358 companies from Ecuador was selected. The determination of the sample was based on a systematic procedure that guaranteed the inclusion of a variety of companies in terms of size, sector of operation, and age. The sampling process, although meticulously planned, faced the challenge of balancing representativeness with the operational feasibility of the research. The sampling method used was a mixed design that incorporated both random and targeted elements. This approach ensured that specific aspects of interest to the research were covered, such as identifying innovative business management practices or analyzing particular challenges in accessing financing.

The execution of this phase of the study involved several stages, starting with the identification of the total population of MSMEs, followed by the selection of the sample based on predetermined criteria to ensure its representativeness. Finally, data collection was carried out through the selected means, in this case, an online survey questionnaire applied directly to the companies included in the sample. This meticulous process of sample selection and sampling was fundamental to the validity and reliability of the research findings. It allowed for accurately addressing the study's objectives, facilitating an effective diagnosis of organizational processes, the economic and financial environment of MSMEs, and contributing to the development of a strengthening model that effectively addressed their specific needs and challenges.

2.2. Data

In accordance with the defined objectives and the literature review, key study variables were defined to guide the research. These variables encompass various dimensions such as general company information, owner information, ownership and location, operations and business strategy, legal and administrative aspects, finance and accounting, human resources and motivation, financing and credit, training and development, and government support and social contribution.

These variables informed the design of the survey instrument detailed in

Appendix A, ensuring a comprehensive approach to data collection. The survey aimed to gather quantitative information directly from businesses, capturing essential aspects of their internal dynamics, organisational processes, business development needs, and perceptions of the economic and financial environment.

2.3. Techniques and instruments

Various information sources were utilised to ensure the depth and breadth of the analysis. Primarily, we focused on data obtained through a meticulously designed online survey questionnaire, detailed in Appendix A, to gather quantitative information directly from the involved businesses. This instrument proved essential in understanding the internal dynamics of MSMEs, their organizational processes, business development needs, and perceptions of the economic and financial environment. The online application of this instrument facilitated the participation of a wide range of businesses, from micro-enterprises to medium-sized enterprises. The digital nature of the questionnaire not only maximized our sample's reach but also streamlined the data collection process, allowing for quick compilation and analysis of the gathered information. In addition to the valuable primary data obtained, we relied on a variety of secondary studies, including reports from financial institutions, government databases, and academic publications. These secondary sources provided a broader context for interpreting the survey results, allowing us to situate the needs and experiences of MSMEs within wider trends in the business and financial environment.

2.4. Study stages

In the course of our study, several meticulously planned stages were followed, each aimed at achieving specific predefined objectives. The following outlines how these stages were addressed:

- Conducting a diagnosis of organizational processes

Initially, the analysis of responses obtained through the online survey questionnaire, detailed in Appendix A, was conducted. This stage was crucial to determine the general characteristics of MSMEs and their business development needs. Descriptive statistics were used to summarize the information, facilitating the identification of common patterns and unique aspects in the organizational processes of participating companies.

- Analyzing the economic, financial, and public policy environment

Subsequently, the PESTEL analysis was applied, a tool that helped identify the political, economic, social, technological, ecological, and legal factors influencing the operations and growth of MSMEs. The integration of secondary data obtained from reports by financial institutions and government databases complemented and contextualized the survey results, providing a holistic view of the environment in which these businesses operate.

- Determining the importance of finance and factors influencing economic reactivation

The third phase of the study involved using SWOT analysis to evaluate internally the capabilities of MSMEs and, externally, the opportunities and threats

present in the financial and economic environment. This stage allowed for the identification of the main financial factors driving the economic reactivation of businesses, highlighting the importance of solid financial management for business growth and sustainability.

- Developing and validating a strengthening model

Finally, based on the results obtained in the previous stages, a model of strengthening for MSMEs was developed. This model addressed the identified needs and focused on leveraging the opportunities for improvement discovered during the study. Specific strategy proposals were formulated aimed at improving business management and facilitating access to financing. The model was validated by a focus group of 10 experts, ensuring its relevance and applicability. This process is detailed in Appendix B. This model represented the culmination of the study, offering a clear path toward the strengthening and sustainability of MSMEs.

3. Results

3.1. Diagnosis and characterization of the organizational processes

3.1.1. General information analysis of the business

The dominance of family businesses and small enterprises suggests a community-oriented economy with a strong emphasis on self-management. The significant presence of new businesses alongside established ones indicates a dynamic mix of innovation and experience. The overwhelming dominance of the tertiary sector underscores the importance of services in the local economy, with commerce being the primary driver. Additionally, the small workforce sizes further highlight the prevalence of MSMEs. In **Table 1**, we present the main findings for general information of firms.

