

UDC 330.341:658.11(8)
JEL Classification O54, O30

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Development of Technology-Oriented Small and Medium Enterprises in South American Market

This study critically examines the relevance and dynamics of the South American market for technology-oriented Small and Medium Enterprises (SMEs). With an ever-expanding global economy, understanding the peculiarities of regional markets is highly important for businesses aiming to thrive and innovate. Through a blend of literature review and market analysis, this research investigates the unique challenges and opportunities inherent in the South American landscape for SMEs in the technology sector. Employing a comprehensive mixed-methods approach, the study focuses on the regulatory frameworks, market entry strategies, and growth trajectories shaping the SMEs in this dynamic region. The implications of these findings extend to policy-makers, entrepreneurs, and investors, offering actionable insights for driving innovation, fostering entrepreneurship, and facilitating sustainable growth in the technology sector across South America. Ultimately, this study contributes valuable insights and practical recommendations to the existing literature, empowering stakeholders to capitalize on the region's economic potential and contribute to the advancement of the technology ecosystem in South America.

Keywords: digitalization, SMEs (Small and Medium Enterprises), revenue growth, South America market, regulatory environment

DOI 10.37659/2663-5070-2024-13-29-43

Introduction

In an era characterized by rapid globalization and technological advancement, the strategic importance of regional markets cannot be overstated. For Small and Medium Enterprises (SMEs) operating in the technology sector, understanding and effectively navigating regional markets are essential for sustained growth and competitive-

ness. Among the diverse array of regions worldwide, South America emerges as a compelling and dynamic market landscape, full of opportunities and challenges for technology-oriented SMEs.

The micro, small, and medium-sized businesses (MSMEs) that make up Latin America and the Caribbean's socioeconomic environment are funda-

mental. SMEs account for 90% of Latin American enterprises; they create more than 50% of jobs, as indicated in a Figure 1, and represent one fourth of the GDP. In 2020, only mobile technologies and services accounted for 7.1% of GDP in Latin America — a contribution that amounted to more than USD 340 billion of economic value added [1]. SMEs have a high profile in all productive sectors and a big clout on the social network. Data of CAF show that near 60% of Latin Americans work in enterprises of five or less employees [2].

Digital tools and technologies have become central to MSMEs' ability to trade. Close to 80% of MSMEs surveyed in Argentina, Brazil, and Mexico claim to sell products online, and 63% of MSMEs in Colombia claim to do so [3-4].

They are complex, contradictory, true to their Latin American origins. On the one hand, they account for 90% of currently operating enterprises and employ more than half of Latin Americans. However, their contribution to the regional GDP is just 25% (as opposed to the 50% that MSMEs make in OECD nations).

The significance of South America as a market for SMEs in the technology sector stems from its

unique blend of economic, social, and regulatory factors. Latin America has approximately 12.9 million SMEs, apportioned among 17 countries, including 91.2% of micro-enterprises, 6.3% of small enterprises and 1.6% of medium-sized enterprises. According to ECLAC, 2.7 million businesses shut down in 2020, amounting to 19% on aggregate in the region. As regards micro-enterprises, such a percentage could be as low as 21% [2].

A study about the pandemic effect was also conducted by the Journal of Open Innovation. It supported the idea that the Covid-19 pandemic has made digital transformation no longer an option but a necessity for small and medium-sized enterprises (SMEs) to succeed in a highly globalized market. The hypothesis of the study aims to determine which factors out of the three (commitment to digital maturity, training and digital skills and digital maturity experience) has the most influence on SMEs development level [6].

With a population exceeding 430 million and a burgeoning middle class, the region offers a sizable consumer base in need of innovative technological solutions, indicated in a Figure 2. Moreover, South America boasts a rich reser-

