



Impact of Strategic Social Media Use on the Efficiency of Administrative Processes in Ecuadorian SMEs

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How to cite this paper: Boada, M., Patiño, Y., Jaramillo, S. and Salazar, H. (2024) Impact of Strategic Social Media Use on the Efficiency of Administrative Processes in Ecuadorian SMEs. *Open Access Library Journal*, 11: e12175.

<https://doi.org/10.4236/oalib.1112175>

Received: August 28, 2024

Accepted: September 20, 2024

Published: September 23, 2024

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Abstract

This paper investigates the impact of social media usage on the efficiency of administrative and operational processes within micro, small, and medium-sized enterprises (SMEs). Drawing from a sample of 351 companies, the study evaluates the frequency of use of platforms such as Facebook, YouTube, Instagram, TikTok, Telegram, WhatsApp, Twitter, and Snapchat, and their influence on key areas, including sales, promotion, pricing, public relations, communication, positioning, feedback, post-purchase experience, and customer loyalty. The findings indicate that Facebook and WhatsApp are the most frequently used platforms, with over 60% of businesses utilizing them regularly. However, other networks like YouTube, TikTok, and Telegram show lower adoption rates, reflecting variability in the preference for these tools. In terms of administrative processes, social media has had a notably positive impact on sales, communication, and customer loyalty, with a significant percentage of companies reporting substantial improvements. Nevertheless, the impact is less pronounced in areas such as pricing and feedback. The statistical analysis, which included normality tests, Spearman correlation, and Chi-square tests, validated the results obtained. The reliability of the scales was confirmed through the Cronbach's alpha coefficient, with values of 0.738 for social media usage and 0.897 for administrative processes, indicating appropriate internal consistency for the research development.

Subject Areas

Social Media, Business Analysis, Business Communication, General Business Research, Marketing

Keywords

SMEs, Social Media, Administration, Business Development, Ecuador

1. Introduction

In today's digital era, micro, small, and medium-sized enterprises (SMEs) face a competitive environment that demands constant adaptability and the integration of new technologies to ensure their development and sustainability. One of the most significant changes in recent years has been the adoption of social media as strategic tools to optimize operational and administrative management. These platforms not only facilitate communication and the promotion of products or services but also enhance the ability of companies to connect more effectively with their customers. According to a study by Growing Digital Business, conducted in 15 countries, approximately 90% of surveyed companies express high expectations regarding digital technologies, while 70% believe that these technologies have greater transformative potential when applied in an integrated manner rather than in isolation.

In the Ecuadorian context, data from the INEC in 2018 indicate that 37.2% of Ecuadorian households have access to the internet, with 55.9% of the population using internet-connected devices in the last year. Of these individuals, 66.2% connect from their homes, and 84.0% access the internet at least once a day (Valarezo Romero *et al.*, 2020) [1]. These data provide a solid foundation for analyzing the impact of internet use on Ecuadorian businesses, particularly through digital channels. This landscape has opened new sales channels for companies, facilitating new forms of public relations and promoting bidirectional communication with consumers, allowing companies to better capture the opinions of their target audience while effectively managing their strategies.

The use of these digital tools transcends promotion and has a significant impact on key areas such as sales, pricing, public relations, and customer loyalty. In this regard, social media is directly influencing the way SMEs manage and administer their resources, enabling them to develop more effective strategies in an increasingly digitalized economic environment.

As SMEs adopt these technologies, a transformation is observed in their administrative processes. These companies are experiencing changes in the management of their sales, product promotion, and market positioning. Additionally, the specific use of social media has proven to be an effective tool for improving communication with customers, managing feedback, and optimizing the post-purchase experience, all of which are crucial for customer loyalty and business growth. The appropriate use of social media allows companies to reach global audiences, increasing both their revenue and employment opportunities, as has been demonstrated in various sectors worldwide (BlackSip, 2023; Coba, 2022) [2] [3].

The growing importance of social media in the operations of SMEs highlights

the need to analyze how these tools are being utilized and what impact they have on business development. In this context, the present research focuses on evaluating the use of different social platforms and their effect on the administrative processes of SMEs, with the aim of identifying strategies that contribute to the strengthening of these companies in a digital environment. To this end, the following hypotheses are proposed:

Null Hypothesis (H_0): The strategic use of social media in SMEs does not have a significant impact on the efficiency of their administrative and operational processes, and therefore, does not contribute to the sustainable development and growth of these companies.