Table 1. General information analysis of the business.

	Firms	Percentage
Does your organization belong to?		
Popular and solidarity economy	26	7.26%
Association of private traders	20	5.59%
Association of artisans	9	2.51%
Family business	206	57.54%
Retail	33	9.22%
None	54	15.08%
Other	10	2.79%
Does your business carry out its activity?		
Natural person	344	96.09%
Corporation	8	2.23%
Limited Liability Company	4	1.12%
Other	2	0.56%

Table 1. (Continued).

	Firms	Percentage
How many years has your company been in business?		
From 3 to 5 years	55	15.36%
From 0 to 2 years	85	23.74%
From 6 to 8 years	45	12.57%
From 9 to 11 years	29	8.10%
Over 12 years old	142	39.66%
In which economic sector is your company located?		
Primary	14	3.91%
Secondary	14	3.91%
Tertiary	330	92.18%
Specific economic sector		
Agriculture	5	1.40%
Agriculture and livestock	3	0.84%
Commerce	281	78.49%
Construction	2	0.56%
Fishing	1	0.28%
Health care	32	8.94%
Livestock	2	0.56%
Manufacturing	11	3.07%
Other	18	5.03%
Tourism	1	0.28%
Transportation	2	0.56%
How many people work in your company?		
Unipersonal	96	26.82%
Workers from 1 to 10	261	72.91%
Workers from 50 to 199	1	0.28%

The distribution of firm constituting suggests a strong presence of family-run businesses and a notable portion of businesses without a specific classification. About type of business, indicates a preference for individual entrepreneurship, with some instances of corporate investment and growth. In terms of business longevity, this data highlights an interesting mix of new and established businesses, suggesting a balance between innovation and experience in the local business environment. The economic sector of firms, underscores the importance of the tertiary sector in the local economy, indicating a service-oriented market. The specific economic sector reveals a diverse range of economic sectors, with commerce being the undisputed leader. Finally, workforce size indicates that most businesses are small enterprises, contributing to a highly localised and intimate business environment.

Additionally, it is important to note that most MSMEs in Ecuador are family-owned. This characteristic influences how these businesses navigate and overcome various constraints. Family-owned MSMEs often face unique challenges, such as limited access to external capital, reliance on internal funding, and the need for

succession planning. These businesses tend to prioritise long-term stability over rapid growth, which can affect their ability to leverage opportunities or mitigate threats effectively. The strong family ties can enhance commitment and resilience but may also limit professionalisation and access to diverse skills and perspectives (Rincón-Guio et al., 2024; Rincón-Guio and Sarache, 2024). Understanding these dynamics is crucial for developing targeted support mechanisms that address the specific needs of family-owned MSMEs.

3.1.2. Operations and business strategy analysis

The analysis reveals that a significant portion of businesses have established strategic planning and organisational structures, indicating a focus on structured growth and management. Leadership and innovation are the most prominent organisational processes, suggesting a dynamic and forward-thinking business environment (De Kok and Uhlaner, 2001). In terms of differentiation, low-cost strategies dominate, highlighting a competitive market driven by price sensitivity. However, customer service and quality are also crucial differentiators, reflecting a balanced approach to competition. Innovation is the top priority for business development, followed by leadership and financing. This emphasis on innovation aligns with the adoption of technological tools for market sustainability, as seen in the high usage of social media for business promotion (Rincón-Guio et al., 2022). Overall, the data suggests that while there is a strong foundation of strategic planning and organisational structure among businesses, there is also a significant need for ongoing innovation, leadership development, and financing to sustain and enhance market presence. In **Table 2**, we present the detail results.

Table 2. General information analysis of the business.

	1	2	3	4	5
Do you have an established strategic planning that contains all the strategic elements?	153 (0.4273)	91 (0.2541)	15 (0.0418)	89 (0.2486)	10 (0.0279)
Does your company’s organizational structure have all the elements of organizational structure?	278 (0.7765)	33 (0.0921)	(-)	38 (0.1061)	9 (0.0251)
				Firms	Percentage
Among the organizational processes used by MSMEs. which is the one that stands out the most in your company?					
Authority				50	13.97%
Communication				61	17.04%
Decision making				64	17.88%
Innovation				79	22.07%
Leadership				104	29.05%
What strategies do you use to differentiate yourself from the competition?					
Customer service				78	21.79%
Differentiation				18	5.03%
Low cost				181	50.56%
Other				2	0.56%
Quality				78	21.79%
Specialization				1	0.28%

Table 2. (Continued).

