


Sustainability Challenges and Business Discontinuity Among Micro and Small Enterprises in Cainta Rizal: Basis for Sustainable Business Development Framework

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Abstract

This study explores the challenges related to sustainability and the evolving needs of micro and small enterprises (MSEs) in Cainta, Rizal to avoid business discontinuity within the framework of national and international policy contexts. Utilizing a quantitative approach through a structured survey carried out to 378 MSE owners and representatives. The researcher applied both inferential and descriptive statistics to examine the data and figure out what are the most pressing issues were with sustainability.

The research examines the demographic, operational, and contextual characteristics of local micro and small enterprises (MSEs) in Cainta, Rizal which the result emphasized that the sector predominantly consists of young, female-led micro enterprises focused in retail, food and beverage, manufacturing, and services. The data revealed that MSEs are open to new ideas and continuously support environmental concerns, however these are still considered as part of their challenges along with numerous obstacles, such as intense market competition, the risk of natural disasters, insufficient formal management training, and a lack of digital technology adoption. Consequently, due to lack of expertise,

inadequate infrastructure, and hard-to-get financing make it harder for them to be resilient and competitive. The researcher uses these notions to make a localized framework for sustainable business growth that is closely tied to the Philippine Department of Trade and Industry's MSMED Plan 2023–2028, the ASEAN SME Policy Index 2024, and the United Nations Sustainable Development Goals (SDGs), especially SDGs 8, 9, 10, 11, 12, 13, and 17. The proposed framework includes being resilient after natural disasters, becoming digitally ready, improving social capital, protecting the environment, making it adaptable to diverse markets, and making it less complicated for MSEs to access financial support from government and banks. The suggestions highlight how crucial it is for the government, banks, and people in the community to work together to make a safe, innovative, and welcoming space for business owners. This integrated approach aims to help Cainta's micro and small firms to prosper despite the current economic and environmental concerns, while also helping to achieve larger national and international development goals.

Keywords: *Cainta Rizal, quantitative research, micro and small enterprises, business interruption, sustainability challenges, and sustainable business framework*

INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) form the foundation of the economy of the Philippines. MSMEs are comprised of 99.59% business establishments in food service, retail trading, and manufacturing activities (DTI & MSMED Council, 2023). Also, a report from Philippine Statistics Authority's 2023 List of Establishments, there are about 1.25 million enterprises registered nationwide, with 99.63% classified as MSMEs and these micro enterprises dominate this group for making up over 90% of establishments, followed by small enterprises at nearly 9%, with less than 1% accounted by small enterprises (PSA, 2023). Geographically speaking, the National Capital Region (NCR) houses 18% of all MSMEs and is closely followed by CALABARZON (Region 4-A) with about 15%, including Cainta in Rizal (DTI Rizal, 2023). This shows that these regions are centers of economic activity and population density.

MSMEs are vital components of the Philippine economy's growth and development, and they are also the ones who create jobs (Ronquillo, 2021). The data shows that MSMEs in the Philippines created more than 6.35 million jobs in 2023. This is almost 67% of all jobs in the country. Micro enterprises made the most jobs, followed closely by small enterprises. Additionally, in the Accomplishment Report 2022-2023 prepared by the Department of Industry (DTI) CALABARZON, further shows that MSMEs in the region created over 7,000 jobs which saw a significant increase in domestic sales to PhP 18.5 million in 2023 from PhP 5.3 million the previous year (DTI Rizal, 2023) and this growth underscores the sector's resilience and potential. Despite these contributions, only 45.5% of Gross Domestic Product (GDP) come from MSMEs. This is due to the challenges experienced by MSMEs which include inefficiencies in bureaucratic procedures, market information asymmetry, and limited liquidity (DTI & MSMED Council, 2023). Hence, the MSME Development (MSMED) Council, as sub-branch of DTI, developed the MSME Development Plan (MSMEDP) 2023-2028 as means of addressing the current challenges experienced by MSMEs to accelerate their growth. MSMED Council broadly categorized the challenges face by the MSMEs in the Philippines and these come in the form of finances, technology, market access, operations, and regulations. Furthermore, the Small and Medium Enterprise Policy Index from the ASEAN 2024 identified unique challenges faced by Small and medium-sized enterprises (SMEs) such as technical capacity, limited financial resources, and understanding of regulatory environments which makes the sector vulnerable to unforeseen crises. As a response, SMEs must be supported in the form of concrete programs to foster inclusive competitiveness and to ensure resilience. Consequently, the report also urges policymakers to strengthen support for SMEs through coordinated policy approaches. ASEAN Member states are also encouraged to strengthen regional cooperation in terms of access in finance and supporting projects aimed at market access. Similarly, ERIA/ OECD (2024) believed that in order for SME to make sound decisions, a monitoring and evaluation policy based on available, comparable, and well analyzed data should be in place.

Micro and Small Enterprises (MSEs) in Cainta, Rizal have always been significant to the economy of the region since they bring in jobs and support the community grow. Still, a lot of these enterprises have had confronted with constant challenges which make it hard for them to sustain their business in the future. For instance, the COVID-19 pandemic, natural disasters, and rapidly shifting markets have pushed many MSEs to the edge which caused them to temporarily close or cut back on their operations. Asian Development Bank's Philippine Enterprise (2020) conducted a survey which revealed that nearly half (49.9%) of temporarily closed businesses were located in the National Capital Region, with firms in CALABARZON—where Cainta is situated—and Central Visayas accounting for 14.3% and 7.2%, respectively, and these statistics highlight the disproportionate burden borne by businesses in urbanized and economically active regions and these findings complemented by PwC Philippines (2020) supported this claim by which approximately 44% of MSMEs identified the need to improve working capital management, while 39% expressed an urgent requirement for financing support. Further, the National Economic and Development Authority (2020) indicated that over 60% of MSMEs halted operations due to changes in

work arrangements and in spite of this, there are more than 70% of businesses chose to retain their workforce, absorbing financial losses to preserve jobs and support employees amid adversity.

While national and international studies have provided a comprehensive approach, and they have devised comprehensive plans to foster an environment conducive to MSMEs growth and ultimately contribution to the local economy by examining the sustainability challenges faced by MSMEs, there are still a notable research gap regarding the specific sustainability challenges faced by MSMEs as well as a localized framework in urbanizing municipalities like Cainta, Rizal with the existing literature which often generalizes findings across broader regions, they have overlooked the localized conditions, governance structures, and socio-economic environment that uniquely affect MSE sustainability in this area. The researcher also believes in the importance of identifying the specific factors affecting business discontinuity of MSEs in Cainta, Rizal. This idea is supported by past researchers who highlighted the need to have more research on business discontinuity among MSEs. Carter and Van Auken (2006) urged new firms to understand the factors contributing to firms' failure and business discontinuity, and take the knowledge as part of learning for the firms. Additionally, Mohamad et al. (2020) also believes that despite strong government support and assistance, business discontinuity among MSMEs is still not well understood.

Hence, Cainta's governance through active digital transformation activities and disaster risk management programs strengthens its attractiveness as a study site and creates a favorable environment for data collecting and practical application. Also, the researcher's association with local institutions improves logistical feasibility and contextual awareness of the study. Moreover, other municipalities in the CALABARZON region, including those in Laguna, Cavite, Batangas, and Quezon provinces, face many of the same sustainability challenges as MSEs. They also experience financial constraints, skill gaps, regulatory hurdles, environmental vulnerabilities, and market competition. Thus, financial hurdles, such as rigorous collateral requirements and limited lending availability, are common across CALABARZON. Similarly, about regional digital adoption remains low despite its increasing receptivity to technology and that replicated the Cainta pattern, and with Cainta's distinguishing feature, however, is its particularly young, primarily female entrepreneurial populace, as well as its location as a highly competitive economic hub near Metro Manila, which increases market pressure and opportunities. Also, some municipalities, like those in Laguna which supports business specialization and innovation, reflect varied local government strategies within the region but they may emphasize different localized initiatives such as One Town One Product (OTOP) initiatives.