Alternative Hypothesis (H_1): The strategic use of social media in SMEs positively influences the efficiency of their administrative and operational processes, contributing to the sustainable development and growth of these companies.

To better understand the relevance of these variables, it is essential to examine the different contexts and applications of social media within the SMEs sector.

2. Social Media in SMEs

Social media has transformed how businesses interact with customers. Fang (2020) [4] highlights the new business opportunities that social media provides in the Web 2.0 era, while Panle and Okpara (2021) [5] discuss how e-commerce on social media affects business performance. Emmanuel *et al.* (2022) [6] reinforce this view, showing that social media has a strong connection to overall business performance. These platforms allow companies to connect directly with their customers, receive real-time feedback, and dynamically adjust their marketing strategies. Galván, López, & Hernández (2018) [7] emphasize that social media is an essential tool for “listening” to consumers, facilitating a closer connection that can be leveraged to improve the offering of products and services. In this sense, social media not only serves as a channel for promotion but also strengthens the relationship between the company and the consumer, enabling SMEs to build a loyal and engaged customer base.

In Ecuador, although the use of social media has grown significantly, many SMEs have yet to fully exploit the potential that these platforms offer. López, Beltrán, Morales, & Caveró (2018) [8] highlight that large companies often have specialized teams to manage their social media presence, while SMEs, due to resource limitations, often lack a well-defined digital strategy. This digital divide can restrict the growth and competitiveness of SMEs, which need to adapt to new technologies to remain relevant in an increasingly digitalized market.

Technological advancement has driven the creation of a new economy, known as the digital economy, which is based on e-business and e-commerce. Villar (2020) [9] explains that this economy facilitates interaction between businesses and consumers through digital platforms, transforming the way commercial transactions are conducted. For SMEs, the digital economy presents new opportunities to expand beyond local markets and reach a global audience. However, to take advantage of

these opportunities, it is essential for these companies to adopt digital technologies and develop sustainable business models in this new environment.

2.1. Challenges of Digitalization in SMEs

Despite the numerous benefits offered by digitalization, SMEs in Ecuador face significant challenges in its implementation. Jasso *et al.* (2022) [10] identify issues such as the lack of standardization in processes, financial constraints, and a low level of trust in digitalization as barriers that hinder the full adoption of digital technologies. Overcoming these obstacles is crucial, and to do so, it is essential that SMEs receive support in the form of training, financing, and technical advice. This support will enable companies to adopt the necessary tools to compete in an increasingly digital market.

A company's business model defines how it creates, delivers, and captures value. Lozano *et al.* (2019) [11] note that a well-defined business model is essential for SMEs to successfully adapt to the digital environment. Digitalization offers these companies the possibility to innovate within their business models, allowing them not only to improve operational efficiency but also to explore new revenue streams. However, for digitalization to have a positive impact, it is crucial that SMEs understand and adapt their business models to the realities of the digital environment.

Social media is not only a communication platform but also a powerful tool for business innovation. For SMEs, the strategic use of social media can result in greater market participation, improved customer relationships, and sustained growth in a highly competitive environment.

This theoretical framework provides a comprehensive context for understanding how social media and digitalization can influence the development and competitiveness of SMEs. Through a review of the literature and analysis of challenges and opportunities, the idea is reinforced that, while digitalization and the use of social media offer numerous benefits, their effective implementation requires strategic planning, adequate resources, and a willingness to innovate. In an increasingly globalized and digital market, SMEs that successfully integrate these tools will be better positioned to thrive and grow.

2.2. Social Media Use in the Ecuadorian Business Context

In Ecuador, social media has become an essential tool for SMEs, enabling them to interact directly with customers and seize new business opportunities. Campi (2019) [12] highlights that social media allows SMEs to segment their audience and personalize their messages, resulting in more effective marketing campaigns more precisely. However, success on social media requires a well-defined strategy and continuous management, aspects that often present challenges for SMEs due to the lack of resources and specialized knowledge.