	Firms	Percentage
Which of the following business development characteristics do you think your company should prioritize?		
Defined corporate culture	14	3.91%
Financing	55	15.36%
Innovation	147	41.06%
Leadership	96	26.82%
Ongoing training of human talent	46	12.85%
To keep your business in the market you?	-	-
Has implemented strategic planning or business plan?	11	3.07%
Has been trained in administrative, accounting or financial processes?	8	2.23%
Has implemented an innovative business mode?	82	22.91%
Implemented home delivery service	17	4.75%
Managed credit with suppliers	8	2.23%
No action has been taken	112	31.28%
Promotes its business through social networks (technological tools)	120	33.52%

3.1.3. Financial information analysis

The data is shown in **Table 3**. The analysis shows that most businesses keep accounts and primarily rely on self-financing and banking institutions for funding. The reliance on self-financing highlights a potential constraint on growth due to limited access to external capital. Profit margins tend to be on the lower side, with a significant number of business owners not fully aware of their financial performance, reflecting potential weaknesses in financial literacy and management practices (Ultreras-Rodriguez et al., 2024).

Businesses maintain conservative debt levels, which suggests prudent financial management but may also indicate a reluctance to leverage debt for growth opportunities. The lack of knowledge regarding business models among more than half of the respondents points to a need for further education and support in financial and strategic planning. Enhancing understanding of business models can help firms optimise their operations, improve profit margins, and explore diverse financing options more effectively (Minbaeva et al., 2002). Addressing these gaps through targeted training programs, improved access to diverse financing sources, and enhanced financial literacy can significantly impact the sustainability and growth of MSMEs (Hoque and Bacon, 2006). These measures will not only improve individual business outcomes but also contribute to the overall economic development of the region.

Table 3. Financial information.

	Firms	Percentage
Does your business keep accounts?		
No	107	29.89%
Yes	251	70.11%

Table 3. (Continued).

	Firms	Percentage
What are the sources of financing for your business?		
Associations	2	0.56%
Cooperatives	14	3.91%
Lenders	8	2.23%
Other	17	4.75%
Private banking	90	25.14%
Public banking	51	14.25%
Self-financing	164	45.81%
Suppliers	12	3.35%
What is the profit margin of your business?		
0–20%	131	36.59%
21%–40%	74	20.67%
41%–60%	37	10.34%
61%–80%	24	6.70%
I don't know	92	25.70%
What is the margin of indebtedness with respect to the capital of your business?		
0–50%	302	84.36%
101%–150%	2	0.56%
151%–200%	1	0.28%
51%–100%	52	14.53%
More than 200%	1	0.28%
Do you have knowledge regarding business models?		
No	198	55.31%
Yes	160	44.69%

3.2. Economic, financial, and public policy environment affecting MSMEs

The PESTEL analysis provides key elements of review that can constitute opportunities or threats, which must be managed appropriately to avoid negative impacts and maximise benefits.

Political factors: Significant political changes in Ecuador directly impact the business environment, particularly MSMEs. The current administration faces a volatile political landscape, requiring MSMEs to be resilient and strategic to navigate investment and growth challenges.

Economic factors: Ecuador's economy, historically dependent on oil, faces vulnerabilities due to global oil price fluctuations (CEPAL, 2023). Economic diversification is necessary to mitigate these risks. MSMEs, despite the challenges posed by the COVID-19 pandemic, have shown adaptability, maintaining customer relationships and continuing operations (Bernal et al., 2023). Economic indicators, such as a 0.4% growth in Q3 2023 and a national unemployment rate of around 4%, highlight both progress and areas needing improvement (Banco Central de Ecuador, 2023a; 2023b; Banco Mundial, 2023a; 2023b).

Social factors: Understanding social dynamics in Ecuador is crucial for MSME management. With a population of 16.94 million and a median age of 29 years, there are significant implications for labour and consumer markets. Access to education and basic services, alongside issues like high teenage pregnancy rates and gender-based violence, affect the workforce and social stability (Censo Ecuador, 2023).

Technological factors: Ecuador’s Digital Transformation Agenda (2022–2025) focuses on advancing technology adoption across various sectors, providing MSMEs with opportunities to innovate and improve efficiency.

