

Research Article

Entrepreneurial Characteristics and Development Capacity of Food MSMEs in Semarang City

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Abstract: Food MSMEs play a strategic role in the local economy by sustaining household entrepreneurship, creating jobs, and supporting regional economic continuity. This study analyzes the entrepreneurial characteristics and business development capacity of food MSMEs in Semarang City based on owner gender, age, education, business form, business age, employment size, and geographic distribution. Using a descriptive quantitative approach, the study draws on secondary data from 3,506 business units. The data were analyzed using descriptive statistics, cross-tabulation, and chi-square tests. The findings show that most businesses are owned by women, operate as sole proprietorships, and employ only 0-1 workers. The average owner age is 49.96 years, while the average business has operated for 11.61 years. Statistically significant but weak associations were found between owner gender and employment size, owner education and employment size, and owner education and business duration. The study concludes that Semarang's food MSME ecosystem is supported largely by mature household-based microenterprises but still faces limitations in scaling labor capacity.

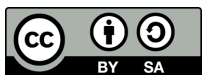
Keywords: Business Development Capacity; Entrepreneurial Characteristics; Food MSMEs Gender; Microenterprises; Semarang City.

1. Introduction

MSMEs are the backbone of Indonesia's economy because they contribute to job creation, strengthen local economies, and support household resilience (Hapsari & Kholis, 2020). Recent studies in SINTA- indexed journals show that MSME performance is shaped not only by access to finance or market conditions, but also by managerial capability, human capital, entrepreneurial orientation, financial literacy, digitalization, innovation, and business resilience (R. Ratnawati et al., 2021; Purnamawati et al., 2022; Rokhman et al., 2023; Hanum et al., 2024; Felliciali et al., 2024; Manalu & Adzimatinur, 2024; Zainurrafiqi & Gazali, 2024; Sentoso et al., 2024; Isaskar et al., 2025; Listiani & Alliyah, 2026). In the context of micro-scale food businesses, these factors become even more critical because the sector typically grows out of family-based economic activity, operates on a small scale, and depends heavily on the owner as the primary decision maker.

The growth of women's entrepreneurship in Indonesia has also strongly shaped MSME dynamics, especially in the culinary subsector and home-based businesses. Prastiwi et al. (2025) show that women's entrepreneurial motivation can improve MSME performance through stronger human resource competence and an entrepreneurial mindset. In line with this, Purnamawati et al. (2022) argue that entrepreneurial bricolage can strengthen the capabilities of women entrepreneurs, while Padmawidjaja et al. (2025) show that gender remains relevant when linked to innovation and digital marketing. These findings suggest that the gender structure of business owners needs to be mapped empirically in order to design more targeted support programs.

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Beyond gender, the owner's level of education and business characteristics are also relevant for understanding MSME growth potential. Ramdani & Sujana (2024) found that education, motivation, business capital, and entrepreneurial characteristics significantly affect the performance of culinary MSMEs. Similar findings are reported by Suantari & Werastuti (2024), G. Dewi & Canberra (2025), Sihombing & Masdiantini, (2025), and Thoyibah & Yuniarta (2023), who identify business characteristics, financial literacy, the use of accounting information, technology, and internal resources as important determinants of MSME performance. In this sense, business owner profile data are not merely administrative records; they can serve as an initial diagnostic basis for policy intervention and further research.

The problem addressed in this study is the limited availability of large-scale empirical mapping of entrepreneurial characteristics and development capacity among food MSMEs in Semarang City. Most previous studies have focused on causal analysis of business performance, while fewer studies have examined the basic structure of the business population as a foundation for development diagnosis. Accordingly, this study seeks to provide a comprehensive picture of owner profiles, business structure, and early indicators of development capacity among micro-scale food enterprises in Semarang City.

Research objectives of this study are to analyze the entrepreneurial characteristics of food MSMEs in Semarang City based on owner gender, age, and education; to analyze business development capacity based on business form, business duration, employment size, and geographic distribution; and to test the association between owner characteristics and business development capacity indicators as a basis for formulating strategies to strengthen food MSMEs.

2. Literature Review

Food microenterprises and the local economy

Food MSMEs make a strategic contribution to local economic circulation because they create employment opportunities, meet community consumption needs, and support household income. At the micro level, business sustainability is strongly shaped by the owner's internal resources, ability to read the market, and capacity to adapt to changes in the business environment. A number of SINTA-indexed studies show that managerial capability, human capital, competence, financial literacy, innovation, and digitalization are positively related to MSME performance and business sustainability (R. Ratnawati et al., 2021; Rokhman et al., 2023; Suryanto et al., 2024; Sentoso et al., 2024; Isaskar et al., 2025; Heliani & Supriandi, 2025; Listiani & Alliyah, 2026).

