

DIGITAL INNOVATION AND ENTREPRENEURIAL SUCCESS IN THE PHILIPPINE MSME SECTOR: CHALLENGES AND OPPORTUNITIES

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ABSTRACT

While digital tools are becoming more accessible in emerging economies, MSMEs in the Philippines are still unable to adopt them. The study aims to examine how digital innovation can help in the entrepreneurial success of the Philippine MSME sector by identifying the barriers and opportunities in digital adoption. Mixed-method approach of surveying MSME owners and interviewing industry experts. The survey was designed to determine how digital adoption. What types of digital tools are being used, and what barriers are perceived. Data analysis used statistical methods and thematic analysis. The findings indicate that while the MSMEs are becoming more digital embracing social media marketing, digital payment systems, and other digital tools, they have not leveraged the adoption of more advanced technologies such as cloud computing and ERP systems. To identify the leading obstacles to digital adoption, the first three were identified: cultural resistance, lack of technical expertise, and financial constraints. Other issues that prevent digital transformation from taking off in regional terms include infrastructure and regulatory issues. The study highlights the need for policy interventions and capacity-building programs, emphasizing changes in digital adoption barriers facing MSMEs. It is suggested that more access to digital tools at affordable prices, training, and raising awareness on the importance of digital innovation. Further research on longitudinal studies, industry-specific research, and cross-country research will be needed to better understand the effect of digital adoption on MSME performance.

Keywords: Digital innovation, Digital adoption, Entrepreneurial success, Barriers to adoption

1. INTRODUCTION

The micro, small, and medium enterprise (MSME) sector is an important pillar of the Philippine economy, and a source of employment generation, economic diversification, and poverty alleviation. About 63 percent of the country's total workforce was contributed by MSMEs, which made up 99.5 percent of all registered businesses, and thus are a major contributor to socio-economic development (Abueg et al., 2024). Apart from their sheer numbers, MSMEs in the Philippines are also important engines of innovation, adaptability, and community resilience

in solving localized economic problems. Their capacity to innovate and continue economic growth has become increasingly vital in the modern global economy where technological innovations are occurring at a very rapid pace and market demands are becoming ever more demand (Bridglal & Pun, 2024). There are still a lot of challenges for MSMEs in the Philippines. These structural weaknesses are compounded by more general macroeconomic problems such as economic instability and global trade disruptions, as well as limited access to capital, insufficient infrastructure, and inadequate human resources, which limit the growth and competitiveness of the sector. Based on this, digital innovation was proposed as a potent avenue for Philippine MSMEs to overcome traditional barriers through the use of tools and platforms. Technologies such as e-commerce platforms, digital payment systems, and cloud-based applications are incorporated into businesses to enhance efficiency, serve a wider market, and generally be more efficient (Adobas et al., 2024). Even more, digital transformation has emerged as a result of the COVID-19 pandemic (Moraliyska, 2023). With strict lockdowns, physical interaction, ns, etc., digital tools were considered essential for business continuity. A development that shows digitization (Ahmed et al., 2024) is that several MSMEs switched to online marketplaces, social media platforms, and digital payment systems to continue with their operations. We have seen many of these developments, but the adoption of digital technologies by Philippine MSMEs remains uneven, with many enterprises being unable to fully benefit from the advantages due to a dearth of financial resources, technical expertise, and access to reliable digital infrastructure. The greatest digital divide is experienced in rural areas, and MSMEs are even more constrained in accessing technology and support systems.