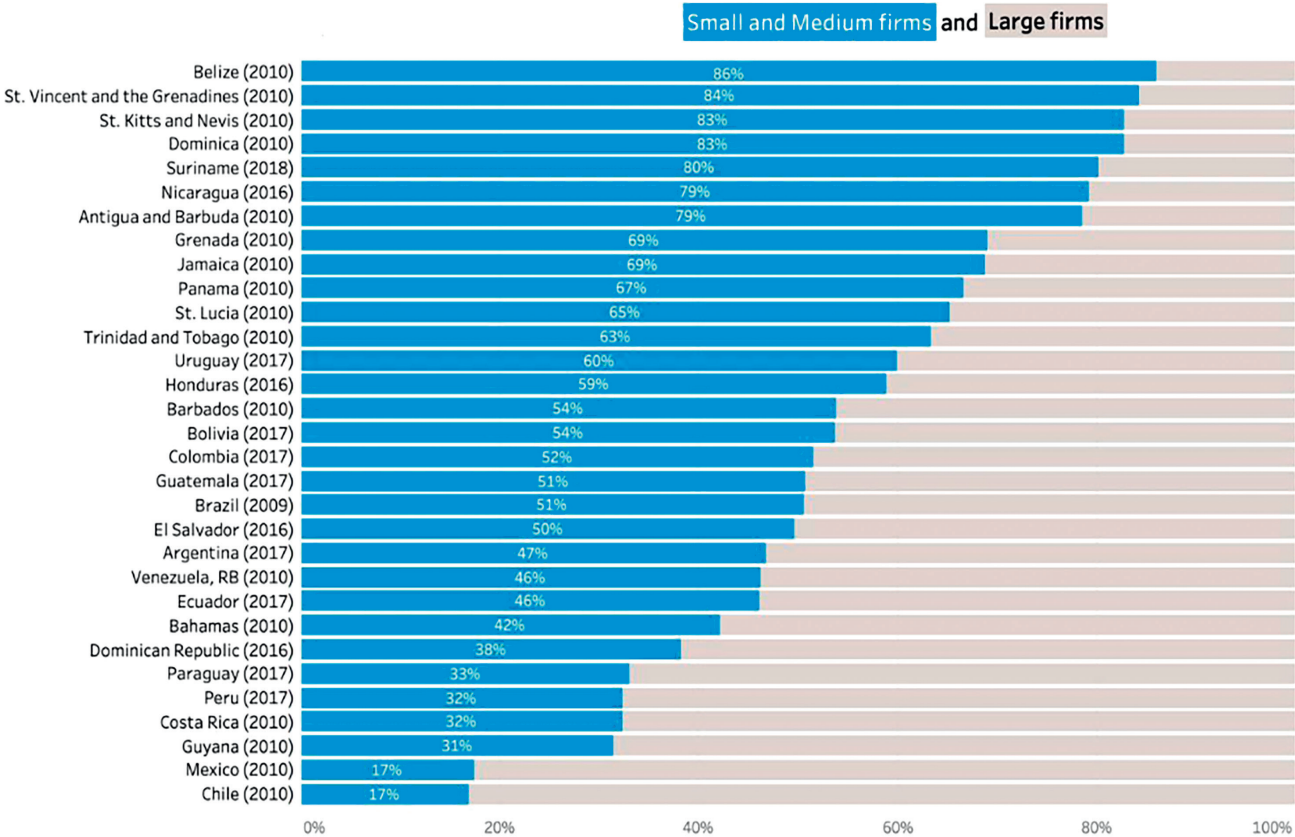
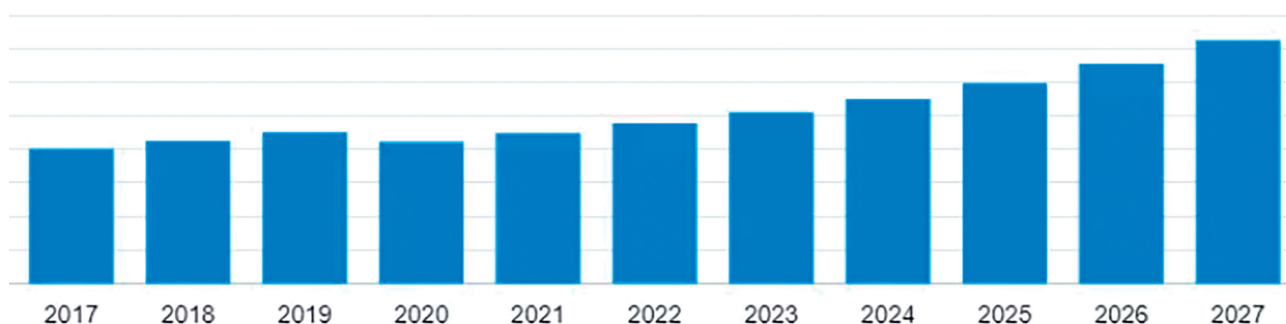


Fig. 1. Share of Total Aggregate Stock of Permanent Full-Time Employment in SMEs and Large Firms [5]

Market Size Outlook (USD Million)



2017 : USD **80,118.05**



Fig. 2. Forecast of the Size of the IT Services Market in Latin America [7]

voir of natural resources, diverse industries, and a growing need for digital transformation, presenting high opportunities. Some of these are: growing digital economy, emerging startup ecosystems, rapid expansion of the e-commerce, demand for digital transformation, focus on sustainability.

However, alongside these opportunities, South America presents its own set of complexities and challenges. From diverse regulatory frameworks and cultural nuances to infrastructural constraints and market fragmentation, SMEs must navigate many obstacles to establish themselves and sustain growth in the region. Moreover, the competitive landscape is evolving rapidly, with both domestic and international players vying for market share and relevance.

Literature Review

The literature surrounding the South American market for technology-oriented Small and Medium Enterprises (SMEs) reflects a growing interest in understanding the region's unique economic, regulatory, and cultural landscape. Studies have emphasized the importance of

regional markets for SMEs in the technology sector, with South America emerging as a focal point for innovation and growth.

One recurring theme in the literature is the significance of South America's economic diversity and market potential. Researchers highlight the region's vast consumer base, expanding middle class, and increasing digital adoption as key drivers of market growth for technology-oriented SMEs [8]. Moreover, South America's abundance of natural resources and diverse industries offer ample opportunities for SMEs to develop and deploy innovative solutions across various sectors [9], such as agribusiness, IT business, infrastructure and construction, renewable energy, etc.

However, alongside these opportunities, scholars have also identified challenges and complexities inherent in the South American market. Regulatory frameworks vary widely across countries, posing compliance challenges for SMEs seeking to operate across borders [10]. Cultural differences and language barriers further compound the challenges, necessitating a nuanced approach to market entry and localization strategies [11].