Furthermore, variations in socio-economic profiles and institutional support differentiate Cainta by its economic vibrancy, along with vulnerabilities like as flood hazards and urban congestion, make it an ideal microcosm for researching MSE sustainability in the region, there are challenges encountered by MSEs across CALABARZON which are largely consistent such as exposure to natural disasters, intense market competition, limited managerial skills, and low social capital. Hence, this localized research in Cainta would add to and improve the greater regional understanding by providing precise and localized empirical information that can inform both local policy and CALABARZON-wide strategy. Thus, this can be scaled across municipalities while also being tailored to specific local conditions since it emphasizes on the importance of integrated, context-sensitive interventions including financial inclusion, capacity building, regulatory simplification, digital literacy, environmental stewardship, and disaster resilience. Finally, with Cainta's economic vigor, demographic heterogeneity, sectoral diversity, and exposure to important sustainability concerns make it the finest sample group for this study. Its representativeness, combined with unique local characteristics and a supportive institutional environment, ensures the study finding's relevance to Cainta as well as instructions for other similar urbanizing municipalities across CALABARZON by fostering resilient, sustainable micro and small businesses throughout the region. As a result, the current study seeks to fill the gap through the investigation of sustainability difficulties and business discontinuity among MSEs in Cainta, Rizal.

The research will investigate the following factors such as personal profile, business profile and sustainability challenges affecting MSEs in the locality. The goal of this research is to develop a localized Sustainable Business Development Framework tailored for MSEs in Cainta, Rizal which could help these enterprises navigate the dynamic and competitive business environment. The proposed framework is aligned with the national MSME Development Plan 2023-2028 and the ASEAN SME Policy Index that emphasizes on innovation, digital transformation, and resilience-building for MSMEs across the Philippines. Providing this study would contribute to alignment of policies and programs with national strategies that would ensure coherence in support initiatives for MSMEs.

The concept of sustainability development was first introduced by the World Commission on Environment Development (1987) and described it as "meeting the needs of the present without compromising the ability of future generations to meet their own needs". After almost two decades, the UN developed the 2030 Sustainable Development Goals (SDGs) in 2015 which were intended to be achieved in order to change the world by enhancing all peoples' quality of life, preserving the environment, and ending poverty (United Nations, n.d.).

METHODS

Research Design

This research employs a quantitative-descriptive correlational research design to examine the sustainability challenges experienced by Micro and Small Enterprises (MSEs) in Cainta, Rizal, and to assess their relationship with business discontinuity. The descriptive component identifies and analyzes the specific challenges encountered by MSEs, whereas its correlational aspect determines whether a significant relationship exists between these challenges and the likelihood of business discontinuity.

Research Participants

A total of 378 owners or representatives of Micro and Small Enterprises (MSEs) operating within Cainta, Rizal were proportionally selected using the stratified random sampling. Based on the data provided by the Cainta Municipal Business Permits and Licensing Office (BPLO), there are 6,946 registered MSEs in the locality and using the Slovin's formula, the sample size needed for this study was calculated with a margin of error of 5%, which provided results that are accurate within plus or minus 5 percentage points, with a confidence level of 95%.

To Calculate Sample Size for Each Stratum (Proportional Allocation)

The proportional allocation formula: $nh = \frac{N_h N}{n} \times \frac{n}{N} = \frac{N_h n}{N}$

Where:

- nh = sample size for stratum h
- N_h = population size of stratum h
- N = total population size (6,946)
- n = total sample size (378)

Stratum	Population Size N_h	Proportion $\frac{N_h}{N}$	Sample Size $nh = \left(\frac{N_h}{N}\right) \times n$
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Retail	2,500	0.36	$378 * 0.36 \approx 136$
Services	2,000	0.29	$378 * 0.29 \approx 110$
Manufacturing	1,000	0.14	$378 * 0.14 \approx 53$
Food	1,446	0.21	$378 * 0.21 \approx 79$
Total	6,946	1	378

**Table 1: Proportional Allocation of
Micro and Small Enterprises in Cainta, Rizal**

Data Collection Procedure

This research will use an adapted questionnaire from gathered related literature and studies, and undergo content validation by a panel of experts in economics, entrepreneurship, and business development. Further, the researcher started its data collection by securing necessary approval from the Cainta Local Government Unit (LGU). Once approved, the questionnaire were distributed face-to-face to the selected business owners of micro and small enterprises within Cainta, Rizal. Participants had about 1 to 3 working days to answer the questionnaire at their own pace. After that, the researcher gathered all responses and carefully record the data for analysis. Throughout the process, she made sure to follow ethical research practices and respect everyone's privacy, in line with the Data Privacy Act of 2012 (RA 10173).

Data Analysis

The researcher used both descriptive and inferential statistical methods to analyze the data collected from Micro and Small Enterprises (MSEs) owners or representatives in Cainta, Rizal. Descriptive statistics were used including the frequency, percentage, weighted mean, and standard deviation to help interpret and provide numerical findings from the responses. Likewise, the researcher utilized a four-point Likert scale to measure the respondents' level of agreement with each item. Each response option was assigned a corresponding numerical value: 4 – Strongly Agree, 3 – Agree, 2 – Disagree, and 1 – Strongly Disagree, and for interpretive clarity, the following verbal descriptors were used: scores from 3.26 to 4.00 were interpreted as “Every time,” 2.51 to 3.25 as “Usually,” 1.76 to 2.50 as “Rarely,” and 1.00 to 1.75 as “Never.” This classification allowed the transformation of numeric values into meaningful insights, indicating how frequently respondents encounter specific sustainability challenges.

Ethical Considerations

To ensure the protection, rights, and dignity of all participants involved, the researcher strictly complied to ethical standards throughout the entire study. Prior to data collection, the researcher secured the necessary approval from the Cainta Local Government Unit (LGU) to conduct the study within the municipality. The respondents participation in the study was entirely voluntary, and they were fully informed about the purpose of the research, the nature of their involvement, as well as the expected duration of the survey. Further, confidentiality and anonymity of the participants were rigorously maintained. The personal and business information of the participants were collected using the structured questionnaire and was treated with utmost confidentiality and used solely for the purposes of this study. The researcher complied with the provisions of the Data Privacy Act of 2012 (RA 10173), ensuring that all data were securely handled, stored, and reported in aggregate form to prevent individual identification.

RESULTS AND DISCUSSION

Demographic Profile of the Micro and Small Enterprises in Cainta, Rizal

SOP 1: What are the demographic profiles of MSE owners in Cainta, Rizal?

In terms of respondent's age, the highest proportion of business owners falls within the 35–44 age group (28.30%), followed by those aged 45–54 (25.70%). These figures indicate that entrepreneurial activity in the municipality is predominantly driven by mid-career adults, reflecting a demographic likely to possess both professional experience and financial stability conducive to business ownership. Younger entrepreneurs aged 25–34 make up 18% of the respondents, while those aged 55–64 account for 14.30%, and individuals aged 65 and above represent 4.20%. Additionally, 7.9% of respondents are between 18 and 24 years old, with a smaller fraction (1.6%) below 18, possibly involved in family-run businesses. This broad age spectrum indicates that business ownership in Cainta spans multiple generations, with a concentration in the productive working years. It reflects a dynamic entrepreneurial landscape that balances seasoned expertise with emerging generational interest in enterprise development.

In terms of respondent's educational attainment, nearly half of the respondents (47.1%) reported completing only secondary education, indicating that a high school diploma is the most common level of educational attainment among local entrepreneurs. Notably, approximately one-third of the respondents attained higher education, with 26.5% having reached the tertiary level and 7.4% holding graduate or postgraduate degrees. This segment of the population, though smaller in number, should not be underestimated, as higher educational attainment may enhance strategic decision-making, innovation capacity, and long-term business sustainability. A small fraction (0.8%) of respondents reported having no formal education, suggesting that some business owners rely heavily on experiential learning, informal knowledge transfer, or inherited business practices. Overall, the findings reflect a varied educational landscape that may influence how businesses are managed and positioned for growth within the municipality.