Gender in micro-entrepreneurship

Women's involvement in the MSME sector is not merely a social phenomenon; it is also a tangible economic force. Prastiwi et al. (2025) show that the entrepreneurial motivation of women can improve MSME performance when supported by HR competence and an entrepreneurial mindset. Purnamawati et al. (2022) likewise emphasize that entrepreneurial bricolage strengthens the capabilities of women entrepreneurs in dealing with resource constraints, while Padmawidjaja et al. (2025) show that gender remains an important variable when linked to entrepreneurial marketing, digital marketing, and innovation capability. Therefore, the dominance of women in microenterprises should be understood as a local economic asset that requires gender-sensitive policy support (Rahayuni & Purnamawati, 2022; K. Ratnawati et al., 2024).

Owner education and business scale

The education level of business owners is often viewed as a form of human capital associated with learning capacity, decision making, and business development. Ramdani & Sujana (2024) found that education level has a significant effect on the performance of culinary MSMEs. At the same time, Rokhman et al. (2023), Felliciali et al. (2024), and G. Dewi & Canberra (2025) show that knowledge quality, managerial behavior, and the ability to manage business information are factors that strengthen business performance. In the context of micro food businesses, owner education can therefore be used as an initial proxy for assessing business management readiness and the ability to absorb innovation (Ulaningsih & Suwena, 2024; Tahar & Sutopo, 2024; Sutrisno & Nainggolan, 2025).

Business characteristics and performance

Business characteristics such as business duration, business form, number of workers, and technological resources are often used as indicators of business maturity and operational capacity. Suantari & Werastuti (2024) show that business characteristics, financial aspects, technology capital, and innovation capital positively affect MSME performance. Related findings also come from Thoyibah & Yuniarta (2023), Antara, H. K., & Diatmika (2022), Lestari (2022), Sihombing & Masdiantini (2025) and Stanley & Kohardinata, (2025), who emphasize that business recordkeeping, access to technology, financial behavior, and access to financing can differentiate the ability of MSMEs to survive and grow. In this context, mapping the characteristics of micro-scale food businesses in Semarang is important for understanding both their level of maturity and their growth constraints (Indriastuti et al., 2025; Kaniawati et al., 2024; Kumala et al., 2024; Kusbandiyah et al., 2025).

3. Research Method

This study uses a descriptive quantitative approach. The data source is a secondary dataset from the profiling of 3,506 micro-scale food businesses in Semarang City. The unit of analysis is the business owner or manager.

The variables analyzed include owner gender, owner age, owner education, business form, year the business started, business duration, number of workers, and subdistrict business location. To improve readability, derived variables were created in the form of age groups, business duration groups, and employment groups.

During data cleaning, illogical values in the age and business start year variables were flagged and excluded from analysis for the related variables. After cleaning, 3,499 valid observations remained for the business start year variable and 3,501 valid observations remained for the age variable. The analysis employed descriptive statistics, cross-tabulation, and chi-square tests. The magnitude of associations was interpreted using Cramer's V to assess the strength of relationships across categories.

4. Results and Discussion

Profile of Business Owners

Out of 3,506 businesses, women own 2,711 businesses, or 77.32 percent, while men own 795 businesses, or 22.68 percent. This dominance of women shows that micro-scale food businesses in Semarang City are strongly supported by household entrepreneurship. This finding is consistent with studies that position women as key actors in MSME sustainability and performance (Prastiwi et al., 2025; Purnamawati et al., 2022).

By age group, most owners are between 46 and 55 years old (35.76%), followed by those aged 56 years and above (31.13%), those aged 36-45 years (22.71%), and those aged 35 years and below (10.40%). The average owner age is 49.96 years. This suggests that most business actors are not novice entrepreneurs, but rather mature business owners who have been active in economic activity for a considerable period.

In terms of education, most business owners completed senior high school (51.88%), followed by a bachelor's degree (13.63%) and junior high school (11.52%). This composition indicates that the micro food business sector is primarily driven by owners with a secondary education background. This is important because education is often associated with the ability to manage a business and absorb innovation (Ramdani & Sujana, 2024; Rokhman et al., 2023).

Table 1. Profile of micro-scale food business owners.