Studies have also examined the role of government policies and initiatives in shaping the technology landscape in South America. Research suggests that proactive government support, including incentives for innovation and entrepreneurship, can stimulate growth and foster a conducive ecosystem for SMEs [12]. Conversely, regulatory uncertainty and bureaucratic hurdles have been identified as barriers to SME growth and innovation [13].

In addition to regulatory and economic factors, the literature underscores the importance of strategic decision-making and market intelligence for SMEs operating in South America. Case studies highlight the significance of market research, competitive analysis, and localization strategies in achieving success and mitigating risks in the region [14].

Latin America offers a competitive advantage over other outsourcing destinations, with a large pool of skilled IT professionals and cost-effective rates. Additionally, time zone proximity to the North American market, cultural affinity, and English fluency make communication and collaboration easier for the US and Canadian companies seeking nearshore outsourcing options [15].

Overall, the literature on the South American market provides valuable insights into the opportunities and challenges facing businesses in the region. By synthesizing existing research and identifying gaps in knowledge, this study aims to contribute to a deeper understanding of regional market dynamics and provide practical recommendations for SMEs and stakeholders seeking to navigate the complexities of the South American landscape.

Another study was conducted by Sergio Diaz under CAF, which investigated how Latin American MSMEs can join the value chains of climate change mitigation and adaptation [16]. It was focused mainly on the cooperation of the local governments with SMEs towards sustainability. Study shows that among the most effective measures that have been implemented are fiscal, financial, and regulatory incentives to encourage the creation, formalization, and expansion of businesses; improving connectivity and public services to facilitate market access; promoting internationalization; supporting the transition to a green and circular economy; and strengthening human and social capital.

Methodology

Using many online secondary data sources was the main method of data collecting. Academic journals, industry papers, government publications, statistical databases, and reliable websites that focused on economic analysis and market research were among the sources used. A lot of knowledge on market trends, legislative frameworks, industry dynamics, and economic indicators relevant to South American SMEs focused on technology was made available by these secondary sources.

The way the study was set up made it easier to conduct a thorough analysis and synthesis of the body of knowledge and internet data that already existed. A sequential exploratory approach was chosen because of the wealth of internet resources available, enabling iterative refining of the research questions and adaptation to new information. This strategy allowed for a thorough analysis of the South American market environment while maintaining adaptability to changing trends and advancements.

The process of qualitative analysis of web sources entailed combining data from several sources to find recurring themes, new trends, and important revelations that were pertinent to the study's goals. To provide a more sophisticated knowledge of market dynamics and regulatory settings, material from government publications, industry reports, and academic papers was distilled and organized using thematic analysis approaches.

Even though there is a lot of data and insight available while conducting research online, there are certain things to be aware of. Biases present in the original research or publications may result from the use of secondary data sources. Additionally, because internet material is dynamic, it must be carefully interpreted, and its relevance and veracity confirmed. Notwithstanding these drawbacks, conducting research online offers a useful way to gain access to a wide range of data and viewpoints, which makes it easier to conduct a thorough study of the South American market for technology-focused SMEs.

To summarize, this study's approach makes extensive use of internet research techniques to investigate the South American market environment for technology-focused SMEs. This research intends to provide significant insights

into the knowledge of regional market dynamics and educate strategic decision-making for SMEs and stakeholders operating in South America by utilizing the abundance of information accessible online and abiding by ethical principles.

To support the study, a correlation analysis was conducted to examine the relationship between company development level (dependent variable) and two independent variables: training and digital skills, and company digitalization level. The analysis aimed to establish whether higher digital skills training and greater digitalization positively influence company growth, productivity, and market reach.

The numerical data used in this research was derived from three primary sources:

1. OECD Report [17]: This report highlights that digitally advanced SMEs in Latin America experience an average revenue growth rate of 10%, whereas less digitalized counterparts report only 5% growth.
2. European DIGITAL SME Alliance Report [18]: It states that 60% of SMEs in the European Union that invest in digital skills training observe improvements in productivity and efficiency.
3. APEC Report [19]: It indicates that SMEs with robust digital skills programs experience a 15% increase in market reach.

To integrate this data into the analysis, we made certain assumptions to standardize the numerical values. A sample of 1,000 SMEs was assumed for calculations, allowing for consistent comparison.

To illustrate the effect of digitalization on revenue growth [17], we assume:

1. 500 SMEs in the sample are digitally advanced, and 500 are less digitalized.
2. Each SME has an initial baseline revenue of \$1,000,000.
3. Using the OECD growth rates.
 - Digitally advanced SMEs:
 - › Total initial revenue: $500 \times \$1,000,000 = \$500,000,000$.
 - › Revenue after 10% growth: $\$500,000,000 \times 1.10 = \$550,000,000$.
 - Less digitalized SMEs:
 - › Total initial revenue: $500 \times \$1,000,000 = \$500,000,000$.
 - › Revenue after 5% growth: $\$500,000,000 \times 1.05 = \$525,000,000$.

This calculation demonstrates a significant revenue advantage for digitally advanced SMEs. The next step examines how digital skills training impacts productivity.

According to the European DIGITAL SME Alliance Report, 60% of SMEs investing in digital skills training see productivity improvements. Assuming that 600 out of 1,000 SMEs invest in such training:

- Number of SMEs seeing productivity improvements: $60\% \text{ of } 600 = 360 \text{ SMEs}$.