In terms of respondent's sex, majority of micro and small enterprise (MSE) owners in Cainta are female, comprising 238 out of 378 respondents, or 63%. Male entrepreneurs account for 140 respondents, representing 37% of the sample. This predominance of female business ownership challenges traditional gender norms and suggests a significant shift toward greater female representation in entrepreneurship within the municipality. While women outnumber men in MSE ownership, the considerable proportion of male participation (37%) signals that both genders are actively engaged in entrepreneurial activities in Cainta. The observed gender distribution may reflect evolving socio-cultural dynamics, local economic opportunities, and possibly supportive conditions that encourage women's involvement in business. Nonetheless, deeper investigation is warranted to understand whether gender-based barriers, access to resources, and sector-specific participation influence this pattern.

Table2. Distribution of the Respondents *in terms of their demographic profile*

Variables	Frequency (n=378)	Percent
Age		
18-24 years old	30	7.9
25-34 years old	68	18
35-44 years old	107	28.3
45-54 years old	97	25.7
55-64 years old	54	14.3
65 years old and above	16	4.2
Below 18 years old	6	1.6
Highest Educational Attainment		
Graduate and Postgraduate Education	28	7.4
No Formal Education	3	0.8
Post-Secondary Education (Vocational/Technical Education)	31	8.2
Primary Education (Elementary Level)	38	10.1
Secondary Education (High School Level)	178	47.1
Tertiary Education (College Level and Beyond)	100	26.5
Sex		
Male	140	37
Female	238	63

Business Profile of the Micro and Small Enterprises in Cainta, Rizal

SOP 2: What are the business profiles of MSE owners in Cainta, Rizal?

In terms of business location, the data shows that San Juan has the highest concentration of micro and small enterprises, accounting for 42.9% of the total respondents. This may be attributed to the barangay's high population density, accessibility, and the presence of well-established commercial areas that are conducive to business growth. Sto. Domingo follows as the second most common location, comprising 14.8% of the businesses—suggesting a moderately active and supportive environment for entrepreneurship. At the other end of the spectrum, Sto. Niño has the lowest concentration, with only 7.4% of respondents operating in this area, possibly indicating limited commercial infrastructure or lower market demand. The remaining barangays—San Andres (10.6%), San Roque (8.7%), Sta. Rosa (7.9%), and San Isidro (7.7%)—show moderate distribution of business activity. This spatial spread highlights that while business activity is heavily concentrated in San Juan, smaller yet meaningful entrepreneurial presence exists in other barangays. These findings underscore the need for location-specific support strategies, as

geographic concentration can affect resource allocation, local economic development, and policy planning for micro and small enterprise sustainability in the municipality.

In terms of business structure, a substantial 85.2% of respondents operate under a sole proprietorship, underscoring the dominance of independently managed enterprises that are generally more accessible in terms of registration and cost. This legal structure aligns with the earlier findings on microenterprise characteristics, including limited assets and small workforce sizes. The second most common structure, partnerships, accounts for 8.5%, suggesting a modest level of collaborative ventures, possibly among family members or peers. At the other end of the spectrum, cooperatives represent just 6.3% of the businesses surveyed, indicating limited adoption of community-owned or member-driven models.

In terms of estimated monthly revenue, a significant 94.7% of the businesses report monthly earnings below ₱50,000, affirming their classification as microenterprises and reflecting the modest financial scale at which most operate. In contrast, only 4.2% fall within the ₱50,001 to ₱100,000 range, while a minimal 1.1% earn between ₱100,001 and ₱500,000. The concentration of enterprises in the lowest revenue bracket underscores their limited earning capacity and potential exposure to financial instability. This income distribution reinforces earlier findings on business size and workforce, suggesting structural limitations that may hinder revenue growth. Overall, the data highlights the economic fragility of most local enterprises and signals a need for strategic support mechanisms such as improved market access, capacity-building programs, or inclusive financing models to enhance income sustainability.

In terms of monthly total asset, with an overwhelming 96.6% reporting assets of ₱3,000,000 or below—firmly placing them within the microenterprise category. This aligns with earlier findings on revenue and employment size, reinforcing the predominance of small-scale enterprises with limited capital bases. Only 2.9% fall within the ₱3,000,001 to ₱15,000,000 range, while a mere 0.5% exceed ₱15,000,000, indicating the rarity of capital-intensive businesses in the area. This pronounced asset concentration among microenterprises highlights the need for targeted interventions aimed at capital growth, asset development, and improved access to financial services to enhance scalability and resilience.

In terms of number of employees, a dominant 97.9% are classified as micro enterprises, employing 1 to 9 individuals, indicating that the local business landscape is primarily composed of small-scale operations. In contrast, only 2.1% are small enterprises with 10 to 99 employees, suggesting that larger-scale businesses are limited in the area. This composition highlights the grassroots nature of local entrepreneurship and underscores the need for targeted support to help microenterprises grow sustainably.

In terms of number of years the business has been operating, 34.9% of respondents have operated their businesses for 1 to 3 years, while 28.3% have been in business for less than a year. Together, they comprise over 63% of the total, indicating that most respondents are in the early stages of entrepreneurship that are likely influenced by opportunity, job market shifts, or economic necessity. A moderate 23.0% of businesses fall within the 4 to 7 years range, showing signs of transition toward stability or sustained operations. Meanwhile, only 13.8% of respondents have maintained their businesses for 8 years or more, representing the most experienced segment of the sample. Although the smallest group, it reflects the longevity and resilience of select businesses that have withstood market and operational challenges over time. Taken together, the data highlights a predominantly young business community in Cainta, which suggests the need for targeted support in areas such as business development, mentoring, and long-term sustainability planning to ensure that these emerging ventures can evolve into stable and enduring enterprises.

In terms of relationship of educational background to current business, Anoverwhelming 91% of micro and small enterprise (MSE) owners in Cainta, Rizal indicated that their formal education is not related to the line of business they are engaged in. This finding suggests that entrepreneurial ventures in the municipality are predominantly shaped by factors such as opportunity, necessity, or experiential learning rather than academic preparation in a directly related field. Only 9% of respondents reported that their educational background aligns with their business, indicating that formal training in a specific discipline is not the primary pathway into entrepreneurship for most. This mismatch may reflect limited availability of aligned employment opportunities or reveal the self-starting and flexible nature of local enterprise development. Moreover, it underscores the potential value of targeted business education, mentoring, or retooling programs that can bridge the gap between formal education and entrepreneurial practice, thereby enhancing the strategic capabilities and resilience of MSEs in the locality.

In terms of type of business being operated, the largest portion, 36.0%, is engaged in retail enterprises, such as sari-sari stores and convenience shops. This indicates that many micro and small entrepreneurs gravitate toward businesses that are relatively accessible and require minimal capital to launch. Service-based enterprises, including salons, laundry shops, and transportation services, come in second with 29.1%. Taken together, these two sectors comprise nearly two-thirds (65.1%) of all respondents, underscoring how ease of entry, affordability, and consistent demand for personal and community services play a central role in business formation among MSEs in Cainta. Meanwhile, 20.9% of the respondents are involved in food and beverage ventures, such as carinderias and bakeries. This confirms the enduring appeal of food-related businesses, particularly in communities where such services are integral to everyday life. Lastly, 14.0% operate manufacturing businesses, including handicrafts and food processing. Though smaller in proportion, this segment reflects the presence of specialized skills and a potential for local product innovation.