Environmental factors: Corporate environmental commitment has increased, with more resources dedicated to environmental protection. However, energy consumption remains a concern, especially in the manufacturing sector.

Legal factors: Ensuring intellectual property protection, compliance with necessary licences, and providing a safe working environment are critical legal challenges for MSMEs (Astudillo, 2018). Initiatives like the “Mi primer certificado INEN” quality management certificate aim to support MSME development.

Emerging trends like fintech, alternative financial products, government support programs, strategic alliances, and financial education present significant opportunities for improving MSME access to financing.

Table 4. Analysis of external and internal factors.

External opportunities	External threats
<ul style="list-style-type: none"> • Participation in international trade agreements. • Diversification of export markets. • Growth in internal consumption. • Access to education and training. • Technological advancements. • Enhanced connectivity and internet access. • Government policies supporting digital transformation. • Intellectual property protection. • Compliance with licences and certifications. • Promotion of safe work environments. 	<ul style="list-style-type: none"> • Political instability and corruption. • Economic fluctuations and increased production costs. • Dependence on oil and vulnerability to price changes. • Changing consumer preferences. • High implementation costs for emerging technologies. • Digital divide in rural areas. • Resource scarcity. • Stricter environmental regulations. • Legal and regulatory compliance risks.
Internal strengths	Internal weaknesses
<ul style="list-style-type: none"> • Experience and stability. • Management adaptability. • Financial stability through real estate. • Strategic alliances. • Academic and professional diversity. • Direct management by owners. • Leadership recognition. • Innovation focus. • Local market orientation. • Stable sales volumes. • High employee commitment. • Economic incentives for motivation. • Leadership prioritisation. • Business model knowledge. • Training needs recognition. • Effective financial management. 	<ul style="list-style-type: none"> • Lack of formalisation and structuring. • Limited access to resources. • Market concentration. • Dependency on rented premises. • Overreliance on pricing strategies. • Limited international expansion. • Poor working conditions for employees. • Low utilisation of motivation strategies. • Lack of training program participation. • Limited institutional affiliations. • Insufficient knowledge of profit margins. • Absence of accounting records. • Inadequate financing for customer credit. • Limited exploration of business models. • Low access to government programs.

The comprehensive analysis of internal and external factors, coupled with

strategic recommendations, provides a robust framework for strengthening MSMEs. This data is presented in **Tables 4** and **5**. By addressing financial, economic, and policy challenges, and leveraging opportunities for growth and innovation, MSMEs can play a pivotal role in the region’s economic reactivation and sustainable development.

Table 5. Recommendations and strategic perspectives.

Recommendation	Description
Diversifying financing sources	Promote access to diverse financing options, including microcredits, credit guarantees, and investment funds, tailored to MSME needs.
Economic impact through employment creation	Strengthen MSMEs to enhance business management and access to financing, contributing to local employment and economic circulation.
Continuous business training and development	Develop tailored training programs in finance to enhance MSME capabilities.
Promoting innovation and digital transformation	Encourage innovation and digital transformation through financing, and advisory support, leveraging Ecuador’s Digital Transformation Agenda.
Strategic alliances and business networks	Foster alliances and business networks to facilitate collaboration, knowledge exchange, and market access.
Regulatory and public policy framework	Simplify bureaucratic processes, create fiscal incentives, and engage MSMEs in policy dialogue to support entrepreneurship and internationalisation.
Infrastructure and support services development	Improve physical and technological infrastructure to support MSME operations, including coworking space and e-commerce platforms.
Strengthening the local market	Implement marketing strategies to promote local products and services, boosting internal consumption and economic resilience.

3.3. Strengthening model for MSMEs: Executive plan guidelines

The data collection, processing, and analysis, along with the literature review presented in previous sections, provide this research with a broad range of perspectives for constructing a model to strengthen MSMEs in terms of business management and financing, suitable and pertinent to the evaluated context. Therefore, **Table 6** outlines the guidelines for developing the execution plan of the strengthening model based on the strategic proposals identified as responses to the competitive constraint factors in Porter’s Diamond Model, which will later translate into strategic projects (Ponce et al., 2024). The Porter Model is shown in the **Figure 1**:

Table 6. Guidelines for developing the execution plan for the strengthening model to improve business management and financing information for MSMEs.