This suggests a direct link between training and productivity, reinforcing the need for investment in digital skills. We now analyze the impact of digital skills programs on market reach.

While the APEC report states that SMEs with strong digital skills programs increase their market reach by 15%. If each of the 1,000 SMEs originally serves an average of 1,000 customers:

- Total initial market reach: $1,000 \text{ SMEs} \times 1,000 \text{ customers} = 1,000,000 \text{ customers}$.
- Expanded market reach after 15% growth: $1,000,000 \times 1.15 = 1,150,000 \text{ customers}$.
- Increase in customer base: $1,150,000 - 1,000,000 = 150,000 \text{ additional customers}$.

So, as the interpretation of findings, the correlation analysis confirms that higher levels of digitalization and investment in digital skills training positively impact SMEs by increasing revenue, improving productivity, and expanding market reach. Each calculation aligns with real-world data and strengthens the argument for prioritizing digital transformation among SMEs. The next section will present visual illustrations (Figures 3–6) that further clarify these relationships.

Research Results

To conduct Pearson's correlation analysis, the data preparation process involved defining key variables, collecting sample data, and structuring it for statistical evaluation.

The study examines the relationship between digital training, technological adoption, and company development using three key variables. Training and digital skills (X1) represent the number of employees who have received digital skills training within an SME. The company digitalization level (X2) measures the extent of digital technology adoption on a numerical

scale, such as from 1 to 10. The company development level (Y) is assessed through business growth indicators, including revenue growth rate, market reach expansion, or innovation capacity.

For data collection, a sample size of 1,000 SMEs was assumed to ensure structured and reliable results. Each SME's data included the number of employees trained in digital skills, the company's level of digitalization, and key development indicators such as revenue growth or market expansion. These variables were collected and organized into a structured dataset, making it suitable for statistical evaluation.

For simplicity, it was assumed that each SME had baseline data points corresponding to these variables. This dataset formed the basis for computing Pearson's correlation coefficients, allowing the analysis to determine the strength and direction of the relationships between digitalization efforts and business growth outcomes.

A sample dataset for 10 SMEs is shown in Table 1.

This is a perfect positive relation reflected on this graph. In this analysis, the correlation coefficient R is very close to 1, indicating a very strong positive correlation between the number of employees trained (X1) and the revenue growth rate (Y1). This implies that as the number of employees trained increases, the revenue growth rate also increases almost perfectly. Since R is positive, the direction of the relationship is pos-

Pearson's correlation calculation

Source:
X1_Y1 calculation result:
The value of R is 0.9984.

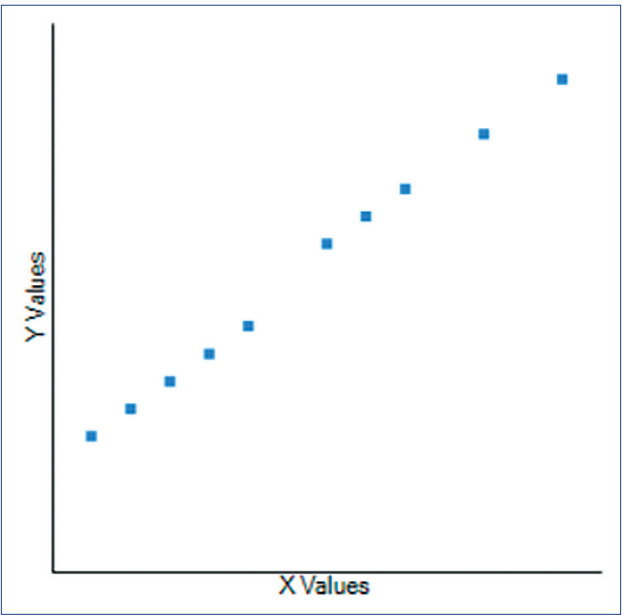


Fig. 3. X1_Y1 Analysis Result

itive. This means that both variables move in the same direction.

The high R value suggests that training employees could be a significant factor in driving revenue growth. Companies may assume investing in employee training programs is highly beneficial for enhancing revenue.

Table 1. Sample Dataset

SME	Employees trained (X1)	Digitalization level (X2)	Revenue growth rate (Y1)	Market reach increase (Y2)
1	50	7	12 %	18 %
2	40	6	9 %	15 %
3	60	8	14 %	20 %
4	30	5	7 %	12 %
5	70	9	16 %	22 %
6	20	4	5 %	10 %
7	80	10	18 %	25 %
8	25	3	6 %	11 %
9	55	7	13 %	19 %
10	35	6	8 %	14 %

Source: Created by the author

X2_Y1 correlation result:
The value of R is 0.9669.