In terms what pushes them to start a business outside their field of education, the most prevalent motivating factor for pursuing a business venture outside one's field of education is personal interest or passion, cited by 36.2% of the respondents. This suggests that intrinsic motivation plays a critical role in entrepreneurial decision-making, even in the absence of formal academic alignment. Family business influence (23.3%) and the perceived higher income potential in entrepreneurship (22.0%) follow as the next most common drivers, highlighting the role of familial legacy and financial aspirations in shaping business pathways. Meanwhile, 13.2% of the respondents indicated that limited job opportunities within their educational specialization compelled them to start a business. This finding underscores a potential disconnect between educational preparation and labor market absorption, pushing individuals to explore entrepreneurial alternatives. While these responses suggest a variety of practical and economic considerations, they also reflect a broader trend: entrepreneurs in Cainta tend to prioritize personal fulfillment, family dynamics, and financial security over strict adherence to formal educational pathways.

Table3. Distribution of the Respondents *in terms of their business profile*

Variables	Frequency (n=378)	Percent
Business Location		
San Andres	40	10.6
San Isidro	29	7.7
San Juan	162	42.9
San Roque	33	8.7

Sta. Rosa	30	7.9
Sto. Domingo	56	14.8
Sto. Nino	28	7.4
Business Structure		
Cooperative	24	6.3
Partnership	32	8.5
Sole proprietorship	322	85.2
Estimated Monthly Revenue		
₱100,001–₱500,000 (Small)	4	1.1
₱50,001–₱100,000 (Small)	16	4.2
Less than ₱50,000 (Micro)	358	94.7
Estimated Monthly Total Asset		
₱15,000,001–₱100,000,000	2	0.5
₱3,000,001–₱15,000,000 (Small)	11	2.9
Up to ₱3,000,000 (Micro)	365	96.6
Number of Employees		
10–99 (Small)	8	2.1
1–9 (Micro)	370	97.9
Number of Years the Business has been Operating		
1–3 years	132	34.9
4–7 years	87	23
8 years or more	52	13.8
Less than 1 year	107	28.3
Relationship of Educational Background to Current Business		
No	344	91
Yes	34	9
Type of Business Being Operated		
Food & Beverage (Carinderia, restaurant, bakery, catering, etc.)	79	20.9
Manufacturing (Handicrafts, furniture, food processing, etc.)	53	14
Retail (Sari-sari store, convenience store, etc.)	136	36

Service-based (Salon, laundry, transportation, etc.) 110 29.1

What Pushes them to start a Business Outside their Field of Education

Family business influence	88	23.3
Higher income potential in business	83	22
Lack of job opportunities in my field	50	13.2
Others (please specify)	5	1.3
Personal interest or passion	137	36.2
Shift in career goals	15	4

Level of Agreement on the Sustainability Challenges of Micro and Small Enterprises in Cainta, Rizal

SOP 3: *What are the prevalent sustainability challenges experienced by MSEs in terms of access to capital, business knowledge and skills, environmental concerns, market competition, regulatory compliance, social capital, technology adaption, ad vulnerability to natural disasters:*

Table 4 explores the level of agreement among MSE owners in Cainta, Rizal regarding their challenges in accessing capital. The computed grand mean of 3.00 falls under the “Usually” interpretation, indicating that capital-related difficulties are recurring experiences among the respondents. The item with the highest mean, “Lack of collateral limits my ability to access loans” ($M = 3.10$, $SD = 0.699$), emphasizes how asset-based lending policies hinder entrepreneurs who lack the fixed assets typically required as loan security. This issue is especially critical for microenterprises, which often operate with minimal or informal capital bases. Close behind, the statement “I have difficulty obtaining financial support from formal institutions” scored a mean of 3.04 ($SD = 0.787$), suggesting that systemic hurdles—such as strict documentation, rigid qualification processes, or low credit visibility—continue to prevent MSEs from accessing formal financial channels. On the other hand, the lowest-rated item, “I rely primarily on informal lending sources due to limited credit access,” recorded a mean of 2.88 ($SD = 0.878$). While still interpreted as “Usually,” this result implies that informal borrowing is common but may not be the first resort for most business owners, possibly due to high interest rates or non-standardized repayment terms. These findings affirm the observations of Mohamad et al. (2020), who identified inadequate access to financial resources as a major impediment to micro and small enterprise sustainability. The recurring nature of these capital constraints - especially the consistent role of collateral as a limiting factor, underscores the urgent need for responsive financial mechanisms, including simplified loan models and collateral-free options, to enable inclusive enterprise development at the local level.

In the table also summarizes how MSE owners in Cainta, Rizal perceive their business knowledge and skills. The overall weighted mean of 2.81, interpreted as “Usually,” suggests that most respondents feel moderately prepared to manage their businesses. The highest-rated item, “I continuously update my knowledge about entrepreneurship and business management” ($M = 3.16$, $SD = 0.497$), indicates a strong reliance on self-directed learning—likely through informal channels such as online resources or peer experience. This is complemented by the second-highest rating, “My understanding of budgeting and financial planning is adequate” ($M = 3.04$, $SD = 0.579$), showing that many entrepreneurs feel confident in managing day-to-day financial responsibilities. In contrast, the item “I have received formal training in managing a business” earned the lowest mean score of 2.24 ($SD = 0.794$), falling into the “Rarely” category. This highlights a significant skills gap, particularly in structured or theory-based learning, which could

hinder the long-term strategic growth of small businesses. The disparity between confidence in informal learning and the lack of formal education suggests that while practical experience is valuable, it may not fully equip business owners to navigate more complex managerial challenges. These findings reinforce the study of Cheglakova et al. (2023), who identified insufficient business knowledge and managerial weaknesses as key contributors to discontinuity among small enterprises. While many respondents actively seek to improve their skills informally, the absence of formal training opportunities remains a barrier. To support business sustainability, development frameworks should consider introducing accessible training or mentoring programs tailored to the needs and realities of small-scale entrepreneurs.

Additionally, the data reflects a growing environmental awareness among small and micro enterprises in Cainta, Rizal. With a grand mean of 3.23, responses generally fall under the “Usually” category, suggesting that eco-conscious behavior is part of many MSEs’ regular practices. Notably, the highest-rated item, “Environmental sustainability is a priority in my business planning”, garnered a mean of 3.26 (SD = 0.544), indicating that sustainability is not merely aspirational but is increasingly embedded in decision-making processes. This proactive stance signals a meaningful shift in business mindset, where concern for environmental impact is weighed alongside operational and financial priorities. Other responses further reinforce this positive outlook. The statement “I actively reduce waste and promote environmentally friendly practices in my business” scored 3.24 (SD = 0.501), still within the “Usually” range, pointing to tangible efforts in resource conservation and eco-friendly operations. In addition, most respondents claimed awareness of government environmental regulations affecting their business (M = 3.21, SD = 0.540), hinting at a decent level of regulatory literacy in this area. However, the slight variation in scores suggests that while the intent is widespread, practices and awareness may differ depending on business size, sector, or access to environmental education and support. These findings mirror those of Liou-Yuan et al. (2023), who emphasized that MSEs in Southeast Asia are moving toward sustainability by incorporating green practices and stakeholder engagement to build long-term resilience. The trend seen in Cainta reflects this regional trajectory, where environmental stewardship is becoming an operational norm rather than an exception. To further embed sustainability into the local MSE ecosystem, targeted policies, training initiatives, or green incentives could strengthen these initial efforts and ensure that environmental priorities remain actionable and consistent across all levels of business.