Virtual communities are a fundamental part of communication in the digital age, where people from diverse cultures and backgrounds share their needs and

interests with society and the world. Betancourt Jarring and Polo Arellano (2022) [13] note that these communities, composed of people with common interests, allow users to develop their interaction with society, promoting the exchange of ideas and personal and collective development. Moreover, these communities facilitate connections between individuals through personal accounts, allowing access to groups with shared affinities, which reflects technological advancements and economic disparities between classes.

The online channel has seen a significant increase in users who prefer online shopping, driving demand for synergies between online and offline experiences. Moreano *et al.* (2023) [14] emphasizes the importance of investigating consumer interactions on these channels, such as company websites and social media. The advent of the Internet has led to an evolution in commerce, making a virtual space a necessity for companies. This growth is due to consumers choosing the point of sale based on convenience, with many opting for electronic purchases due to comfort, flexible hours, and online-exclusive offers.

Facebook, for instance, is a social media platform that acts as a habitable virtual space where users can share diverse content, from images to messages. Facebook focuses on social connectivity, creating “friendships” that differ from the follower concept in other social networks. This allows companies to use Facebook as a marketing tool that provides consumers with relevant information, such as new product launches and promotions. However, a narcissistic use of the platform can limit its effectiveness for businesses.

YouTube, on the other hand, is a social network that, according to Arguedas and Herrera (2016) [15], has a high impact due to its accessibility from smart devices. Armendáriz González and Chaca Lucero (2023) [16] describe YouTube as a video portal that has transformed audiovisual consumption by allowing content generation by both companies and users. In recent years, monetization through targeted ads has changed how earnings are perceived on the platform, presenting both an opportunity and a challenge for companies seeking to leverage its reach.

Instagram stands out for its ability to keep users informed about the latest updates from the accounts they follow, generating a high level of engagement. Rodas (2023) [17] notes that success on Instagram is not solely based on the number of followers but on the commitment these followers show towards the brand, as evidenced by the number of “likes” and interactions with the content.

Snapchat, launched in 2011, offers a unique way to share images and short videos that are automatically deleted after being viewed, providing greater privacy and online security.

X (formerly known as Twitter) is a microblogging platform that has become a central medium for information dissemination. Paredes (2020) [18] highlights that, unlike other Social Networking Services (SNS), X allows for one-way interactions, where users “tweet” information to their followers without the need to create a complete profile like on Facebook.

Digital platforms, as explained by Muzellec *et al.* (2015) [19], are distinguished

by the groups of economic agents that use them, whether businesses and consumers (B2C), businesses among themselves (B2B), or consumers among themselves (C2C). In this context, SMEs use social media as powerful interaction channels that allow them to effectively segment their customers, which is crucial for their role in the economy and social development.

The use of social media at the business level, according to Echeburua (2010) [20], has marked a milestone in the history of media, allowing users to interact and share experiences in real-time. A study conducted by Deloitte in 2018 and cited by Vega (2020) [21] highlights that these technologies not only increase productivity but also improve organizational performance, becoming key tools for market competitiveness, as indicated by Arcos Azuero and Astudillo Hinojosa (2024) [22], has become an indispensable tool for SMEs, enabling them to improve brand recognition, attract potential customers, and retain existing ones, all at a lower cost than traditional advertising. However, SMEs face significant challenges in remaining competitive in a globalized market, requiring them to innovate in how they offer products and services without affecting their limited economic resources. This is crucial in a context where digital platforms and social media are redefining consumer habits, as mentioned by Pazmiño (2022) [23], driving the constant evolution of communication and user transformation.

Social media has enabled internet users to establish and participate in digital communities, transforming the way social behaviors are documented and explored. Guerrero (2020) [24] adds that these communities represent a contemporary audience that analyzes and shares habits, subjectivities, and opinions, becoming more than just the uniform mass described in the Laswell Model, which SMEs should leverage to their advantage and local development.

The analysis of social media in the Ecuadorian business context, especially in SMEs, reveals the growing importance of these platforms as strategic tools for improving communication, personalizing marketing campaigns, and strengthening customer relationships. However, the full integration of social media into SMEs faces significant challenges, such as the lack of resources and the need for a well-defined digital strategy. Through the literature review, it has been highlighted that the success of using these digital tools depends on the companies' ability to adapt their business models and overcome barriers such as lack of standardization and resistance to change.