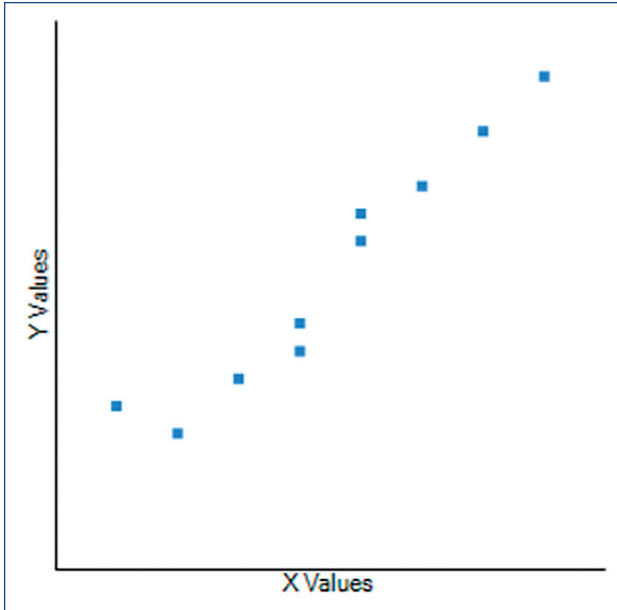


Fig. 4. X2_Y1 Correlation Result

X1_Y2 correlation result:
The value of R is 0.9979.

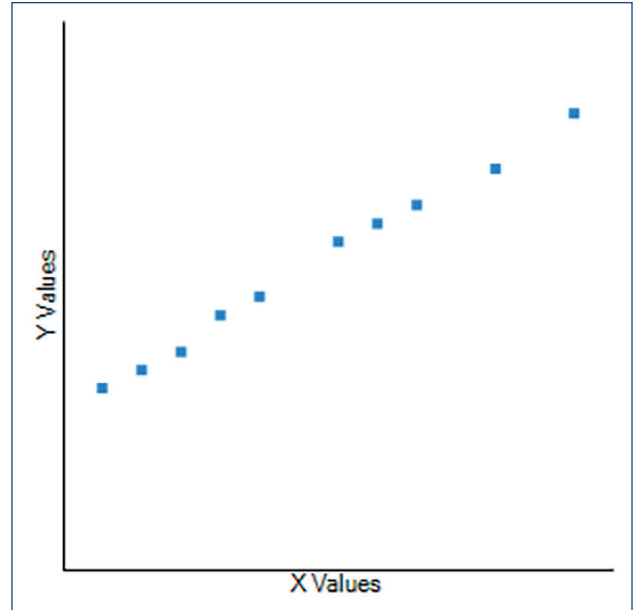


Fig. 5. X1_Y2 Correlation Result

This is a strong positive correlation, which means that high X variable scores go with high Y variable scores (and vice versa). The R value is very close to 1, indicating a strong positive correlation between the digitalization level (X2) and the revenue growth rate (Y1). This implies that as the level of digitalization increases, the revenue growth rate also increases significantly. Since R is positive, the direction of the relationship is positive, both variables move in the same direction.

The high R value suggests that increasing the level of digitalization could be a significant factor in driving revenue growth. Businesses might consider that investing in digital technologies and processes is highly beneficial for increasing revenue.

This is a fairly strong positive correlation, which means that high X variable scores go with high Y variable scores (and vice versa).

Compared to the previous point, this relation is not that high, but both variables can still be affected. The high R value suggests that training employees could be a significant factor in expanding market reach. Businesses can consider investing in employee training programs, as it can be highly beneficial for increasing their market reach.

This is another example of a strong positive relationship, which means that market reach in-

X2_Y2 correlation result:
The value of R is 0.9728.

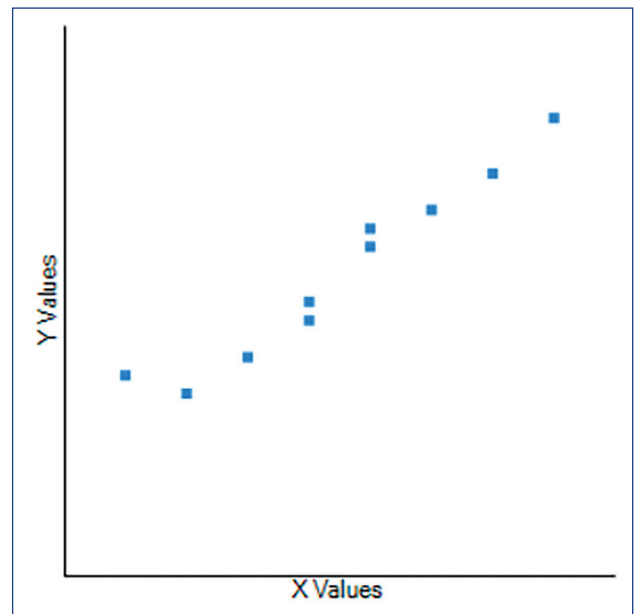


Fig. 6. X2_Y2 Correlation Result

crease can be directly affected by the level of digitalization. The greater the level of digitalization, the greater the market reach increase.

The high R value suggests that increasing the level of digitalization could be a significant factor in expanding market reach. Businesses might

infer that investing in digital technologies and processes is highly beneficial for increasing their market reach.

South American Technological Market Overview

There are many different types of economies in South America, from developed industrial states to developing markets. This variation in the state of economic development has a significant impact on the rate and kind of adoption of smart technologies. While some nations are only beginning to undergo a technological revolution, others, like Brazil, Argentina, and Chile, have thriving technology industries. Comprehending the socio-economic disparities is vital to comprehend the intricate terrain of intelligent technologies inside the area.

There is a noticeable tendency toward urbanization, with a large percentage of people living in cities. Nonetheless, stakeholders and policymakers continue to focus on the digital gap between urban and rural communities in their efforts to provide fair access to smart technology.