In the data likewise presents the insights into how micro and small business owners in Cainta, Rizal perceive competition within their respective markets. The overall grand mean of 3.16, classified under the “Usually” range, suggests that competitive pressure is not sporadic but a persistent concern. The statement “The competition in my industry is very intense” stood out with the highest mean of 3.36 (SD = 0.700), indicating that for many entrepreneurs, navigating an oversaturated market is a daily reality. This intense rivalry may stem from the homogeneity of product offerings and the dense clustering of similar businesses in the same locality. Close behind, the statement “I often lose customers to other businesses offering similar products/services” recorded a mean of 3.11 (SD = 0.725), reinforcing the notion of high customer turnover. This suggests that SMEs frequently face difficulty retaining patrons, possibly due to competitive pricing, proximity of alternatives, or lack of brand loyalty. Additionally, the item “I regularly adjust my pricing or promotions due to competition” received a slightly lower yet still significant mean of 3.03 (SD = 0.767), highlighting that most businesses resort to reactive strategies in response to shifting market behavior. The absence of long-term pricing frameworks or distinct marketing plans may be limiting their resilience in such volatile environments. These findings align with both Indra et al. (2021), who noted that access to capital plays a pivotal role in expanding market reach, and the DTI CALABARZON Report (2023), which identified market saturation as a core challenge for MSMEs in the region. Without sufficient resources, many small businesses are unable to differentiate or scale effectively, leaving them vulnerable in highly competitive settings. Sustainability efforts, therefore, should focus not only on strengthening

financial foundations but also on equipping entrepreneurs with tools to innovate, build brand loyalty, and explore collaborative strategies that can ease the burden of direct competition.

In terms of government compliance, the data indicates a generally moderate level of compliance with government regulations. The grand mean of 2.67 places overall responses in the “Usually” category, suggesting that while most respondents make efforts to meet legal requirements, the process is not entirely without obstacles. Statements such as “It is easy for me to renew my business permits and licenses” ($M = 2.81$, $SD = 0.737$) and “I understand the laws and regulations that affect my business” ($M = 2.80$, $SD = 0.720$) reflect a fair degree of confidence in navigating the regulatory landscape, hinting at basic familiarity and operational compliance. Nevertheless, challenges persist, especially in terms of the effort required for compliance. The item “Complying with government requirements takes significant time and resources” scored lower at 2.41 ($SD = 0.912$), categorized as “Rarely.” While this may seem favorable on the surface, the wide spread of responses suggests that some MSEs still face significant friction during regulatory processes. This variation points to an inconsistent bureaucratic experience, with some businesses finding procedures manageable, while others struggle with delays, unclear guidelines, or access to assistance—conditions echoed by DTI CALABARZON (2023) and the MSME Development Plan (2023–2028). These findings validate earlier research identifying red tape and policy inconsistency as recurring issues that hinder MSE formalization and growth. The friction described may be exacerbated by limited staffing, lack of automation in local government processes, or underutilized support services. As Hossain et al. (2023) and Wang et al. (2023) have pointed out, regulatory burdens can deter small business owners from pursuing full formalization. Thus, a sustainability framework that promotes simplified procedures, digital transaction systems, and community-level regulatory education could significantly improve the business climate for local enterprises.

Moreover, in the context of social capital, the data reveals a generally low level of social capital among micro and small enterprises (MSEs) in Cainta, Rizal, as reflected by a grand mean of 2.44, corresponding to the “Rarely” interpretation. This indicates that participation in formal networks and inter-business collaboration is not a common practice among most respondents. The notable outlier was the item “The community supports and values my business,” which scored the highest with a mean of 2.93 ($SD = 0.741$), suggesting that while entrepreneurs may not be formally networked, many still perceive informal backing and goodwill from local customers and neighbors. On the other hand, deeper forms of engagement appear underdeveloped. Respondents reported low involvement in organized collaborations, as seen in the score of 2.34 ($SD = 0.847$) for strong ties with fellow business owners. Even more striking was the item on cooperative or association membership, with a mean of just 2.07 ($SD = 0.796$)—the lowest in the set. These figures imply that although some interpersonal trust may exist at the individual or customer level, there is a lack of structured support systems that could provide wider benefits such as information exchange, advocacy, or pooled resources. These results mirror the observations of Paulino et al. (2024), who highlighted the role of trust, leadership, and motivation in building robust social capital within entrepreneurial ecosystems. The respondents’ low scores reflect untapped potential in leveraging such networks for long-term resilience and innovation. Strengthening local associations and fostering business-to-business relationships could significantly improve competitiveness and adaptability among SMEs in Cainta, especially in the face of sustainability challenges.

In terms of Technology adaption, with a grand mean of 2.55, responses fall at the lower end of “Usually,” suggesting that while business owners recognize the value of digital tools, these are not yet fully embedded in their operations. The statement “I use digital tools to manage business operations (e.g., POS, inventory software)” received the lowest mean at 2.17 ($SD = 0.758$), indicating that manual processes still dominate daily transactions. Marketing through digital platforms also appears limited. The item “My business uses social media or online platforms for marketing” garnered a mean of 2.27 ($SD = 0.865$), which also falls under the “Rarely” category. This reflects a missed opportunity in terms of visibility and market

reach, particularly in an era where online engagement is increasingly vital to business growth. Yet, there is a promising counterpoint in the statement “I am willing to adopt new technologies to improve efficiency,” which scored a notably higher mean of 3.21 (SD = 0.595). This suggests that despite current low usage, the openness to digital adoption is already in place among many SME owners. These findings reinforce Hernández Sánchez and Oskam’s (2022) observation that digital transformation is often hindered by insufficient skills and infrastructure. The willingness to embrace technology is evident, but actionable support systems—such as training, funding for tools, and digital onboarding assistance—are necessary to convert that willingness into consistent practice. Bridging this gap will be essential for helping MSEs improve efficiency, remain competitive, and future-proof their operations in an increasingly digital economy.

The data similarly highlight a prevalent sense of vulnerability to natural disasters among micro and small enterprises (MSEs) in Cainta, Rizal. With a grand mean of 3.23, disaster risk is perceived as a consistent concern, reflected in the “Usually” interpretation. The highest-rated item, “I worry about the impact of future natural disasters on my operations” (M = 3.28, SD = 0.577), falls under the “Every time” category, underscoring that disaster-related anxieties are not occasional but rather a persistent part of business owners’ outlook—likely shaped by the town’s repeated exposure to flooding and typhoons. This concern is grounded in experience, as shown by the mean score of 3.22 (SD = 0.639) for the item “My business has been affected by natural disasters.” The data suggest that many MSEs are not only anticipating future disruptions but are also operating within the memory of past ones. Meanwhile, the item on having disaster preparedness or continuity plans (M = 3.19, SD = 0.606) points to some level of adaptive response, yet also reveals gaps in formal resilience planning. Although the score remains within the “Usually” range, it signals a need to strengthen and institutionalize disaster readiness across the sector. These results echo the work of Sharif (2021), who emphasized how disasters—especially in developing economies—can severely disrupt business continuity. The MSEs’ expressed concerns and partial mitigation strategies reflect a shared struggle: balancing day-to-day survival with the looming threat of catastrophic interruption. The data reinforce the need for structured support systems, including disaster risk management programs tailored to small enterprises, which often lack the capacity to recover quickly or prepare comprehensively without external assistance.

Table 4. Summary of overall weighted means and standard deviations of sustainability challenges of the Micro and Small Enterprises in Cainta, Rizal

Variables	Weighted Mean	Standard Deviation	Verbal Interpretation
Access to Capital	3.01	0.788	Usually
1. I have difficulty obtaining financial support from formal institutions.	3.04	0.787	Usually
2. Lack of collateral limits my ability to access loans.	3.10	0.699	Usually
3. I rely primarily on informal lending sources due to limited credit access.	2.88	0.878	Usually
Business Knowledge and Skills	2.81	0.623	Usually
4. I have received formal training in managing a business.	2.24	0.794	Rarely