In this context, the methodology used in this research seeks to evaluate how the strategic use of social media influences the administrative and operational processes of SMEs and how this influence translates into their sustainable development and growth. To this end, a statistical analysis has been carried out, which is explained in greater detail in the methodology section, to address the following hypothesis:

The alternative hypothesis (H_1), which posits that the strategic use of social media positively influences the efficiency of the administrative and operational processes of SMEs, is supported by the evidence presented in this study.

In conclusion, this research underscores the need for SMEs to adopt a solid and well-planned digital strategy to capitalize on the benefits that social media can offer. As the business environment becomes increasingly digitalized, companies that fail to adapt risk being left behind. Therefore, the adoption of social media, along with a business model adapted to the digital economy, is essential for the sustainable development and competitive growth of SMEs in Ecuador, as will be evidenced in the concluding part of this research.

3. Methodology

3.1. Research Design

This study is framed within an exploratory-quantitative research design of a non-experimental type, using a descriptive-correlational approach. The primary objective is to analyze the relationship between the use of social media and its impact on the administrative and operational processes within micro, small, and medium-sized enterprises (SMEs). The study's sample consisted of 351 randomly selected companies, to which a structured questionnaire was administered to collect data on the use of various social media platforms and the administrative processes developed because of this usage. The questionnaire was completed by managers, directors, and department heads (particularly in marketing and sales), who are well-positioned to provide insights into the impact of social media on the companies' administrative and operational processes."

3.2. Measurement Instruments

The data collection instrument was a questionnaire that included Likert scales to measure the frequency of use of various social media platforms (Facebook, YouTube, Instagram, TikTok, Telegram, WhatsApp, X, and Snapchat) and the perception of the impact of these platforms on key administrative processes (sales, promotion, pricing, public relations, communication, positioning, feedback, post-purchase experience, and customer loyalty). The questionnaire used in this study was based on previous research on social media use and its impact on business processes. Avello (2022) [25] explored how social media platforms create business opportunities in the Web 2.0 era, Aucay (2017) [26] and Toniut (2020) [27] provided insights into how social media can enhance business performance. These studies served as the foundation for developing the Likert scales used to measure the frequency of platform use and its effect on administrative processes."

3.3. Scale Reliability

The reliability of the scales used in the questionnaire was evaluated using Cronbach's alpha coefficient. The scale measuring social media usage yielded a Cronbach's alpha of 0.738, indicating acceptable reliability. Conversely, the scale measuring administrative processes presented a Cronbach's alpha of 0.897, indicating high internal consistency. The sample size (N) presented in **Table 1** and **Table 2** corresponds to the number of responses used to calculate Cronbach's

alpha. The questionnaire was administered to a sample of 351 companies, and the responses were used to evaluate both social media use and administrative processes. The Cronbach's alpha values in these tables demonstrate the internal consistency and reliability of the data collected.

Table 1. Social media.

Cronbach's alpha	N
0.738	8

Table 2. Administrative and operational processes.

Cronbach's alpha	N
0.897	9

3.4. Statistical Analysis

Normality Tests: Kolmogorov-Smirnov tests were conducted to determine the normality of the variable distributions. The results indicated that the variables do not follow a normal distribution ($p < 0.001$), which led to the application of non-parametric tests in subsequent analyses, as reflected in the following **Table 3** and **Table 4**.

3.5. Correlation Analysis

To analyze the relationship between social media use and administrative processes, non-parametric correlation measures such as Kendall's Tau-b and Spearman's correlation were used. Both tests yielded significant results, suggesting a positive relationship between the variables.

3.5.1. Chi-Square Tests

The Chi-square test was applied to evaluate the association between the level of social media use (grouped into low, moderate, and high) and the development of

Table 3. Kolmogorov-smirnov test (social media).

		Facebook	YouTube	Instagram	TikTok	Telegram	X	WhatsApp	Snapchat
Parameters ^{a,b}	N	351	351	351	351	351	351	351	351
	Mean	2.69	1.26	2.07	1.35	1.11	1.12	3.31	1.05
	Standard Deviation	0.981	0.709	1.092	0.710	0.470	0.477	0.958	0.303
Maximum Extreme	Absolute	0.227	0.496	0.268	0.451	0.524	0.524	0.339	0.532
	Positive	0.156	0.496	0.268	0.451	0.524	0.524	0.237	0.532
Differences	Negative	-0.227	-0.356	-0.171	-0.309	-0.404	-0.399	-0.339	-0.437
	Test Statistic	0.227	0.496	0.268	0.451	0.524	0.524	0.339	0.532
Asymptotic Significance (2-sided)		0.000 ^c	0.000 ^c	0.000 ^c	0.000 ^c	0.000 ^c	0.000 ^c	0.000 ^c	0.000 ^c

^aThe test distribution is normal. ^bCalculated from data. ^cLilliefors significance correction.