With a large percentage of its population under 30, almost 20% [20], South America has a young population. Youth with a strong tech background have a chance to spearhead innovation and technology adoption thanks to this demographic dividend. The necessity of education and skill development in producing a workforce capable of utilizing smart technology for social and economic prosperity is further highlighted by youthful demography.

Renewable energy resources abound in South America, including hydropower, wind, and solar energy. Several nations, including Uruguay, Chile, Ecuador, Colombia and Costa Rica, in the area are making the most of these resources to sustainably satisfy their energy demands. The implementation of smart grid technology aims to improve energy distribution and minimize losses. Energy resilience is being strengthened in addition to lowering carbon emissions through initiatives to encourage the use of smart networks and renewable energy.

South American governments are actively digitizing their services to increase accessibility, transparency, and efficiency. Citizens may now access government services online thanks to the growing number of e-government projects. Digital platforms help with tax filing, administra-

tive processes, and citizen participation. As an example, a recently elected president of Ecuador, Daniel Noboa, has already negotiated with the president of Ukraine, Volodymyr Zelenskyi to help with the implementation of a DIYA-like technology in Ecuador, based on Ukrainian experience [21].

Simultaneously, many individuals, which make up 77 million people, in small towns and rural areas still have low rates of digitization [22]. Most nations, including Ecuador, still rely heavily on cash for daily transactions, and people there have little faith in credit cards and online money transfers. The average credit card ownership for 2021, based on 10 countries of the region, was 20.55 %, which means that many of their transactions heavily rely on cash.

In South America, efforts to close the digital gap are a top priority. An estimated 45% of Latin Americans lack access to the internet. The disparity between those who have internet access and those who don't is even greater: 80% of students from wealthy backgrounds have internet access while only 14% of those from impoverished backgrounds have access [23]. To increase internet access in underserved and rural regions, governments and private organizations are working together. To reach rural populations, initiatives include installing fiber-optic connections, setting up satellite internet, and using wireless technology. Digital inclusion is thought to provide economic possibilities, improve education, and empower citizens — especially in areas where access has historically been patchy.

Market Entry Strategies

Market research is the first step for organizations looking to grow in South America. Businesses must comprehend the political, economic, and cultural aspects of the nations they are targeting. This includes investigating the target market, the business climate locally, and the legal system. For example, familiarizing oneself with local laws governing import fees, customs, and taxes is essential to avoiding legal problems that might harm a company's reputation.

South American SMEs are becoming more aware of the advantages of incorporating smart technology into their operations as the world's adoption of these solutions picks up speed. However, the horizon still brings a distinct set of difficulties in addition to a bright future.

The first one of these difficulties to be considered is localized content marketing, as indicated in a Figure 7. To effectively market smart technology solutions to South American SMEs, it's essential to create content that resonates with the local audience. This involves not only translating content into Spanish but also adapting it to address the specific challenges, needs, and cultural context of the region.

While Spanish is the primary language in the region, there are regional variations and idiomatic expressions that vary across the region. For example, in Ecuador, there are 17 indigenous languages throughout the country, which are highly spread and mixed with Spanish, implementing local expressions, speech figures and much more. Also, Latin American Spanish differs quite much from original Spanish (Castellano), so that it must be considered. It is important to familiarize with the linguistic preferences of the target audience, especially

if it is planned to reach different regions within Ecuador.

Next are South American's region's industry insights: it is essential to conduct in-depth research into region's various industries and sectors. Understand the pain points, opportunities, and market dynamics unique to each sector. Craft content that demonstrates how smart technology solutions can directly address these sector-specific challenges.

By using these strategies, many SMEs in the technological sphere can reach out better to their audience and create awareness about the product, thus here are some examples for operating in this market:

First of all, it is important to participate in industry-specific events, conferences, and trade shows where can be showcased the smart technology solutions, as indicated in a Figure 8. These events provide invaluable opportunities to network with potential clients and industry



■ Fig. 7. SWOT Analysis



■ Fig. 8. TOWS Analysis

peers, demonstrate the products, and gain insights into local market trends and challenges. Also, as marketing through social media is not greatly developed and integrated yet, such events are highly used among entrepreneurs. However, getting back to the previous point, it is important to customize the marketing materials and presentations to align with the expectations and preferences of the South American market.

Collaboration with local chambers of commerce is another point to consider. Establishing partnerships or collaborations with local chambers of commerce or industry associations can help the development, as these organizations often have extensive networks within the South American business community and can help connect with SME decision-makers.

One bright example here would be a company that implemented e-commerce in the region — MercadoLibre. This Argentine company is one of the largest e-commerce platforms in

Latin America, often dubbed as the “eBay of Latin America.” It operates in several South American countries and provides online marketplace services for local businesses, as well as individual entrepreneurs that can list their products and services on the platform, reaching millions of potential customers.

Effectively leveraging networking opportunities and participating in local events can significantly enhance company’s presence in the South American market. It allows building relationships, gaining firsthand market insights, and establishing the company as a trusted partner for smart technology solutions tailored to the needs of SMEs in the region.

A good example for it would be Konfío, which is a Mexican fintech company that offers online lending services to SMEs. While primarily focused on the Mexican market, it has also expanded its operations to other countries in South America.