5. My understanding of budgeting and financial planning is adequate.	3.04	0.579	Usually
6. I continuously update my knowledge about entrepreneurship and business management.	3.16	0.497	Usually
Environmental Concern	3.24	0.528	Usually
16. I actively reduce waste and promote environmentally friendly practices in my business.	3.24	0.501	Usually
17. I am aware of government environmental regulations affecting my business.	3.21	0.54	Usually
18. Environmental sustainability is a priority in my business planning.	3.26	0.544	Every time
Market Competition	3.17	0.731	Usually
7. The competition in my industry is very intense.	3.36	0.7	Every time
8. I often lose customers to other businesses offering similar products/services.	3.11	0.725	Usually
9. I regularly adjust my pricing or promotions due to competition.	3.03	0.767	Usually
Regulatory Compliance	2.67	0.790	Usually
13. It is easy for me to renew my business permits and licenses.	2.81	0.737	Usually
14. I understand the laws and regulations that affect my business.	2.80	0.72	Usually
15. Complying with government requirements takes significant time and resources.	2.41	0.912	Rarely
Social Capital	2.45	0.795	Rarely
22. I have strong relationships with other business owners in my community.	2.34	0.847	Rarely
23. I am a member of a local business association or cooperative.	2.07	0.796	Rarely
24. The community supports and values my business.	2.93	0.741	Usually
Technology Adaptation	2.55	0.739	Usually

10. I use digital tools to manage business operations (e.g., POS, inventory software).	2.17	0.758	Rarely
11. My business uses social media or online platforms for marketing.	2.27	0.865	Rarely
12. I am willing to adopt new technologies to improve efficiency.	3.21	0.595	Usually
Vulnerability to Natural Disasters	3.23	0.607	Usually
19. My business has been affected by natural disasters (e.g., typhoon, flood).	3.22	0.639	Usually
20. I have a disaster preparedness or continuity plan in place.	3.19	0.606	Usually
21. I worry about the impact of future natural disasters on my operations.	3.28	0.577	Every time
Grand Total	2.89	0.700	

Level of Assessment of the Respondents According to Business Discontinuity

SOP 4: What is the level of perceptions of MSE owners in terms of business discontinuity?

Table5 uncovers an unsettling reality: many micro and small enterprises (SMEs) in Cainta, Rizal are caught in a cycle of uncertainty and disruption. With a grand mean of 3.13, interpreted as “Usually,” business discontinuity emerges not as an isolated issue, but a recurring challenge in the entrepreneurial landscape. The standout concern, “Challenges related to capital, market, or regulation have made it hard to sustain my business,” received a mean of 3.32 (SD = 0.601), the highest in the set. This suggests that financial hurdles, competitive pressure, and policy constraints consistently weigh heavily on business owners’ ability to survive and thrive.

What’s striking is not just the structural pressure but also the psychological toll. A notable number of entrepreneurs admitted, “I fear that my business may be forced to close in the near future,” which posted a mean of 3.12 (SD = 0.679), reflecting a shared sense of vulnerability. Adding to this is the revelation that past disruptions are far from rare—“My business has experienced a period of temporary closure in the past three years” had a mean of 2.96 (SD = 0.727). These data points show that the threat of closure is not just theoretical; it’s backed by lived experiences.

These patterns mirror findings by Ali and Ali (2023), who emphasized that financial fragility, natural disasters, and sudden regulatory shifts frequently drive discontinuity in Philippine enterprises. Likewise, Jayasundara et al. (2020) highlighted the role of inadequate financial resources and limited preparedness as major triggers of business instability. In light of these, the results underscore a pressing need for interventions, such as policy reform, inclusive financing, and resilience training, that could help break the cycle of disruption and better secure the future of SMEs in Cainta.

Table5. *Summary of overall weighted means and standard deviations of business discontinuity of the Micro and Small Enterprises in Cainta, Rizal*

Variables	Weighted Mean	Standard Deviation	Verbal Interpretation
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Business Discontinuity	3.13	0.669	Rarely
25. My business has experienced a period of temporary closure in the past three years.	2.96	0.727	Rarely
26. I fear that my business may be forced to close in the near future.	3.12	0.679	Rarely
27. Challenges related to capital, market, or regulation have made it hard to sustain my business.	3.32	0.601	Usually
Grand Total	3.13	0.669	

Significant Relationship between Sustainability Challenges Experienced by MSEs in Cainta, Rizal and Business Discontinuity

SOP 5: Is there a significant relationship between sustainable challenges among Micro and Small Enterprises in Cainta, Rizal and business discontinuity?

Based on the results reflected in Table 23, there is no overall significant relationship between sustainability challenges and business discontinuity among Micro and Small Enterprises (MSEs) in Cainta, Rizal. While two individual factors—Regulatory Compliance ($p = 0.031$) and Social Capital ($p = 0.002$)—show statistically significant relationships with business discontinuity, the majority of the sustainability challenges (6 out of 8) do not show a significant correlation ($p\text{-values} > 0.05$). In conclusion, the null hypothesis (H_0) is generally accepted, meaning that sustainability challenges, as a whole, do not significantly predict business discontinuity in this study.

Table 6. Significant Relationship between Sustainability Challenges Experienced by MSEs in Cainta, Rizal and Business Discontinuity

Sustainability Challenges	r-value	p-value	Decision	Remarks
Access to Capital	0.061	0.385	Accept H_0	Not Significant
Business Knowledge and Skills	-0.103	0.436	Accept H_0	Not Significant
Market Competition	0.102	0.122	Accept H_0	Not Significant
Technology Adaptation	-0.126	0.288	Accept H_0	Not Significant
Regulatory Compliance	-0.094	0.031	Accept H_0	Significant
Environmental Concern	0.004	0.483	Accept H_0	Not Significant
Vulnerability to Natural Disasters	0.040	0.338	Accept H_0	Not Significant
Social Capital	-0.124	0.002	Accept H_0	Significant

SOP 6: Based on the findings, what sustainable business development framework can be proposed to strengthen the long-term viability of MSEs in Cainta?



The proposed Sustainable Business Development Framework (Figure 10), personally developed by the researcher, adopts a honeycomb structure to visually and conceptually organize the key sustainability interventions aligned with selected Sustainable Development Goals (SDGs). The proposed framework places SDG 8: Decent Work and Economic Growth at its core, recognizing that sustainable and inclusive employment is a critical entry point for driving local development among micro and small enterprises (MSEs) in Cainta, Rizal. Surrounding this central goal are six interconnected Sustainable Development Goals—SDG 9 (Industry, Innovation, and Infrastructure), SDG 10 (Reduced Inequalities), SDG 11 (Sustainable Cities and Communities), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), and SDG 17 (Partnerships for the Goals)—each linked through specific enabling strategies.

These enabling strategies include Access to Affordable Financing, which addresses the capital needs of MSEs; Digital Literacy and Technology Adoption, essential for competitiveness in the digital economy; Business Management Training and Mentorship, which strengthens entrepreneurial capacity; Disaster Preparedness and Resilience, which ensures business continuity in hazard-prone areas; Collaboration and Market Diversification, which expands networks and customer reach; and Environmental Sustainability, which promotes resource efficiency and alignment with circular economy principles. The hexagonal layout of the framework makes these relationships visually clear and easy to understand, while emphasizing the interconnected nature of the SDGs and the practical pathways to achieve them.

Compared to global SDG interlinkage frameworks such as those developed by the Institute for Global Environmental Strategies (IGES), which map conceptual relationships among goals, the proposed framework advances further by embedding concrete, context-specific action levers tailored to the realities of local enterprises. Unlike the three-pillar SDG model—which groups goals into economic, social, and environmental clusters without operational guidance—this framework merges all three dimensions into an integrated and implementation-focused tool. Similarly, while the SDG Compass and national-level strategies offer structured guidance for aligning strategies with SDGs, they often operate at a macro scale and require significant localization.

As shown in Figure 10, the proposed framework's main strength lies in its practical applicability. It not only identifies "what" goals are interconnected but also defines "how" they can be pursued, making it directly usable by MSE owners and local policymakers. This bridges the gap between conceptual global models and ground-level action plans, providing a clear roadmap for sustainable business growth and continuity in Cainta's economic landscape.

In light of these distinctions, the proposed framework serves not only as an analytical tool but also as a practical blueprint for policy action and enterprise development in Cainta. Its integration of locally relevant strategies—particularly in disaster resilience, digital adoption, and financing—addresses the most pressing sustainability challenges faced by MSEs. By operationalizing the interconnections between SDG 8 and related goals, the framework provides a clear basis for the study's recommendations in Chapter 5, which focus on strengthening institutional support, enhancing entrepreneurial capacities, and fostering cross-sector partnerships. Ultimately, this approach transforms the global vision of the SDGs into a localized, actionable roadmap that empowers MSEs to achieve sustainable growth while contributing to broader socio-economic and environmental objectives.