Category	n	%
Gender		
Women	2711	77.32
Men	795	22.68
Age group		
<=35	364	10.4
36-45	795	22.71
46-55	1252	35.76
>=56	1090	31.13
Education		

No formal schooling	296	8.44
Elementary school	197	5.62
Junior high school	404	11.52
Senior high school	1819	51.88
Vocational high school	23	0.66
Diploma	273	7.79
Bachelor's degree	478	13.63
Master's degree	16	0.46

Note. The first block presents gender, the second presents age group, and the third presents owner education. Source: processed data, 2026.

Business Characteristics

Almost all businesses in the dataset operate as sole proprietorships, totaling 3,502 units or 99.89 percent. This shows that the micro-scale food sector in Semarang City is highly individual in nature and closely tied to household business patterns. In terms of business duration, the largest group consists of businesses that have been operating for 6-10 years (45.67%), followed by businesses operating for more than 10 years (42.27%). The average business duration is 11.61 years. This indicates that most of the observed businesses are relatively mature and have been able to survive over the medium to long term.

Despite this relative maturity, their business scale remains limited. A total of 53.57 percent of businesses employ only 0-1 workers, 42.87 percent employ 2-4 workers, and only 3.57 percent employ 5 or more workers. This pattern points to a condition of survival without scaling: businesses are able to endure for a long time, but have not expanded significantly in terms of labor absorption. This pattern is consistent with the literature emphasizing the importance of business characteristics and the quality of internal resources in MSME growth (R. Ratnawati et al., 2021; Suantari & Werastuti, 2024).

Table 2. Business characteristics.

Category	n	%
Business form		
Sole proprietorship	3502	99.89
Legal entity	4	0.11
Business duration		
<=2 years	22	0.63
3-5 years	400	11.43
6-10 years	1598	45.67
>10 years	1479	42.27
Employment group		
0-1 workers	1878	53.57
2-4 workers	1503	42.87
>=5 workers	125	3.57

Note. The first block presents business form, the second presents business duration, and the third presents employment group. Source: processed data, 2026.

Distribution of Businesses by District

The geographic distribution of businesses shows the highest concentration in Tembalang District (12.86%), followed by Banyumanik (11.12%), Pedurungan (11.12%), and North Semarang (10.44%). This concentration indicates that micro-scale food businesses grow strongly in areas with dense residential settlement and high levels of economic activity. This spatial information is important for setting area-based development priorities, facilitating clusters, and planning institutional interventions.

Table 3. Eight districts with the largest number of businesses.

District	n	%
Tembalang	451	12.86
Banyumanik	390	11.12
Pedurungan	390	11.12
North Semarang	366	10.44
Central Semarang	252	7.19
Candisari	226	6.45
West Semarang	210	5.99
South Semarang	198	5.65

Note. Source: processed data, 2026.

Association Tests

The chi-square test results show significant relationships between owner gender and employment group, owner education and employment group, and owner education and business duration. However, all of these significant relationships are weak to very weak in strength. Meanwhile, owner age does not show a significant relationship with employment group.

These findings suggest that owner education is more consistently associated with differences in business structure than owner age. In other words, education can be viewed as a proxy for business management capacity and readiness to expand business scale. This result is consistent with findings from Ramdani & Sujana, (2024), R. Ratnawati et al. (2021), Rokhman et al. (2023), Suantari & Werastuti (2024), G. Dewi & Canberra (2025), and Sihombing & Masdiantini (2025), all of whom identify education, managerial capability, human capital, financial literacy, and business characteristics as relevant factors in MSME performance.

Table 4. Summary of chi-square test results.

Association	N	Chi-square	df	p	Cramer's V	Interpretation
Gender x employment size	3506	51.684	2	<0.001	0.121	Significant; weak
Education x employment size	3506	30.642	14	0.006	0.066	Significant; very weak
Education x business duration	3499	197.921	21	<0.001	0.137	Significant; weak
Age x employment size	3501	5.484	6	0.483	0.028	Not significant; very weak

Note. Source: processed data, 2026.

5. Comparison with Prior Studies

The Dominance of Women Entrepreneurs in Food MSMEs

The most striking finding of this study is the dominance of women as owners of micro-scale food businesses. This shows that food MSMEs in Semarang City function not only as small economic units, but also as spaces of household entrepreneurship that are largely driven by women. From a management and entrepreneurship perspective, this pattern matters because it indicates that strengthening local food businesses must pay attention to the capacities of women entrepreneurs, especially in decision making, business management, and the confidence to scale up. This finding aligns with the studies of Purnamawati et al. (2022), Prastiwi et al. (2025), and Padmawidjaja et al. (2025), which emphasize that the capability, mindset, and competence of women entrepreneurs are linked to stronger MSME performance.