Porter’s determinants	Competitive constraint factor	Strategic proposals
Production factors	Limited access to financing	Create a guarantee fund to facilitate MSMEs’ access to credit, in collaboration with financial institutions and the local government (GAD).
	Lack of specialised training	Develop technical and business training programs in collaboration with local universities and technical training centres.
	Complex regulatory framework and bureaucracy	Work with the local government to simplify administrative procedures and promote a more business-friendly environment.
	Lack of adequate technological infrastructure	Implement a grant program for the technological upgrade of MSMEs, encouraging the adoption of digital solutions.

Table 6. (Continued).

Porter's determinants	Competitive constraint factor	Strategic proposals
Market demand and conditions	Low knowledge of market needs	Conduct workshops and market studies focused on identifying opportunities and emerging trends.
Related and supporting industries (RSI)	Insufficient collaboration between companies	Promote the creation of business associations and collaboration networks to facilitate cooperation.
	Poor integration into value chains	Develop mentorship and advisory programs to integrate MSMEs into broader value chains and explore international markets.
Firm strategy, structure, and rivalry	Resistance to change and adoption of new technologies	Launch awareness initiatives on the benefits of technology and innovation, accompanied by local success stories.
	Rigid organisational structures	Offer change management consultancy to modernise organisational structures, promoting a more flexible and adaptable business culture.

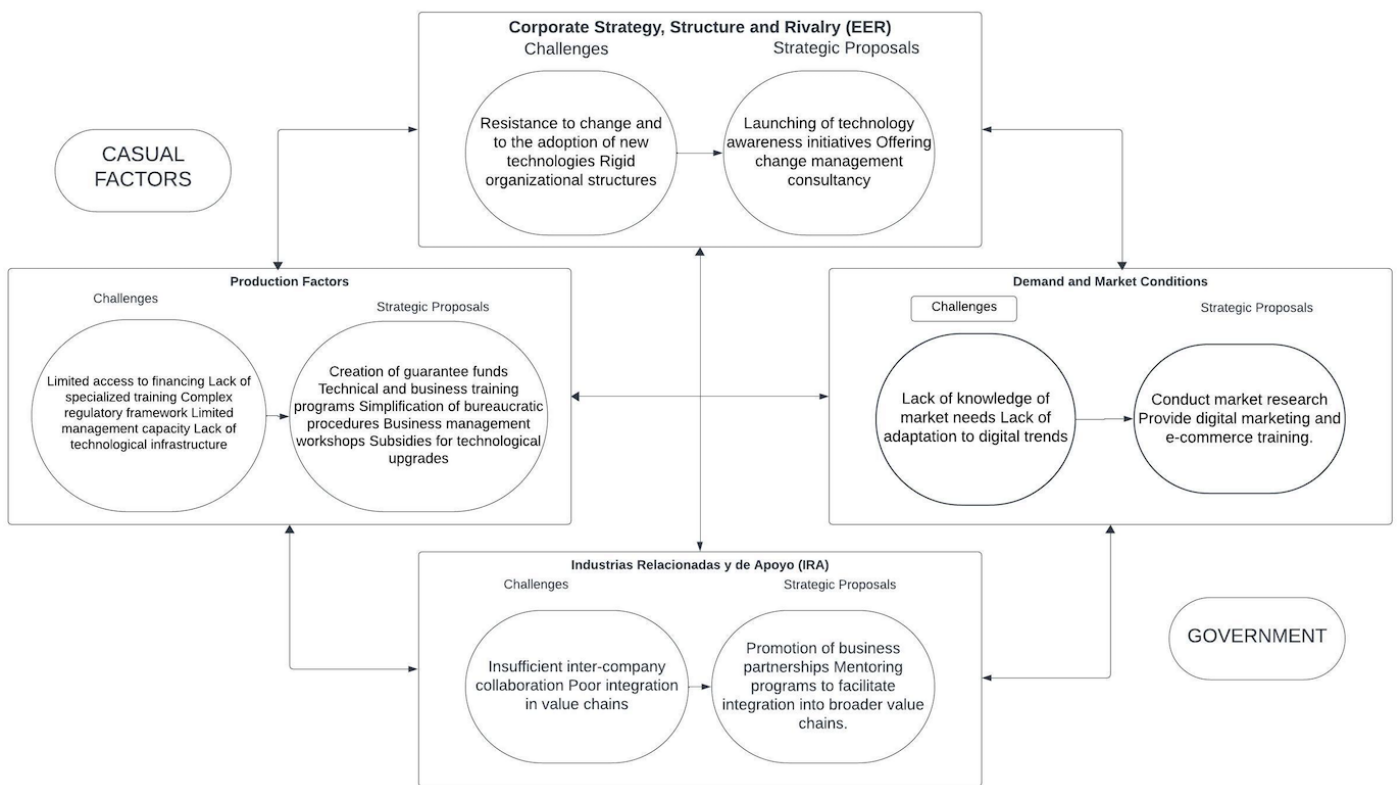


Figure 1. Porter model.