Moreover, the honeycomb design is deliberately chosen not only for its aesthetic clarity but also for its symbolic depth. In nature, bees create honeycombs as a product of communal labor, shared responsibility, and efficient resource use. Each cell is hexagonal—an optimal shape for stability, maximum storage, and interconnection. In the same way, the framework reflects that sustainable business development cannot be achieved in isolation; rather, it requires coordinated, interdependent strategies that collectively contribute to long-term growth and resilience. Much like how bees contribute to the health of an ecosystem through collective effort, this framework suggests that business sustainability is rooted in collaboration, systemic planning, and alignment with broader development goals. It embodies a multi-sectoral approach, echoing the principles found in the Philippine MSMED Plan, the ASEAN SME Policy Index, and the targets set forth by the UN SDGs. The honeycomb shape serves as a visual metaphor and organizing principle, capturing the essence of interconnectivity, resilience, and sustainable growth.

Table 7. Summary of Key Findings with Specific Strategies, Expected Outcomes and Responsible Stakeholders to strengthen the long-term viability of MSEs in Cainta

Component	Key Findings Addressed	Specific Strategies	Expected Outcomes	Responsible Stakeholders
Community Support & Social Capital	Low social capital score (2.44); limited engagement in community and networking activities	<ul style="list-style-type: none"> - Facilitate community networking events - Establish local business associations and cooperatives - Promote peer mentoring programs 	<ul style="list-style-type: none"> - Strengthened community ties - Increased collaboration and resource sharing - Enhanced social resilience 	LGU, DTI, Private Sector
Disaster Risk Management & Resilience	Vulnerability to natural disasters (3.23)	<ul style="list-style-type: none"> - Develop localized disaster preparedness and response plans - Set up early warning systems 	<ul style="list-style-type: none"> - Increased preparedness - Quicker response during disasters - Reduced disaster-related losses 	LGU, DRRM Offices, NGOs

Component	Key Findings Addressed	Specific Strategies	Expected Outcomes	Responsible Stakeholders
		- Provide micro-insurance schemes for climate risks		
Environmental Sustainability & Climate Resilience	High environmental concern and eco-friendly practices adoption (3.23)	- Offer green incentives and certifications - Conduct training on resource conservation - Facilitate access to eco-friendly technologies	- Increased adoption of green practices - Enhanced environmental stewardship - Greater resilience to climate risks	LGU, DENR, NGOs, DTI, Environmental Groups
Financial Access & Business Skills Development	Difficulties in accessing capital (3.00) and management knowledge (2.81)	- Expand microfinance and loan facilities tailored for MSEs - Develop and promote accessible training and mentoring programs in business management	- Improved access to affordable financing - Enhanced managerial competence - Increased operational sustainability	Municipal Government, Cooperatives, Microfinance Institutions, Business Associations, Chambers of Commerce
Market Competition & Innovation	High competition and market saturation (3.16)	- Support product innovation and diversification - Enable digital marketing and online platforms - Encourage participation in trade fairs and business expos	- Greater market reach and customer loyalty - Better brand differentiation - Enhanced competitiveness	LGU, DTI, Local Colleges
Regulatory & Administrative Processes	Inconsistent bureaucratic experiences with delays, unclear guidelines, and limited access	- Simplify and streamline business registration procedures - Introduce online and digital platforms for transactions - Conduct stakeholder awareness and training sessions	- Reduced procedural delays - Increased business formalization - Better regulatory compliance	LGU, DTI
Sustainable Business Culture & Planning	Embedding sustainability into business decision-making	- Promote sustainability reporting and certifications - Develop local policies encouraging green growth - Recognize and reward sustainable practices	- Long-term viability - Elevated reputation among consumers and stakeholders - Environmentally responsible business operations	LGU, DTI, Environmental Groups

Based on the findings, a comprehensive and holistic sustainable development framework has been developed guided by the national development plan to strengthen the long-term viability of MSEs in Cainta. This framework effectively address the multiple challenges identified, including financial constraints, technological limitations, environmental vulnerabilities, limited social capital, and regulatory hurdles. To do so, it is essential to implement inclusive financing schemes, microcredit facilities, and government-backed loan programs that reduce barriers to access funding, considering the difficulties many MSEs face in securing formal credit.

Additionally, capacity-building initiatives such as targeted training programs on business management, innovation, technology adoption, and environmental practices can enhance operational efficiency and sustainability awareness, fostering continuous learning among entrepreneurs. Strengthening social capital through the formation of cooperatives, business associations, and networking platforms can facilitate resource sharing, peer support, and collective resilience. Concurrently, promoting environmentally friendly practices and compliance with relevant regulations will mitigate environmental risks and natural disaster vulnerabilities, aligning business operations with sustainability goals. Policy reforms aimed at simplifying bureaucratic procedures and encouraging digital transactions can further reduce regulatory burdens, making support services more accessible. Integrating disaster preparedness and climate resilience strategies into business planning is also crucial, enabling MSMEs to navigate environmental and market disruptions effectively. Lastly, establishing continuous monitoring and feedback mechanisms will allow for the assessment and adaptation of interventions, ensuring relevant and effective strategies over time. Overall, this integrated approach, emphasizing innovation, community engagement, and environmental stewardship, can significantly enhance the sustainability and resilience of MSEs in Cainta, contributing to lasting local development.

SUMMARY OF FINDINGS

1. Relationship Between Personal Profile and Business Discontinuity

The first hypothesis (H1) posited a significant relationship between the personal profile characteristics—specifically sex, age, and educational attainment—of business owners and business discontinuity among MSEs in Cainta, Rizal. Chi-square tests revealed no statistically significant relationships between any of these demographic variables and business discontinuity (p -values > 0.05).

This suggests that, within this sample, factors such as being male or female, belonging to a particular age group, or having varying levels of education do not significantly influence whether a business experiences disruption or closure. Notably, while 63% of respondents were female and most business owners were middle-aged (35–54 years), these personal attributes did not translate into measurable differences in business sustainability outcomes.

This finding aligns with previous research by Jayasundara et al., (2020) which highlights that demographic factors alone are often insufficient to predict business success or failure in micro and small enterprises. Instead, business-related conditions and external challenges may play a more dominant role.

2. Influence of Business Profile on Business Continuity

Hypothesis two (H2) proposed that certain business profile characteristics—namely years in operation, sector, monthly total assets, and employee size—correlate positively with business continuity.

Correlation analyses demonstrated that longer years in operation and higher estimated monthly total assets are significantly associated with reduced business discontinuity (Spearman's $\rho = -0.155$, $p = 0.004$ and -0.136 , $p = 0.012$, respectively). This indicates that businesses that have been operating longer and have accumulated more assets tend to be more resilient and better able to sustain operations. However,

the number of employees and business sector showed no significant relationships with business continuity at the 0.05 significance level.

These results reinforce the principle that longevity and financial strength are key indicators of business resilience in MSEs. New or under-capitalized businesses, especially microenterprises employing fewer than 10 people (accounting for 97.9% of the sample), are particularly vulnerable to discontinuity, reflecting common entrepreneurial challenges in emerging economies.

3. Impact of Sustainability Challenges on Business Discontinuity

The third hypothesis (H3) explored whether sustainability challenges faced by MSEs in Cainta significantly relate to business discontinuity. Point-biserial correlation tests showed that regulatory compliance difficulties ($p = 0.031$) and social capital limitations ($p = 0.002$) have significant correlations with business discontinuity, whereas other factors—including access to capital, business knowledge and skills, market competition, technology adoption, environmental concerns, and vulnerability to natural disasters—did not show statistically significant relationships.