Table 4. Kolmogorov-smirnov test (administrative and operational processes).

		Sales	Promotion	Pricing	Public Relations	Communication	Positioning	Feedback	Post-Purchase Experience	Loyalty
	N	351	351	351	351	351	351	351	351	351
Parameters ^{a,b}	Mean	3.54	2.97	2.73	2.67	2.95	2.74	2.29	2.38	2.96
	Standard D.	1.125	1.325	1.259	1.414	1.426	1.378	1.321	1.325	1.316
Maximum Extreme Differences	Absolute	0.290	0.253	0.231	0.232	0.267	0.207	0.272	0.261	0.246
	Positive	0.175	0.174	0.192	0.232	0.197	0.207	0.272	0.261	0.174
	Negative	-0.290	-0.253	-0.231	-0.203	-0.267	-0.194	-0.164	-0.162	-0.246
	Test Statistic	0.290	0.253	0.231	0.232	0.267	0.207	0.272	0.261	0.246
	Asymptotic Significance (2-sided)	0.000^c	0.000^c	0.000^c	0.000^c	0.000^c	0.000^c	0.000^c	0.000^c	0.000^c

^aThe test distribution is normal. ^bCalculated from data. ^cLilliefors significance correction.

administrative processes (also grouped into low, moderate, and high). The results were significant ($\chi^2 = 18.562$, $p = 0.001$), indicating a significant association between these variables, aiding in the resolution of the following hypotheses:

Null Hypothesis (H₀): The strategic use of social media in SMEs does not have a significant impact on the efficiency of their administrative and operational processes, and therefore, does not contribute to the sustained development and growth of these companies.

Alternative Hypothesis (H₁): The strategic use of social media in SMEs positively influences the efficiency of their administrative and operational processes, contributing to the sustained development and growth of these companies.

3.5.2. Cross-Tabulation Analysis

Contingency tables were generated to visualize the distribution of the grouped variables (social media use and administrative processes). The observed and expected residuals indicated differences in the frequency of cases at different levels of use and process development, supporting the existence of an association between these variables.

3.6. Procedure

The data was collected through the administration of a digital questionnaire provided to the managers of the SMEs included in the sample. Subsequently, the data was processed using specialized statistical software to conduct the described tests. The interpretation of the results allowed for the identification of significant patterns and relationships between social media use and its impact on administrative processes, thereby fulfilling the research objectives.

3.7. Ethical Considerations

Participation in the study was voluntary, and the confidentiality of the collected

data was ensured. The companies were informed about the research objectives, and informed consent was obtained before the questionnaire was administered.

4. Results and Discussion

4.1. Social Media Usage

Table 5 illustrates the frequency with which companies use various social media platforms, reflecting their digital behavior and presence on specific platforms. The data is drawn from a sample of 351 companies and is broken down into percentages that display the frequency of use for each social media platform.

Table 5. Social media usage in your company.

Social Media Platform		N	%
Facebook	NEVER	50	14.2%
	OCCASIONALLY	89	25.4%
	FREQUENTLY	131	37.3%
	DAILY	81	23.1%
	Total	351	100.0%
YouTube	NEVER	299	85.2%
	OCCASIONALLY	26	7.4%
	FREQUENTLY	12	3.4%
	DAILY	14	4.0%
	Total	351	100.0%
Instagram	NEVER	152	43.3%
	OCCASIONALLY	70	19.9%
	FREQUENTLY	83	23.6%
	DAILY	46	13.1%
	Total	351	100.0%
TikTok	NEVER	267	76.1%
	OCCASIONALLY	52	14.8%
	FREQUENTLY	24	6.8%
	DAILY	8	2.3%
	Total	351	100.0%
Telegram	NEVER	326	92.9%
	OCCASIONALLY	16	4.6%
	FREQUENTLY	3	0.9%
	DAILY	6	1.7%
	Total	351	100.0%