Despite the exciting opportunities for digital innovation to improve business performance and sustainability, Philippine MSMEs are still facing major challenges. As with many other small businesses, financial limitations are still a huge issue, and a lot of small businesses can't afford to invest in the initial investment needed to have digital tools or platforms (Cristea et al., 2023). The lack of people's digital literacy among entrepreneurs and their employees is a problem of ineffective application of technological solutions, yet also. These infrastructural gaps, mainly in the remote areas where the connectivity to the internet is either unstable or does not exist at all, compound matters (Bacamas et al., 2022). The Philippines has other obstacles in the regulatory landscape. Companies seeking to adapt and integrate digital solutions, however, have complex and at times outdated policies (Vlasenko, 2023). The fear of cybersecurity is also scaring MSMEs into digital technologies, and many MSME owners fear the risk of data breaches or financial fraud more than the advantages of digital transformation (Cueto et al., 2022). Digital innovation and entrepreneurial success are an underexplored interplay in the Philippine context. In global studies, digital tools have been shown to improve business performance, but not necessarily in the socio-economic and cultural environment of the Philippines. MSMEs are found in all corners of the country, operating in informal markets, familial businesses, and within regionally specific realities, within that complex ecosystem. Identifying actionable strategies for promoting digital innovation and entrepreneurial success is essential.

The study investigates the relationship of digital innovation to entrepreneurial success in the Philippine MSME sector and the challenges and opportunities of digital transformation. The research ranges from digital marketing tactics to e-commerce systems to cloud computing and artificial intelligence (Dana et al., 2020). The study focuses on the driving role of government initiative, private sector partnership, and international collaboration in accelerating the adoption of these technologies. The results are limited to MSMEs in some regions of the Philippines and may not be fully applicable to other enterprises in other geographic or economic settings. The research is in various sectors, but does not include large enterprises and multinational corporations, and only covers micro, small, and medium businesses (Deng et al., 2022). Lim-

itations with the dynamic nature of digital technologies constrain: It is assumed that some of the discussed tools and platforms may evolve or be obsolete during the study period. Finally, the analysis is made more complicated by external factors such as economic fluctuations and geopolitical events that may in any way affect findings.

The research has important implications for policymakers, entrepreneurs, and other stakeholders in the MSME ecosystem (Diaz, 2022). The study provides evidence-based insights for policymakers to help design and implement strategies to support MSMEs in their digital transformation journey. Overall, these findings are in line with the Philippine Development Plan 2023–2028 goals of technology-driven growth and inclusive economic development (Fauzi & Sheng, 2022). By removing structural barriers to digitalization, MSME policymakers can address MSMEs' resilience and competitiveness and, by broadening the spread of impacts, contribute to broader economic stability and growth. The research shows how entrepreneurs can use digital innovation to achieve business success. The study helps MSMEs not only identify best practices to transform digitally but, more importantly, actionable strategies to leverage this digital opportunity to reach their full potential (Hashom, 2023). The findings, in addition, highlight the need for the MSME sector to create a culture that encourages innovation and adaptability to stay competitive in the evolving global economy that is becoming more digitalized. From a broader perspective, the study adds to the growing literature on innovation and sustainability in developing economies (Hussain, 2021). This reflects the importance of MSMEs in realizing the United Nations Sustainable Development Goals. The most notable goals include 8, Decent Work and Economic Growth, and 9, Industry, Innovation and Infrastructure. The research explores the challenges and opportunities of digital innovation to develop a framework for understanding how technology can accelerate the achievement of inclusive and sustainable development.

Research Objectives

To address the complexities of digital innovation and entrepreneurial success, the study aims to achieve the following objectives:

- The study investigates the impact of digital innovation on entrepreneurial success among Philippine MSMEs by identifying key performance indicators that are profitability, market expansion, and customer satisfaction.
- Identifying the main challenges MSMEs face in deploying and adopting digital technologies, which are financial constraints, infrastructural deficiencies, and regulatory hurdles.

2. METHODOLOGY

The paper explores the impact of digital innovation on the entrepreneurial success of Philippine MSMEs using a mixed-methods research design. The approach was quantitative and qualitative to cover all the challenges and opportunities MSMEs face when adopting digital technologies. This section outlines the research design, data collection, sampling strategy, data analysis procedures, and ethical complexity of this section.

2.1. RESEARCH DESIGN

The research employed a cross-sectional design where data from MSMEs was collected at a single point in time to understand the current state of digital innovation and entrepreneurial success. Triangulation of findings was chosen using a mixed-methods approach to increase the validity and reliability of findings. The quantitative part of the project was to administer structured surveys to extract numerical data about digital adoption rates, performance metrics, and

perceived barriers. The qualitative component involved semi-structured interviews to capture in-depth perspectives and contextual insights from MSME owners and managers.