The prominent role of regulatory compliance challenges suggests that bureaucratic complexity and the resource demands of government requirements hamper business sustainability. Simplification of permit processing and support for navigating regulatory environments may thus be critical reform areas. The significant effect of social capital also highlights the importance of community networks, cooperation, and support systems for business survival, consistent with findings by Paulino et al. (2024) on the value of social capital in strengthening entrepreneurial ecosystems.

Although environmental concerns and vulnerability to natural disasters scored highly in perceived challenge ratings (mean ~ 3.23 , "Usually"), they did not significantly correlate with discontinuity outcomes statistically. This may suggest that while these are recognized challenges, MSEs may either have coping mechanisms or that their impacts are not yet pronounced enough to directly trigger business closures within the sample period.

4. Integrative Insights and Implications

Overall, these findings illustrate a multi-dimensional picture of business sustainability among MSEs in Cainta:

- Demographic factors such as owner sex, age, and education appear less influential on business survival compared to firm-specific and contextual variables.
- Business longevity and asset accumulation are protective factors enhancing continuity, signaling the need for policies that support early-stage and asset-poor enterprises.
- Regulatory and social frameworks emerge as significant barriers and enablers, respectively, suggesting that policy reforms and community-building interventions could substantially improve MSE resilience.
- Given that the majority of enterprises are micro-scale, youthfully aged (mostly less than 4 years), and financially constrained, targeted interventions fostering capital access, simplifying regulatory compliance, encouraging social networks, and promoting adaptive capacities would be crucial.

5. Limitations and Recommendations for Future Research

While the study benefits from rich primary data and robust statistical testing, its cross-sectional design limits inferences regarding causality. Future studies could utilize longitudinal designs to track

business trajectories over time and better capture dynamic effects of demographics and sustainability challenges.

Additionally, qualitative inquiry exploring how MSE owners perceive and navigate regulatory barriers and social capital could provide deeper contextual understanding beyond statistical associations.

Overall findings, the entrepreneurial ecosystem in Cainta is predominantly characterized by micro enterprises, with the majority operated by female entrepreneurs, accounting for approximately 63% of the sample, primarily within the 35 to 44-year age bracket. This demographic suggests a relatively young and dynamic group of business owners who are mostly in the initial to intermediate phases of their enterprise lifecycle, with most ventures having been established for less than five years. Educational attainment among these entrepreneurs is notably mixed; nearly half have completed secondary education, while a substantial subset has pursued higher education at the collegiate level. This diversity in educational background potentially influences business practices and receptiveness to development opportunities.

Operationally, these enterprises are concentrated in key sectors such as retail trade, food and beverage services, manufacturing, and various service industries. The workforce composition is predominantly small-scale, with most businesses employing fewer than ten staff members, reflecting the micro-sized nature of these ventures. Geographically, entrepreneurial activities are not uniformly distributed but tend to cluster in specific barangays, including San Juan and San Andres, suggesting the emergence of localized entrepreneurial hubs within the municipality.

Despite their vital economic contribution, these micro and small enterprises (MSEs) encounter a range of persistent sustainability challenges. Market competition is particularly intense, placing constant pressure on these enterprises to remain viable and innovative. Additionally, environmental hazards, notably vulnerability to natural disasters such as typhoons and flooding, present significant operational disruptions that threaten continuity and resilience. While entrepreneurs demonstrate a generally positive disposition towards the adoption of technological innovations and digital tools, actual utilization is constrained by critical barriers including deficient technical skills and inadequate infrastructure. This gap between attitude and practice highlights an urgent need for interventions to bolster digital literacy and technological capacity.

Furthermore, the scarcity of formalized business management training among entrepreneurs accentuates a notable skills deficit; most proprietors rely heavily on informal, experiential learning. This lack of structured capacity-building poses risks to the sustainability and scalability of their operations. Concurrently, although there is an expressed awareness of environmental sustainability principles and regulatory compliance requirements, the degree of practical implementation of eco-friendly business practices varies considerably, suggesting uneven integration of sustainability measures across enterprises.

CONCLUSIONS

Micro and small enterprises in Cainta undeniably serve as key drivers of local economic activity, delivering essential goods and services and contributing to employment generation and livelihood sustenance. However, their long-term sustainability is compromised by multifaceted challenges that span environmental, economic, and managerial domains. The pervasive threat of natural disasters disrupts operational continuity, while aggressive market competition further exacerbates survival pressures. The limited adoption of digital technologies—despite positive attitudes toward innovation—reflects systemic constraints stemming from inadequate technical skills, insufficient capital, and suboptimal infrastructural support.

Moreover, the preponderance of relatively young entrepreneurs constitutes a dual-edged phenomenon: it presents significant opportunities for the infusion of innovative ideas and adaptive practices, yet it simultaneously underscores the pressing need for focused capacity-building initiatives to enhance managerial competence, strategic business skills, and resilience to external shocks. The evident gaps in formal training and technical know-how highlight a critical vulnerability that, if unaddressed, may impede the growth trajectories of these enterprises.

Collectively, the data demonstrate that to strengthen the sustainability and competitiveness of MSEs within this region, comprehensive efforts must be undertaken to address these financial, technical, and environmental challenges. Enhancing resilience through capacity building, improved access to resources and financing, as well as fostering a culture of innovation and sustainability, are imperative for advancing local entrepreneurship in a sustainable and inclusive manner.

RECOMMENDATIONS

In response to the identified challenges and to foster an enabling environment for micro and small enterprises in Cainta, Rizal, a multi-pronged set of recommendations guided by the national level principle tailored in a localized context which targeting local government units, development agencies, and relevant stakeholders:

- **Enhancement of Disaster Preparedness and Resilience:** A concerted effort should be directed towards the design and implementation of community-centric disaster preparedness programs. Such initiatives may include comprehensive training on risk mitigation, establishment of localized early warning systems, and the promotion of business continuity planning. Integrating micro-insurance schemes tailored for climate risks can further buffer enterprises from financial shocks induced by natural calamities.
- **Promotion of Digital Literacy and Technological Adoption:** Given the demonstrated gap between positive attitudes and practical digital usage, interventions should focus on expanding affordable access to digital technologies and infrastructure. Comprehensive capacity-building programs aimed at enhancing digital literacy and technical skills will empower entrepreneurs to leverage available technologies for marketing, operations, and financial management, thus enhancing competitiveness and market reach.
- **Expansion of Formal Business Management Training and Mentorship:** To address identified skill gaps, it is crucial to facilitate accessible and context-specific training in business management, financial literacy, and strategic planning. Structured mentorship schemes involving experienced entrepreneurs and industry experts can provide personalized guidance, fostering improved decision-making and operational efficiency.
- **Facilitation of Access to Financing:** Recognizing difficulties in capital acquisition, particularly among micro entrepreneurs, it is recommended to develop and promote financing schemes that are affordable, flexible, and do not impose onerous collateral requirements. Strengthening partnerships with microfinance institutions and introducing simplified loan processing mechanisms will enable enterprises to secure necessary funding for expansion, innovation, and technology upgrades.
- **Encouragement of Collaboration and Market Diversification:** To mitigate intense competition and saturation in traditional markets, fostering collaborative networks through business associations and cooperatives can enable resource pooling, knowledge sharing, and collective bargaining. Additionally, promoting product and service diversification along with participation in trade fairs and business expos can enhance market penetration, brand visibility, and customer loyalty.
- **Strengthening Environmental Sustainability Practices:** Building on the existing awareness of eco-friendly practices, local policies should incentivize sustainable business operations through certifications, awards, and technical assistance. Programs focused on resource conservation and adoption of greener technologies will enhance environmental stewardship while potentially unlocking new market opportunities linked to sustainability.

Implementing these integrated interventions will contribute significantly to developing a robust entrepreneurial ecosystem in Cainta, capable of supporting resilient, innovative, and sustainable micro and small enterprises. Such progress will not only bolster individual business success but will also catalyze inclusive economic growth and community development within the municipality.

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