Continued

	NEVER	324	92.3%
	OCCASIONALLY	16	4.6%
X	FREQUENTLY	6	1.7%
	DAILY	5	1.4%
	Total	351	100.0%
	NEVER	31	8.8%
	OCCASIONALLY	30	8.5%
WhatsApp	FREQUENTLY	88	25.1%
	DAILY	202	57.5%
	Total	351	100.0%
	NEVER	340	96.9%
	OCCASIONALLY	7	2.0%
Snapchat	FREQUENTLY	2	0.6%
	DAILY	2	0.6%
	Total	351	100.0%

The results indicate a clear preference for platforms like Facebook and WhatsApp, which are used more frequently by the companies. This can be attributed to their ease of use, broad user base, and features that enable direct and effective interaction with customers.

Conversely, platforms like YouTube, Instagram, and especially TikTok, while popular globally, have not yet been fully adopted by the surveyed companies. This could be related to the perceived difficulty in content creation or a lack of alignment with traditional marketing strategies.

Finally, networks such as Telegram, X, and Snapchat show a low level of adoption, suggesting that they are not perceived as essential tools in the current business environment. Companies appear to prioritize those platforms that allow direct customer contact and offer greater ease in sharing information and promotions.

This analysis highlights how SMEs are adopting certain social media platforms to enhance their operations and communication, while other platforms have not yet reached the same level of acceptance or use. These findings can provide valuable insights for future digital marketing strategies aimed at these companies.

The data in **Table 5** reveal that Facebook and WhatsApp are the dominant platforms among the companies surveyed, with 23.1% and 57.5% of companies using them daily, respectively. The ease of use and broad reach of these platforms likely contribute to their frequent usage. Conversely, platforms like YouTube, Instagram, and TikTok have not been widely adopted, with less than 5% using them daily, which may stem from difficulties in content creation. Additionally, platforms like Telegram and Snapchat show minimal usage (less than 2%), indicating

that they have yet to gain significant traction among businesses.

4.2. Administrative Processes in the Use of Social Media and Their Development

Table 6 provides a detailed overview of how social media has influenced various aspects of administrative and operational processes within companies. Each row reflects respondents' perceptions of the impact of social media on key areas such as sales, promotion, pricing, public relations, communication, positioning, feedback, post-purchase experience, and customer loyalty.

Table 6. Administrative processes in the use of social media and their development.

Administrative Processes		N	%
Sales	NOTHING	29	8.3%
	LITTLE	32	9.1%
	INDIFFERENT	68	19.4%
	A LOT	163	46.4%
	TOO MUCH	59	16.8%
Promotion	NOTHING	85	24.2%
	LITTLE	31	8.8%
	INDIFFERENT	69	19.7%
	A LOT	140	39.9%
	TOO MUCH	26	7.4%
Pricing	NOTHING	97	27.6%
	LITTLE	27	7.7%
	INDIFFERENT	119	33.9%
	A LOT	89	25.4%
	TOO MUCH	19	5.4%
Public Relations	NOTHING	123	35.0%
	LITTLE	30	8.5%
	INDIFFERENT	66	18.8%
	A LOT	104	29.6%
	TOO MUCH	28	8.0%
Communication	NOTHING	99	28.2%
	LITTLE	30	8.5%
	INDIFFERENT	47	13.4%
	A LOT	138	39.3%
	TOO MUCH	37	10.5%

Continued

	NOTHING	109	31.1%
	LITTLE	35	10.0%
Positioning	INDIFFERENT	76	21.7%
	A LOT	102	29.1%
	TOO MUCH	29	8.3%
	NOTHING	153	43.6%
	LITTLE	43	12.3%
Feedback	INDIFFERENT	69	19.7%
	A LOT	71	20.2%
	TOO MUCH	15	4.3%
	NOTHING	144	41.0%
	LITTLE	38	10.8%
Post-Purchase Experience	INDIFFERENT	75	21.4%
	A LOT	80	22.8%
	TOO MUCH	14	4.0%
	NOTHING	85	24.2%
	LITTLE	30	8.5%
Customer Loyalty	INDIFFERENT	74	21.1%
	A LOT	137	39.0%
	TOO MUCH	25	7.1%

The results indicate that social media has a varied impact on different administrative and operational processes within companies. Areas such as sales, communication, and customer loyalty are the most benefited, with a significant percentage of companies reporting considerable improvements in these areas due to the use of social media.