4. Discussion

The findings of this study highlight the significant challenges and opportunities faced by MSMEs in Ecuador. The analysis underscores the dominance of family-owned businesses, the importance of the tertiary sector, and the prevalent use of low-cost strategies for market differentiation. These insights provide a comprehensive understanding of the current state of MSMEs and their potential paths for growth and development.

Several studies have examined the challenges faced by MSMEs in various contexts, offering a rich basis for comparison.

Ardic et al. (2012) conducted a comprehensive global analysis of SMEs, identifying access to finance as a universal constraint. This finding aligns with our

study, where a significant reliance on self-financing was observed among Ecuadorian MSMEs. The difficulty in accessing external capital is a recurring theme in SME literature, highlighting the need for improved financial infrastructure and support mechanisms (Akkad and Mouselli, 2023). Similarly, Graña-Alvarez et al. (2024) emphasize the critical role of financial literacy and management for SME growth, echoing our findings on the gaps in financial literacy among Ecuadorian MSMEs. These studies collectively suggest that enhancing access to diverse financing options and improving financial literacy are pivotal for SME development.

In developed countries, access to finance remains a significant constraint for SMEs, although the mechanisms and severity of this constraint may differ (Calabrese et al., 2021). Blach et al. (2020) report that SMEs in Europe often struggle with obtaining sufficient financing, particularly for innovation and expansion activities. This is similar to the challenges faced by Ecuadorian MSMEs, but the financial markets in developed countries typically offer a wider range of financing options, such as venture capital and angel investors, which are less prevalent in developing economies (Bonini and Capizzi, 2019). Despite these options, SMEs in developed countries still encounter barriers related to stringent credit assessments and collateral requirements.

Research by Distinguin et al. (2016) on SMEs in developing countries shows that regulatory burdens and lack of formalisation are critical barriers. Our study corroborates this by identifying complex regulatory frameworks and limited formalisation as significant constraints for MSMEs in Ecuador. The regulatory environment in many developing economies often lacks the flexibility and clarity needed to support SME growth, creating barriers that hinder formalisation and expansion (Signoretti, 2020). Furthermore, the administrative burden associated with compliance can divert valuable resources from core business activities, exacerbating the challenges faced by MSMEs.

SMEs in developed countries also face regulatory compliance challenges. The complexity and cost of compliance with regulations can be a significant burden. For instance, SMEs in the European Union must navigate a myriad of regulations at both the national and EU levels, which can be costly and time-consuming (Villa, 2024). This issue is compounded in sectors with heavy regulation, such as healthcare and manufacturing. While the regulatory environments in developed countries are generally more stable and predictable than in developing countries, the bureaucratic requirements can still stifle innovation and growth for SMEs (Cornell et al., 2020).

The focus on family-owned businesses adds a unique dimension to the analysis. Family-owned SMEs in developed countries face similar challenges to their counterparts in developing countries, particularly regarding succession planning and governance (Menezes et al., 2019). Costa et al. (2022) discuss the unique challenges of family businesses, including succession planning and professionalisation. Our findings indicate that family-owned MSMEs in Ecuador face similar issues. The strong family ties can enhance commitment and resilience, but they may also limit professionalisation and access to diverse skills and perspectives. This duality is a well-documented phenomenon in family business literature, where the benefits of close-knit ownership structures must be balanced against the need for professional management practices. Additionally, Calabró et al. (2019) note that family

businesses in developed countries must carefully manage the transition of leadership to the next generation while maintaining family values and business continuity. Governance structures in family-owned SMEs can sometimes lack the formalisation needed to make strategic decisions effectively. This challenge is often mitigated through the implementation of professional management practices and the establishment of clear governance frameworks.