2. 2. SAMPLING STRATEGY

The study's target population was micro, small, and medium enterprises operating in different sectors in the Philippines. Participants were selected using a purposive sampling technique, i.e., they were people who had experience with digital technologies or were interested in digital innovation. Among the sample were MSMEs from the urban and rural areas to represent the geography and the diversity of challenges and opportunities across regions. The sample size was sufficient for statistical analysis, as the researcher surveyed a total of 300 MSMEs. The sample distribution consisted of 50% micro-enterprises, 30% small enterprises, and 20% medium enterprises, which is the composition of the Philippine MSME sector as reported by the Department of Trade and Industry. For the qualitative component, 15 MSME owners and managers from different industries, including retail, manufacturing, agriculture, and service sectors, were interviewed.

2. 3. DATA COLLECTION

Data was collected quantitatively by using an online survey sent via email and social platforms. The survey comprised closed-ended questions organized into four sections:

- **Demographics:** Information about the business type, size, location, and sector.
- **Digital Adoption:** With e-commerce platforms, digital payment systems, and cloud-based software, there were questions assessing the use of digital tools.
- **Challenges:** Financial, infrastructural, and regulatory perceived barriers to digitalization.
- **Performance Metrics:** Revenue growth, market expansion, customer satisfaction, etc, as indicators of entrepreneurial success.

Semi-structured interviews were conducted through video conferencing platforms to gather qualitative data. The interview guide included interviews on having experiences with digital transformation, strategies for coping with hurdles, and the perceptions of support from government and private organizations. They were recorded audio, and each interview took about 45 minutes.

2. 4. DATA ANALYSIS

Descriptive and inferential statistical methods were applied for the analysis of quantitative data. Demographic characteristics and levels of digital adoption of the sample were summarised using descriptive statistics such as means, medians, and standard deviations. Digital innovation was examined for its relationships to entrepreneurial success metrics through inferential analyses, including chi-square tests and regression modeling. Thematic analysis was used to analyze the qualitative data to identify patterns and themes of the challenges and opportunities created by digital transformation. The transcribed audio recordings were coded using qualitative analysis software. Inductively, themes were developed to ensure that the analysis reflected the participants' views. The quantitative findings were then integrated with the key themes to give a holistic interpretation of the research objectives.

2. 5. ETHICAL CONSIDERATIONS

Ethical guidelines were adhered to such that the research process could rightly be deemed up to the mark. Data collection started after receiving ethical approval from a recognized institutional review board. Participants were informed of the purpose, procedures, and other participants' rights, including the right to withdraw at any time without penalty. Participation in the survey

or interview required written informed consent. Anonymized participant responses were stored securely on encrypted devices to maintain data confidentiality.

3. RESULTS

3.1. MSME DEMOGRAPHICS

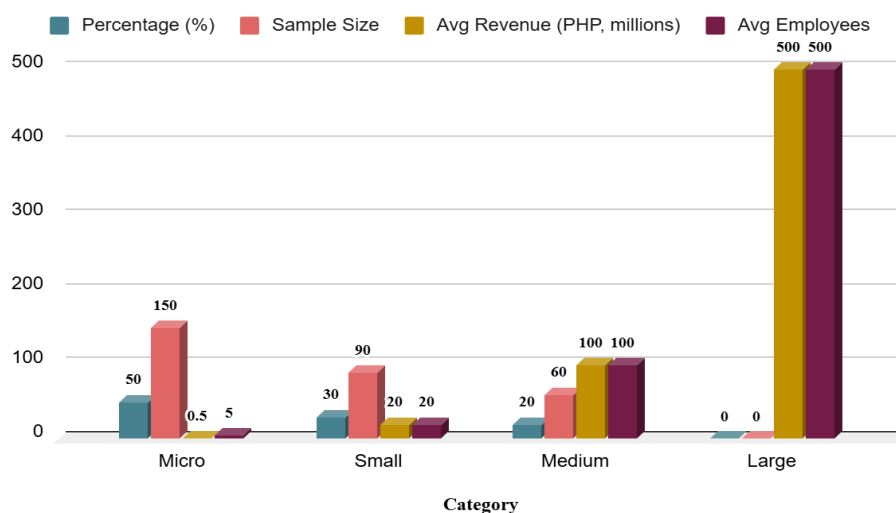
The demographic breakdown of the MSME sample used in the study is presented in Table 1. There were 150 participants in the total sample, which were classified as micro-enterprises, 50%. The average revenue reported by these micro-enterprises was PHP 0.5 million, and the average number of persons employed was 5. The sample was comprised of small enterprises with an average revenue of PHP 20 million and with 20 people on average. Significantly higher figures were shown by medium enterprises, with an average revenue of PHP 100 million and an average workforce of 100 employees, constituting 20% of the sample. The 0% representation shows that no large enterprises were included in the sample. The demographic characteristics of these MSMEs show the predominance of micro and small enterprises in the Philippine MSME sector and medium enterprises with relatively higher financial and operational scales. This distribution corresponds to the typical structure of MSMEs in the region.