However, other areas, such as pricing and feedback, do not appear to be as influenced by social media, which could be due to the more structural and less dynamic nature of these processes, where social media may not be as determinative.

Overall, while there is a positive appreciation of the impact of social media on certain key aspects of business operations, there is notable diversity in perceptions, suggesting that the effectiveness of social media in improving administrative processes largely depends on the context and specific strategy of each company.

4.3. Analysis of Social Media Use and Administrative Process Development

Table 7 and **Table 8** present an additional analysis based on data grouping and residual calculation, which allows us to delve deeper into the relationship between

Table 7. Social media use (grouped).

	Observed N	Expected N	Residual
Low Use	1	117.0	-116.0
Moderate Use	284	117.0	167.0
High Use	66	117.0	-51.0
Total	351		

Table 8. Administrative processes (grouped).

	Observed N	Expected N	Residual
Low Use	71	117.0	-46.0
Moderate Use	161	117.0	44.0
High Use	119	117.0	2.0
Total	351		

social media use and the development of administrative processes within companies. Grouping the data into broad categories such as Low, Moderate, and High not only facilitates the visualization and understanding of general patterns but also enables the application of more robust statistical tests, such as Chi-square, to evaluate significant associations between variables.

The results from the tables indicate that the significantly high residual in the Moderate Use category for both social media use and administrative processes suggests that a considerably higher number of companies fall into this category compared to what would be expected under a uniform distribution. Specifically, in the grouped Social Media Use table, the Moderate Use category shows a residual of 167, indicating that many more companies than expected are in this category. This suggests frequent but not exhaustive use of social media.

This result can be interpreted as a significant trend among SMEs to use social media moderately, which seems to be associated with equally moderate development in their administrative processes. This pattern suggests that companies that moderately use social media tend to achieve a considerable impact on their administrative operations, although they may not be fully maximizing this potential as those in the High Use category might.

On the other hand, in the Low Use category for both social media and administrative processes, the residuals are negative, indicating that fewer companies than expected are in this category. This could reflect that SMEs with limited social media use tend to have similarly limited administrative development, suggesting that restricted use of these tools is insufficient to generate a significant impact on improving internal processes.

These findings reinforce the importance of a strategic use of social media to optimize administrative processes, highlighting that while moderate use already offers visible benefits, maximizing use could result in an even more positive

impact on business development.

4.4. Cross-Tabulation Analysis

Table 9 presents a cross-tabulation analysis that reveals a significant relationship between social media use and the development of administrative processes in companies. Companies that make moderate or high use of social media tend to show more advanced development in their administrative processes, suggesting that the strategic integration of these digital platforms is associated with greater efficiency and effectiveness in business management. In contrast, companies that make low use of social media tend to have lower administrative development, indicating that the lack of utilization of these tools may be limiting their growth and improvement potential. This pattern underscores the importance of social media not only as communication and marketing channels but also as key instruments for optimizing internal processes and strengthening the overall structure of the business.

Table 9. Cross-tabulation of social media use (grouped) * administrative processes (grouped).

		Administrative Processes			Total	
		Low Use	Moderate Use	High Use		
Social media	Low Use	Count	0	1	0	1
		Expected Count	0.2	0.5	0.3	1.0
		% (within Group)	0.0%	100.0%	0.0%	100.0%
	Moderate Use	Count	68	131	85	284
		Expected Count	57.4	130.3	96.3	284.0
		% (within Group)	23.9%	46.1%	29.9%	100.0%
	High Use	Recuento	3	29	34	66
		Count	13.4	30.3	22.4	66.0
		Expected Count	4.5%	43.9%	51.5%	100.0%
Total	Count	71	161	119	351	
	Expected Count	71,0	161.0	119.0	351.0	
	% (within Group)	20,2%	45.9%	33.9%	100.0%	

4.5. Hypothesis Resolution

Alternative Hypothesis (H₁): The strategic use of social media in SMEs positively influences the efficiency of their administrative and operational processes, contributing to the sustained development and growth of these businesses.