Studies by Erdogan et al. (2020) emphasize the importance of innovation for the competitiveness of family firms and highlight that it is a critical driver for competitiveness among SMEs in developed countries. However, the ability to innovate and expand into new markets is often hindered by constraints related to funding, skills, and market access (Oduro, 2019). Studies by Davcik et al. (2021) highlight that SMEs in developed countries frequently lack the resources and capabilities to engage in significant R&D activities (Tortorella et al., 2015). Additionally, the fast pace of technological change and the high costs associated with adopting new technologies present ongoing challenges (Martin, 2005; Toufaily et al., 2021). Market expansion, both domestically and internationally, is another area where SMEs in developed countries face constraints (Adomako et al., 2020). The competitive landscape in developed markets can be highly saturated, making it difficult for SMEs to gain and maintain market share. The challenge lies in sustaining this innovative momentum and integrating it into the broader strategic framework of the business. Innovation is not just about adopting new technologies but also about fostering a culture that supports continuous improvement and adaptability (Costa and Matias, 2020).

5. Conclusion

The study provided relevant guidelines to determine the importance of finance and other factors driving the economic reactivation of MSMEs in Ecuador. Despite significant challenges related to access to financing, MSMEs in Ecuador have demonstrated notable resilience and adaptability. These enterprises have continued to operate in a challenging economic environment, underscoring their importance to the local economy and their capacity to adapt to changing conditions. The findings of the study reaffirm the critical importance of a robust institutional framework that facilitates more effective access to credit and financial services for MSMEs. The absence of an adequate framework severely limits their growth and competitive capacity. The adoption of advanced technologies and innovation practices appears as a crucial factor for improving the competitiveness and operational efficiency of MSMEs. However, this requires considerable investments and advanced technical capabilities that are often inaccessible to these businesses due to financial constraints. The use of Porter's Diamond Model has provided a solid framework for understanding and addressing the specifics of the competitive environment of MSMEs in Ecuador. This theoretical framework has helped identify key factors influencing their competitiveness and has guided the formulation of specific strategies to improve their operational efficiency and innovation capacity.

The study proposes a strategic model that not only seeks to improve the operational efficiency and innovation capacity of MSMEs but also facilitates their

access to financial resources and strengthens their contribution to local economic development. This approach offers a novel and applicable perspective that can guide both business practices and policies in similar contexts.

5.1. Implications

The findings of this study emphasize the necessity for policymakers to not only enhance access to financing but also actively support the adoption of innovative and digital technologies. To optimally support MSME growth and sustainability, it is recommended that policies integrate provisions for continuous education in technology and innovation management, and establish incubation hubs that foster collaborative innovation among MSMEs. This study outlines practical strategies for MSMEs aiming to elevate their market positioning and operational efficiencies. Emphasizing the exploitation of digital transformation and strategic alliances, it recommends MSMEs to engage in digital skill acquisition and network expansion to bolster their competitiveness both in local and global markets. Furthermore, leveraging trade agreements could serve as a critical tool for expanding market access and enhancing economic performance.

The insights garnered from this study advocate for a dual approach in policymaking and business practice enhancements. Simplifying regulatory frameworks and enhancing the financial acumen among MSME operators can substantially mitigate prevalent financial constraints. For family-owned MSMEs, specialized programs in succession planning and governance could critically sustain business continuity and foster resilience against generational shifts. This research advances the theoretical landscape by delineating the pivotal roles of strategic alliances and sophisticated financial management in propelling MSME growth. It enriches the academic dialogue about how MSMEs interact with fluctuating economic policies, technological advancements, and political climates, thereby influencing their operational efficacy and growth trajectories.

5.2. Study limitations

This study's limitations are primarily its geographic focus and data collection methodology. Expanding future studies across more diverse geographical areas could enhance the generalizability of the findings. The reliance on self-reported data may also skew the authenticity of the reported practices, necessitating more objective data collection methods in subsequent research. Additionally, the study's cross-sectional design restricts the exploration of cause-effect dynamics, which could be addressed through longitudinal research designs.

5.3. Future research directions

Future studies should aim to: investigate the sustained impacts of digital transformation on MSMEs, particularly how these transformations influence long-term business sustainability; analyze the efficacy of various financing structures and their role in bolstering MSME stability and growth; evaluate the influence of governmental support mechanisms on MSME resilience and expansion, with a focus on how these policies facilitate or hinder business operations; develop and test the

impacts of strategic training programs focused on enhancing financial literacy and technological prowess among MSME operators; explore the hurdles and enablers to MSME formalization, proposing targeted interventions to streamline their integration into formal economic sectors; finally, conduct comparative analyses to understand regional and international variations in MSME operations and success factors, which could provide broader insights into global MSME dynamics and policy effectiveness.