Owner Education and Business Development Capacity

The educational structure of business owners is dominated by senior high school graduates, with a smaller share holding university degrees. This composition indicates that the micro food business sector is mainly driven by entrepreneurs with a secondary education background. However, the association tests show that education has a significant relationship with both employment group and business duration. This means that education remains relevant as a form of human capital connected to learning capacity, business management ability, and readiness to gradually expand a business. This finding is consistent with studies by Ramdani & Sujana (2024), Lestari (2022), Suantari & Werastuti (2024), and N. Dewi & Suwendra (2025), which show that education, entrepreneurial characteristics, and business management capability are related to MSME performance and success.

Employment Scale and the Survival-without-Scaling Phenomenon

Most businesses in the dataset employ only 0-1 workers. This confirms that the population under study is genuinely situated at the microenterprise level, with limited operational capacity. From a business development perspective, this means that many enterprises still rely on the labor of the owner and family members, leaving little room for production expansion, division of labor, or professionalization. For that reason, strategies to strengthen food MSMEs should not focus only on legality or marketing, but also on bookkeeping, productivity improvement, adoption of simple technologies, and expanded access to financing. This is in line with the findings of Thoyibah & Yuniarta (2023),

Zainurrafiqi & Gazali (2024), Heliani & Supriandi (2025), and Listiani & Alliyah (2026), which place technology, supply chains, and internal capacity at the center of MSME sustainability. The average business duration of more than eleven years shows that most business units have a fairly strong capacity to endure in the face of local market dynamics. However, this resilience has not automatically been followed by meaningful business expansion, since most businesses still remain at a low level of employment absorption. This pattern points to a survival-without-scaling phenomenon: businesses are able to survive for a long time, but have not developed strongly in terms of organizational capacity or labor growth. In the context of MSME management, this result shows that business continuity is not necessarily the same as business development. For long-standing businesses to move up a level, more targeted interventions are needed in product innovation, market orientation, digital payment use, and gradual business transformation, as highlighted by (Hanum et al., 2024; Manalu & Adzimatinur, 2024; N. Dewi & Suwendra, 2025; Melkianus & Dharmayasa, 2025).

Overall, the present study positions food MSMEs in Semarang City as a microenterprise ecosystem dominated by women, rooted in sole ownership, relatively mature in terms of business age, yet still constrained in expansion capacity. In that sense, the study extends prior work by offering a population-level empirical mapping of owner profiles and business structure as a basis for targeted local development strategies.

6. Conclusions

This study shows that food MSMEs in Semarang City are dominated by women owners, are largely managed by individuals, and are mostly operated by people with a secondary education background. Most of these businesses have been running for a relatively long time, yet the majority still operate at a low level of labor absorption. These findings indicate that the local food business ecosystem has fairly strong resilience, but its capacity for business development remains limited. Statistically, owner education is more consistently associated with business characteristics than owner age. This suggests that efforts to strengthen food MSMEs are better directed toward managerial capacity building, practical entrepreneurship learning, business recordkeeping, and support for scaling that is sensitive to gender context. In this way, the article affirms that entrepreneurial characteristics can be used as a basis for understanding the development capacity of food MSMEs at the local level. Managerial implications of this study include the need for training and support programs for food MSMEs to be designed in a more gender-sensitive manner because most business owners are women operating at the household microenterprise scale; business mentoring should focus on strengthening managerial capacity, business recordkeeping, simple innovation, digital payment use, and strategies for workforce development; districts with high business concentration, such as Tembalang, Banyumanik, Pedurungan, and North Semarang, can be prioritized as bases for clustering programs, market facilitation, and food business incubation; and local governments, universities, and MSME facilitators can use the findings of this mapping to design more segmented interventions based on owner profiles and business capacity levels.

This study remains descriptive in nature and relies on variables available in administrative data. As a result, it does not yet measure variables such as turnover, profit, innovation, access to financing, legality, or business digitalization in greater detail. Therefore, the article is stronger as an empirical mapping study than as a full causal model. Future studies can develop regression, SEM, or PLS models by incorporating performance variables, business behavior, marketing strategies, and technology adoption in order to produce stronger explanatory power.

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Data Availability Statement: The dataset analyzed in this study was derived from secondary profiling data on food MSMEs in Semarang City. Data are available from the corresponding author upon reasonable request, subject to administrative and privacy considerations.

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Conflicts of Interest: The authors declare no conflict of interest.

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