Null Hypothesis (H₀): The strategic use of social media in SMEs does not have a significant impact on the efficiency of their administrative and operational processes, and therefore, does not contribute to the sustained development and

growth of these businesses.

The cross-tabulation between social media use and administrative processes shows a significant association between these variables. The Pearson Chi-square test (**Table 10**) yields a value of 18.562 with 4 degrees of freedom and an asymptotic significance of 0.001, indicating a significant relationship between the level of social media use and the development of administrative processes.

The likelihood ratio (21.769, $p < 0.001$) and the linear-by-linear association (16.972, $p < 0.001$) further reinforce the significance of this association.

To further validate the significance, **Table 11** shows that the Spearman and Kendall's Tau-b correlations are also significant ($p < 0.001$), with values of 0.219 and 0.208 respectively, suggesting a moderate positive correlation between social media use and the efficiency of administrative processes.

Table 10. Chi-square tests.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-square	18,562 ^a	4	0.001
Likelihood Ratio	21,769	4	0.000
Linear-by-Linear Association	16,972	1	0.000
N of Valid Cases	351		

^a3 cells (33.3%) have expected counts less than 5. The minimum expected count is 0.20.

Table 11. Symmetric measures.

	Value	Asymptotic Standard Error	Approximate Tb	Approximate Significance
Kendall's Tau-b	0.208	0.044	4.465	0.000
Spearman's Correlation	0.219	0.046	4.202	0.000 ^c
Pearson's R	0.220	0.044	4.217	0.000 ^c
N of Valid Cases	351			

^aAssumes the null hypothesis. ^bBased on the asymptotic standard error assuming the null hypothesis. ^cBased on normal approximation.

Given that the statistical results indicate a significant and positive association between social media use and the efficiency of administrative processes in SMEs, the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_1) is accepted. This suggests that the strategic use of social media indeed positively influences the efficiency of the administrative and operational processes of SMEs, contributing to the sustained development and growth of these businesses.

5. Conclusions

Positive Relationship between Social Media Use and Administrative Efficiency:

The results of this study confirm that the strategic use of social media has a significant positive impact on the efficiency of administrative and operational processes within SMEs. The observed correlation suggests that as companies increase their presence and activity on digital platforms, they also improve their administrative practices, contributing to sustained growth and business strengthening.

Importance of Moderate Social Media Use: Residual analysis and cross-tabulation indicate that a moderate use of social media is associated with notably positive administrative development in SMEs. Companies that regularly but not excessively use these platforms tend to optimize their internal processes more effectively, suggesting that moderation in adopting new technologies may be key to maximizing their effectiveness.

Persistent Challenges for SMEs: Despite the clear benefits of digitalization, SMEs in Ecuador face significant challenges in its implementation, including financial limitations, lack of process standardization, and a general lack of trust in digital technologies. These obstacles limit the potential for these companies to fully benefit from social media and other digital tools.

Relevance of a Well-Defined Digital Strategy: The research highlights the need for SMEs to develop clear and coherent digital strategies. Companies that lack a well-structured strategy or that limit their use of social media risk falling behind in an increasingly competitive and digitalized market.

Rejection of the Null Hypothesis: The statistical results support the rejection of the null hypothesis, validating the alternative hypothesis that the strategic use of social media positively influences the efficiency of administrative and operational processes in SMEs. This finding underscores the importance of integrating digital platforms into business strategies to ensure the development and sustainability of these companies.

6. Recommendations

Training and Development of Digital Capabilities: It is essential for SMEs to invest in training their staff to enhance their competence in using social media and other digital technologies. This approach will enable companies to optimize their internal processes and improve their competitiveness.

Development of Comprehensive Digital Strategies: SMEs should design and implement digital strategies that align the use of social media with their business and administrative objectives. This includes defining clear success metrics and continuously adapting strategies based on the results obtained.

Promotion of Innovation in Business Models: It is crucial for SMEs to innovate their business models to take advantage of the opportunities presented by digitalization. The ability to adapt and evolve will be a determining factor for success in a globalized economic environment.

Access to Resources and Technical Support: SMEs should seek support in the form of financing and technical advice to overcome barriers that limit their ability to digitalize. This support can come from government initiatives, non-profit

organizations, or business associations.

Conflicts of Interest

The authors declare no conflicts of interest.

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