Table 1. MSME Demographics

Category	Percentage (%)	Sample Size	Avg Revenue (PHP, millions)	Avg Employees
Micro	50	150	0.5	5
Small	30	90	20.0	20
Medium	20	60	100.0	100
Large	0	0	500.0	500

Source: Based on estimation

Figure 1. MSME Demographics



Source: Based on estimation

3. 2. DIGITAL TOOL ADOPTION RATES

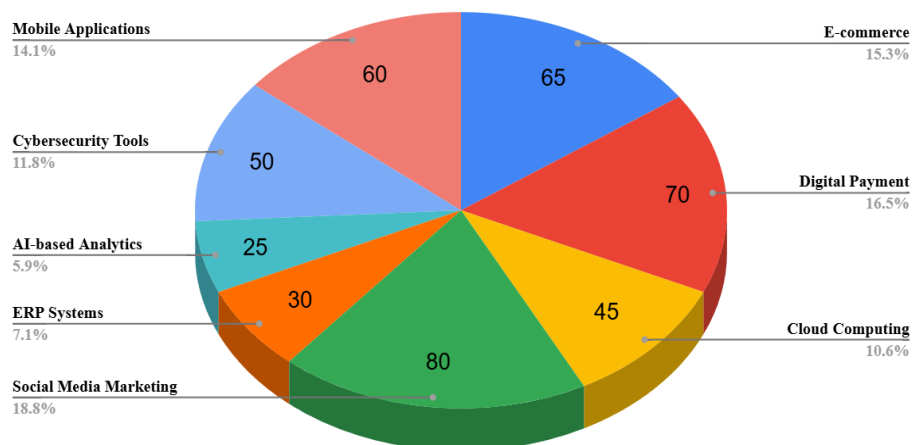
Table 2 lists the adoption rates of various digital tools for MSMEs in the Philippines, as well as perceived ease of adoption and cost-effectiveness. Social media marketing had the highest adoption rates (80%), while digital payment systems followed closely behind (70%) and were also considered easy to adopt (4.8 and 4.5, respectively) and highly cost-effective (4.6 and 4.0, respectively). E-commerce tools saw a 65% adoption rate with a high ease of adoption score (4.0) and good cost-effectiveness (4.5). On the other hand, adoption rates for more advanced technologies, such as ERP systems (30%) and AI-based analytics (25%), were much lower, with ease of adoption and cost-effectiveness scores of 2.5 and 2.0 for ERP and 3.0 and 2.5 for AI-based analytics indicating that these technologies were not easily adopted. 45% of MSMEs adopted cloud computing, and 50% adopted cybersecurity tools with moderate ease of adoption and cost-effectiveness.