Thorough research and identification of government programs and incentives in the region that promote technology adoption among SMEs also can help the development. These initiatives may include grants, subsidies, tax incentives, or partnerships with government agencies. Some of the organizations which cover technological advancement: National Secretariat of Planning and Development (SENPLADES), National Institute of Advanced Studies (IAEN), Ecuadorian Institute of Intellectual Property (IEPI). The Brazilian government provides incentives through the Regime Especial de Tributação do Programa Nacional de Banda Larga (REPNBL) program, which includes incentives for purchasing infrastructure that help improve colocation services in the country [1].

In conclusion, thorough preparation and study are essential when expanding a company into Latin America. To avoid potential issues that could damage reputation, businesses must understand the local business environment, target market, and regulatory landscape. While e-commerce can be a useful way to test the market, partnering with local businesses can speed up the process of establishing a presence in the market. Succeeding in South America's competitive business climate requires building a loyal customer base and providing excellent customer support. A company that can overcome these challenges and grow in Latin America will be well-placed to benefit from this expansion.

An extremely important point to consider, for SMEs with employees in South America, is the adherence to labor laws and employment regulations — including those pertaining to minimum wage requirements, employee perks, and labor contracts — is crucial. Technology-based

SMEs may find it difficult to comply with these laws while controlling operating expenses and preserving worker flexibility. Some points that might differ from western business carrying — implementation of 13th salary (not only in governmental business), payment of utilities.

Utilities ("utilidades") — the obligatory, by law, payment which the company needs to provide to its workers by April 15th each year. They consist of 15 % of net income divided between all the legally employed workers. It is practiced in: Mexico, Ecuador, Chile, Brazil, Colombia, Peru, Venezuela. Other regions: Spain.

Despite these challenges, SMEs can leverage opportunities for growth and innovation in the dynamic South American market with strategic planning and compliance efforts.

However, entering a new market always brings some challenges to companies, as indicated in Table 2, especially if we consider SMEs, which might not have an international presence or simply are on the stage of startup or at the point of growth, which are the first ones in business cycle. Thus, it is better to analyze the possible threats and opportunities the market presents to be able to face the challenges.

Digital inclusion in rural and remote areas remains a significant challenge due to limited infrastructure, affordability concerns, and low digital literacy. However, by fostering collaboration between stakeholders such as governments, private companies, and NGOs, investments in connectivity expansion can transform these regions, improving economic opportunities, access to education, and healthcare services.

Similarly, the environmental impact of smart technology adoption requires careful consid-

Table 2. Challenges and Opportunities of Market Entry

Name	Challenge	Opportunity
Digital inclusion in rural and remote areas	Limited infrastructure, high costs, low digital literacy.	Expanding connectivity boosts economy, education, and healthcare.
Environmental sustainability and smart technology	High energy use, e-waste, impact on biodiversity.	Green tech, circular economy, eco-friendly manufacturing.
Data privacy and sovereignty	Data security risks, unauthorized access, privacy concerns.	Implementing strong regulations, secure cloud infrastructure, cybersecurity awareness.
Cultural sensitivity and indigenous rights	Risk of cultural erosion, lack of inclusive tech solutions.	Culturally adapted tech, indigenous content, community-driven initiatives.

Source: Created by the author

eration. While infrastructure development can strain energy resources and generate electronic waste, integrating sustainability measures such as green infrastructure, eco-friendly manufacturing, and circular economy practices can mitigate these effects and position the region as a leader in sustainable technology.

Data privacy and sovereignty are also pressing concerns, given the vast amounts of data generated by smart technologies. Addressing these challenges through strong data protection regulations and cybersecurity frameworks ensures that personal and sensitive data remain secure. Developing secure cloud infrastructures and promoting cybersecurity awareness further strengthens digital resilience.

Finally, cultural sensitivity and indigenous rights must be prioritized when introducing smart technologies. Inappropriate technological interventions risk undermining indigenous traditions and social structures. Governments and technology developers can work together to create culturally appropriate solutions, including support for indigenous content creation, language preservation, and community-driven technology initiatives, ensuring that technological advancements align with cultural values and needs.

In summary, South America's unique challenges and opportunities in the smart technology and communications sphere stem from its diverse landscape, cultural richness, and economic dynamics. Overcoming these challenges while harnessing the potential of smart technology requires proactive policies, innovative solutions, and a commitment to inclusivity, sustainability, and privacy. South America is poised to shape its technological future by striking a balance between tradition and transformation and by leveraging its distinct advantages in the global tech arena.

Conclusions

In addition to these internal factors, the external market environment in South America presents both opportunities and challenges for SMEs. The region's market is characterized by a dynamic economic landscape, with a growing middle class and increasing rates of digital adoption. These trends provide fertile ground for technology-oriented SMEs to expand their

operations and capture new market segments. However, the diversity and complexity of the regulatory frameworks across different South American countries pose significant challenges. SMEs aiming to operate in multiple countries must navigate these intricate regulations, which can be both time-consuming and costly. The regulatory environment, while designed to ensure fair competition and consumer protection, often becomes a barrier for SMEs due to the lack of harmonization across borders. This lack of uniformity can hinder SMEs' ability to scale their operations and exploit regional market potential fully.

Government programs and initiatives have emerged as vital support mechanisms for SMEs in the region. The research identified various government-led efforts aimed at promoting technology adoption among SMEs. These include grants, subsidies, tax incentives, and public-private partnerships that are designed to ease the financial burden on SMEs and encourage innovation. Such programs are particularly important in a region where access to capital can be limited, and where SMEs often struggle to fund the necessary investments in technology and infrastructure. The availability of government support plays a crucial role in enabling SMEs to overcome the initial barriers to digitalization and to sustain their growth in a competitive market environment.