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Appendix A

Table A1. Survey instrument.

	Variable	Measurement
Dimension: General information of the company	Type of organization	1. Popular and Solidarity Economy Company\n2. Private Company\n3. Public Company\n4. Others
	Legal structure	1. Natural person\n2. Limited Liability Company\n3. Joint-stock Company\n4. Others
	Company age	1. From 0 to 2 years\n2. From 3 to 5 years\n3. From 6 to 10 years\n4. More than 10 years
	Economic sector	1. Primary\n2. Secondary\n3. Tertiary
	Specific economic sector	Agriculture\n2. Livestock\n3. Fishing\n4. Others
Dimension: Organizational context	Organizational culture	1. Strongly Hierarchical\n2. Moderately Hierarchical\n3. Balanced\n4. Moderately Egalitarian\n5. Strongly Egalitarian
	Leadership style	1. Authoritarian\n2. Democratic\n3. Laissez-faire\n4. Transformational\n5. Transactional
	Employee engagement	1. Very Low\n2. Low\n3. Moderate\n4. High\n5. Very High
Dimension: Strategic management	Vision and mission statements	1. Yes\n2. No
	Strategic planning	1. Annually\n2. Biannually\n3. Quarterly\n4. Monthly\n5. Never
	Competitive advantage	1. Cost Leadership\n2. Differentiation\n3. Focus Strategy\n4. Innovation\n5. Customer Service
Dimension: Financial performance	Revenue growth	1. Negative\n2. 0–5%\n3. 5%–10%\n4. 10%–15%\n5. Above 15%
	Profit margin	1. Below 5%\n2. 5%–10%\n3. 10%–15%\n4. 15%–20%\n5. Above 20%
	Return on investment (ROI)	1. Negative\n2. 0–5%\n3. 5%–10%\n4. 10%–15%\n5. Above 15%
Dimension: Operational efficiency	Production efficiency	1. Very Low\n2. Low\n3. Moderate\n4. High\n5. Very High
	Inventory turnover	1. Less than 1 time\n2. 1–3 times\n3. 3–5 times\n4. 5–7 times\n5. More than 7 times
	Supply chain reliability	1. Very Low\n2. Low\n3. Moderate\n4. High\n5. Very High
Dimension: Market performance	Market share	1. Less than 5%\n2. 5%–10%\n3. 10%–15%\n4. 15%–20%\n5. Above 20%
	Customer satisfaction	1. Very Dissatisfied\n2. Dissatisfied\n3. Neutral\n4. Satisfied\n5. Very Satisfied
	Brand loyalty	1. Very Low\n2. Low\n3. Moderate\n4. High\n5. Very High
Dimension: Innovation and development	R&D investment	1. Less than 1% of revenue\n2. 1%–3% of revenue\n3. 3%–5% of revenue\n4. 5%–7% of revenue\n5. More than 7% of revenue
	New product development	1. Very Low\n2. Low\n3. Moderate\n4. High\n5. Very High
	Technology adoption	1. Very Slow\n2. Slow\n3. Moderate\n4. Fast

Appendix B

Survey validation model

Focus group questionnaire: Validation of the MSME strengthening model:

Introduction welcome to the focus group organised to evaluate the strengthening model for improving business management and financing of MSMEs. Your participation is crucial to ensure the model is effective and relevant for local businesses like yours. This questionnaire aims to better understand your needs and opinions regarding the proposed model. We appreciate your honesty and transparency in your responses.

Section 1: Business context and challenges

- Name of the company:
- Sector of operation:
- Briefly describe the main management and financing challenges your company has faced in Jipijapa.

Section 2: Perception of the strengthening model

- Based on your understanding of the proposed strengthening model, identify the aspects you believe would be most beneficial for your company. Explain why.

Section 3: Evaluation of strategic proposals

- Among the strategic proposals identified in the model (such as creating a guarantee fund, developing training programs, simplifying administrative procedures, etc.), which do you think would have the greatest positive impact on your business? Explain how.

Section 4: Feasibility and applicability

- What obstacles do you anticipate that could hinder the implementation of this model in your company? What kind of support do you consider necessary to effectively implement this model in your business?

Section 5: Suggestions for improvement

- What improvements or adjustments would you suggest for the proposed model to better meet the needs of your company, especially in areas that have not been sufficiently addressed?

Section 6: Final feedback

- Is there any other critical area of support for the success of MSMEs in Jipijapa that you believe should be incorporated into this model?