Table 2. Digital Tool Adoption Rates

Digital Tool	Adoption Rate (%)	Ease of Adoption (1-5)	Cost Effectiveness (1-5)
E-commerce	65	4.0	4.5
Digital Payment	70	4.5	4.0
Cloud Computing	45	3.5	3.0
Social Media Marketing	80	4.8	4.6
ERP Systems	30	2.5	2.0
AI-based Analytics	25	3.0	2.5
Cybersecurity Tools	50	4.0	3.8
Mobile Applications	60	4.2	4.1

Source: Based on estimation

Figure 2. Digital Tool Adoption Rates



Source: Based on estimation

3. 3. BARRIERS TO DIGITAL TRANSFORMATION

The barriers to the digital transformation of MSMEs in the Philippines and their severity and prevalence by enterprise size are listed in Table 3. Most respondents referred to financial constraints as the main obstacle, responsible for 60% of the responses, and it was ranked with the highest severity: 4.8. The most common was among micro enterprises (70%), small enterprises (60%), and medium enterprises (40%). The second most significant barrier was technical expertise, which 50% of respondents reported and scored a severity of 4.5. This was a problem for micro-enterprises (60%) and small enterprises (50%); 40% of respondents reported infrastructure challenges, rated at 4.2, which were more severe for micro and small enterprises than for medium enterprises. Other barriers, of varying severity, included regulatory issues (30%), cybersecurity concerns (20%), cultural resistance (25%), and market readiness (15%). The findings of this thesis show that the problem of MSMEs adopting digital technologies is a complex one.

Table 3. Barriers to Digital Transformation

Barrier	Percentage of Respondents (%)	Severity (1-5)	Common in Micro (%)	Common in Small (%)	Common in Medium (%)
Financial Constraints	60	4.8	70	60	40
Technical Expertise	50	4.5	60	50	35
Infrastructure	40	4.2	50	45	30
Regulatory Issues	30	3.8	40	35	25
Cybersecurity Concerns	20	3.5	25	30	20
Cultural Resistance	25	3.0	30	25	15
Market Readiness	15	2.8	20	15	10

Source: Based on estimation

3. 4. QUALITATIVE INSIGHTS FROM INTERVIEWS

The qualitative research data from 15 Philippine MSME owners and managers appears in Table 4 which stems from their semi-structured interviews. Digital transformation presents numerous difficulties for the businesses according to the thematic analysis results. Eleven participants identified digital literacy and skills as their main concern because their staff members found even basic e-commerce tools too complex to operate because of their lack of technical proficiency. The survey revealed that financial difficulties prevented ten businesses from acquiring digital tools although these tools offer proven advantages. Nine interviewees displayed a positive outlook regarding digital transformation because they wanted additional educational support and training. The implementation of digitalization faced obstacles stemming from insufficient governmental backing and physical infrastructure deficiencies and traditional workplace attitudes mostly found in senior staff members.

Table 4. Qualitative Insights from Interviews

Emergent Theme	Frequency (out of 15)	Representative Quote or Insight
Limited digital literacy and skills	11	“Even basic e-commerce tools feel overwhelming for my staff who are not tech-savvy.”
Financial struggles are limiting digital investment	10	“We know digital tools help, but they cost more than we can afford right now.”
Positive attitude toward digital transformation	9	“We are eager to go digital, but we need more guidance and training.”
Government support is lacking in implementation	7	“We hear about programs for MSMEs, but we don’t see them reaching us in the province.”
Infrastructure gaps	6	“Our internet connection is unreliable. We can’t even run basic cloud software.”
Cultural resistance and fear of technology	4	“Our older employees are afraid to use anything digital—they worry they’ll break something.”