Drawing conclusions from these findings, it becomes evident that digitalization and the development of digital skills are paramount for the growth and success of SMEs in South America. The data indicates that companies that invest in digital transformation are more likely to experience significant revenue growth and expand their market reach. This emphasizes the need for SMEs to prioritize digital skills training for their workforce and to integrate digital technologies into their business operations. Digitalization not only enhances operational efficiency but also opens up new avenues for customer engagement, product innovation, and market expansion. As the global economy becomes increasingly digital, SMEs that fail to embrace these changes risk being left behind.

The regulatory challenges identified in the study cannot be overlooked. While South America offers a promising market for technology-oriented SMEs, the complexity of its reg-

ulatory landscape can be a major impediment. SMEs need to develop strategies to navigate these challenges effectively. This may involve investing in legal expertise, forming strategic partnerships with local businesses, or engaging in advocacy efforts to promote regulatory reforms that facilitate cross-border trade and investment. Understanding the nuances of local regulations and building relationships with regulatory authorities can also help SMEs mitigate risks and avoid costly legal disputes. Furthermore, SMEs should be proactive in staying informed about regulatory changes that may impact their operations and in adapting their business models accordingly.

For SMEs considering entering the South American market, strategic market entry is crucial. The region's diversity means that a one-size-fits-all approach is unlikely to succeed. Instead, SMEs should conduct thorough market research to gain a deep understanding of the specific conditions, consumer behaviors, and competitive dynamics in each target country. This research should inform the development of tailored market entry strategies that align with local preferences and regulatory requirements. In many cases, forming partnerships with local companies can provide valuable insights into the market and help SMEs establish a foothold more quickly. Such partnerships can also reduce the risks associated with market entry by leveraging the local partner's knowledge, networks, and resources.

The recommendations arising from this study suggest several actionable strategies for SMEs aiming to thrive in the South American market. First, enhancing digital capabilities should be a top priority. SMEs must invest in training programs that equip their employees with the necessary digital skills to navigate the challenges of the modern business environment. This includes not only technical skills related to specific technologies but also broader competencies such as digital marketing, data analysis, and cybersecurity. By building a digitally savvy workforce, SMEs can drive innovation, improve operational efficiency, and better meet the needs of their customers.

Moreover, SMEs should actively seek to leverage government programs and incentives designed to support technology adoption and innovation. These programs can provide critical fi-

nancial support, reduce the cost of digitalization, and offer access to valuable resources such as research and development facilities, networking opportunities, and expert advice. By participating in these initiatives, SMEs can accelerate their growth and enhance their competitive position in the market. It is also important for SMEs to advocate for the continuation and expansion of such programs, as they play a vital role in fostering a supportive ecosystem for innovation and entrepreneurship.

Strategic planning is another key recommendation for SMEs operating or planning to enter the South American market. Given the region's regulatory complexity and market diversity, SMEs must approach their expansion with careful planning and a clear understanding of the risks and opportunities involved. This includes conducting comprehensive due diligence on potential markets, developing robust business plans, and establishing contingency plans to address potential challenges such as regulatory changes, economic fluctuations, or political instability. SMEs should also consider the long-term sustainability of their business models and ensure that they are adaptable to changing market conditions.

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Розвиток технологічно орієнтованих малих і середніх підприємств на ринку Південної Америки

У статті розглядаються особливості розвитку технологічно орієнтованих малих і середніх підприємств (МСП) на ринку Південної Америки. У сучасних умовах глобалізації та цифрової трансформації МСП відіграють ключову роль у розвитку економік регіону, забезпечуючи робочі місця та сприяючи інноваціям. Дослідження зосереджено на основних викликах та можливостях, з якими стикаються МСП у сфері цифровізації, зокрема на питаннях регуляторного середовища, ринкових стратегій та тенденцій зростання.

Аналіз проводиться на основі комплексного підходу, що поєднує огляд літератури, аналіз ринку та кореляційний аналіз взаємозв'язку рівня цифрових навичок, рівня цифровізації компаній та їхнього розвитку. Зокрема, використані дані OECD (2021), European DIGITAL SME Alliance (2023) та APEC (2023), що дозволяють оцінити вплив цифрових навичок та технологічного рівня компаній на їхні фінансові результати та ринкові позиції.

Результати дослідження показують, що МСП, які активно інвестують у цифрові навички співробітників та технологічну модернізацію, демонструють вищі темпи зростання доходів, продуктивності та розширення ринкових можливостей. Також підкреслено важливість стратегій виходу на ринок, що враховують культурні особливості регіону, різноманітність регуляторних норм та економічну неоднорідність країн Південної Америки. Практичне значення дослідження полягає у наданні рекомендацій для підприємців, інвесторів та політиків щодо ефективного впровадження цифрових технологій та адаптації до специфіки південноамериканського ринку. Основні висновки можуть бути використані як основа для розробки стратегій розвитку технологічних МСП та формування відповідної політики цифрової підтримки.

Ключові слова: малі та середні підприємства (МСП), ринок Південної Америки, технології, стратегії розвитку