Source: Based on estimation

4. DISCUSSION

The analysis of demographics shows a high prevalence of micro-enterprises, which is the case with most of the Philippine MSME ecosystem (Kumar et al., 2024). Strategically, a huge majority of MSMEs are adopting digital tools, which include social media marketing and digital payment systems, which are accessible and cost-effective. Previous studies on the importance of digital platforms for micro and small enterprises (Loo et al., 2023) may have led to these tools, as micro and small enterprises may need to expand their market reach and simplify customer interactions. Lower adoption rates of cloud computing and enterprise resource planning (ERP) systems indicate resource-related constraints (He et al., 2022). This finding is consistent with previous studies that show that MSMEs lack the technical expertise and financial resources to fully adopt advanced digital innovations (Kumar et al., 2023). Systemic challenges to the digital transformation of MSMEs in emerging economies are reflected in identified barriers, financial constraints, and technical expertise. The results also corroborate previous research that financial stability is an important determinant of technological adoption and show that while the perception of barriers varies by enterprise size, financial constraints are most acute for microenterprises (Masongsong et al., 2024). While cybersecurity concerns and regulatory issues are not as prevalent overall, they present unique challenges that could stifle long-term digital innovation efforts. Existing literature provides strong support for the important role of digital innovation in improving MSME resilience and competitiveness, including during periods of disruption, such as the COVID-19 pandemic (Mattaga, 2023). The finding of the study that social media marketing and digital payment systems are used by MSMEs broadly is consistent with empirical evidence from Indonesia and Vietnam, where similar tools have enabled MSMEs to expand their market reach (Mia et al., 2023). The barriers identified in the study are in line with other developing economies. Financial constraints are universal, especially for micro and small enterprises (Mugano & Dorasamy, 2023). Whereas studies from more developed Asian economies of Malaysia and Singapore demonstrated that supportive policies and robust digital infrastructures significantly reduce the prevalence of such barriers, the Philippine context exhibits far more resistance to cultural barriers and regulatory challenges (Nair, 2024). Interestingly, medium enterprises in more developed countries are increasingly adopting advanced technologies such as AI-based analytics for predictive decision-making (Paliwal, 2023), but the relatively low adoption of advanced technologies like AI-based analytics is interesting. This gap demonstrates the urgency to develop

customized interventions to narrow the digital divide in the Philippine MSME sector.

The findings highlight that policy intervention measures are needed to combat these financial and technical barriers to MSMEs. Subsidy schemes for financing MSMEs, tax incentives for digital investment, and capacity-building programs help overcome cost and expert barrier restrictions for MSMEs (Paoloni et al., 2023). Public-private partnerships can also be a priority in improving infrastructure and the inexpensive spread of advanced digital tools, which results in inclusivity and wider adoption of technology (Peón & Martínez-Filgueira, 2020). It is also important to put a concentrated effort into building capacity and training. Structured training programs would upskill MSME owners and employees to become digitally and technically literate enough to exploit high tech effectively. This is especially important for the adoption of underutilized but transformative tools such as cloud computing and ERP systems (Pitakdumrongkit, 2023). Resistance to cultural change reigns, and the cultivation of an entrepreneurial mindset to accommodate the idea of change and innovation is necessary. Awareness campaigns of the tangible benefits of digital adoption can help reduce resistance, and the MSME sector becomes the driving force in a proactive transformation. This is because MSMEs are heterogeneous. Micro-enterprises would benefit most from low-cost, user-friendly technological solutions, while medium enterprises may find the most benefit from scalable and integrative systems to support growth (Raj et al., 2024). The importance of regional disparity in access to infrastructure and regulatory environments is also highlighted here, as additional localized interventions in some cases are necessary to address particular urban challenges and take advantage of regional opportunities (Rezazade et al., 2023).

The study has some limitations that should be acknowledged, as the study provides valuable insights into digital adoption within the Philippine MSME sector (Santa Gadea, 2020). Next, while the sample representation is reflective of the overall composition of Philippine MSMEs, it may not fully represent the sector's diversity, particularly in terms of geographic and sector-specific differences (Sajjad, 2023a; Sajjad, 2023b). As such, the generalizability of the findings to the rest of the MSME landscape might depend on a small sample size. Secondly, the study relies on self-reported survey data, which may be biased because respondents may exaggerate or underestimate their degree of digital adoption, thus creating a problem of validity for the results (Sung et al., 2020). The scope of the technological part of the study is limited to some digital tools and may seriously ignore upcoming technologies such as blockchain and the Internet of Things (IoT), which may substantially affect the MSME environment of the future (Tan et al., 2024). Finally, the findings are limited in their applicability when considering the rapid evolution of the digital landscape. Consequently, the study needs regular updates and longitudinal studies of MSMEs' digital transformation path to track changes and trends in the digital transformation among MSMEs (Tariq et al., 2022).

Future research should tackle the evolution of digital adoption's influence on MSME performance through time. This would bring more insights into the dynamics of digital transformation and help us better understand how digital tools and strategies impact business outcomes over time. Examining digital innovation to confront some of the issues found within specific industries, like agriculture, manufacturing, or retail, is an option as well. Such industry-specific analysis helps in making more targeted interventions so that strategies of digital adoption are more specific to the needs of different MSME groups. Future research could be conducted into the adoption of the latest emerging technologies, like blockchain, IoT, and AI-based tools within the MSME space. The way of understanding the feasibility and consequences of these technologies can pave the way for a more complete digital transformation and help MSMEs to become more competitive. Further cross-country comparisons, especially with other ASEAN nations, may also provide useful information on best practices and lessons learned that could

stimulate regional cooperation and digital innovation in the MSME sector. Fifth, this review provides feedback for policymakers and stakeholders to enhance the strategies supporting MSMEs' digital growth and sustainability through evaluating government initiatives, such as the 'Digital Payments Transformation Roadmap' and 'E-Commerce Roadmap'.

4. 1. PRACTICAL RECOMMENDATIONS

Drawing from the findings of both the survey and interview data, the study puts forward several actionable recommendations aimed at addressing the barriers to digital adoption and promoting greater technological integration within the MSME sector:

- **Promote digital literacy training** for MSME owners and employees, particularly in geographically disadvantaged or underserved regions. Such training should focus on foundational digital skills relevant to business operations.
- **Offer targeted financial support mechanisms**, including grants, subsidies, or low-interest loans, to assist micro and small enterprises in acquiring essential digital technologies.
- **Encourage stronger collaboration between the public and private sectors** to expand digital infrastructure and ensure stable, affordable internet access across the country, especially in rural and remote communities.
- **Establish local digital innovation centers or hubs**, which can provide training, mentoring, and shared access to digital tools and platforms that MSMEs might otherwise not afford.
- **Streamline government procedures and regulatory requirements** to make it easier for MSMEs to implement digital solutions and register or operate online services efficiently.
- **Increase awareness of digital security** through well-targeted campaigns and programs that educate MSME stakeholders about common cybersecurity threats and how to mitigate them.

Implementing these recommendations will help close the existing digital gap and support the transformation of MSMEs into competitive and resilient drivers of economic growth in the Philippines.

5. CONCLUSION

The study combined quantitative survey findings and qualitative interview data to offer a comprehensive view of how digital innovation influences entrepreneurial success among Philippine MSMEs. The survey data revealed widespread use of basic digital tools like social media marketing and digital payments, yet highlighted limited adoption of advanced systems such as cloud computing and ERP solutions. The interview data reinforced these trends, uncovering additional challenges such as digital illiteracy, fragmented policy implementation, and infrastructure limitations. Together, these findings underscore the urgent need for targeted interventions that are responsive to the unique needs of MSMEs across varying sizes, sectors, and geographic locations. The study also pointed out the regional disparities in infrastructure and regulatory environment, inhibiting MSMEs from experiencing digital transformation. These findings have implications for policy development, capacity building, and sectoral strategies. Financing schemes, tax incentives, and capacity-building programs, that support these specific challenges faced by MSMEs, are recommended to policymakers to create supportive environments for MSMEs. Also, the work reiterates the need for fostering a digital transformation and entrepreneurial mindset, and local strategies to meet the local and industry sectoral needs. Several recommendations are made based on the study's findings. One of the things is to increase access to cheap digital instruments, implement virtual literacy training programs, as well as eliminate financial barriers through government incentives. It is likely to help decrease cultural resistance to digital adoption by raising awareness amongst people of the benefits of

digital adoption. Future research should adopt a longitudinal approach to monitor the long-term effects of digital adoption on the performance of MSMEs. Deep insights into how MSMEs can better leverage digital transformation for sustainable growth could be provided by looking into industry-specific digital innovations combined with the integration of emerging technologies such as blockchain and IoT, and cross-country comparisons within the region pursuing ASEAN specialization. Finally, the effectiveness of government policies was evaluated for feedback on the development of digital adoption strategies for MSMEs.

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