

The Impact Of Digital Technopreneur Orientation On Business Resilience And Its Implications For Women's Empowerment In West Java Smes

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Abstract

This study aims to examine the effect of the integration of technology orientation and entrepreneurial orientation, mediated by digital technology self-efficacy, on business resilience, as well as its implications for women's empowerment with financial literacy as a moderating variable. An explanatory quantitative design was employed, using structural model analysis with the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. Data were collected through an online questionnaire (Google Form). The study population comprised 1,833 female entrepreneurs who own Micro and Small Industry (IMK) units in the food industry subsector, and a total of 412 respondents were selected using proportionate allocation sampling, drawn from five cities/regencies in West Java, namely Tasikmalaya City, Sukabumi City, Garut Regency, Bogor City, and Bandung City. The findings indicate that enhancing business resilience cannot be achieved solely by relying on technology orientation; rather, it requires its integration with entrepreneurial orientation through the mediating role of digital technology self-efficacy. Stronger business resilience, in turn, exerts a positive effect on women's empowerment, and this relationship becomes more pronounced when supported by a high level of financial literacy as a moderating variable. Furthermore, the results suggest that strengthening business resilience among female entrepreneurs can be achieved by enhancing resources and strategies grounded in technology orientation, which are integrated with entrepreneurial orientation through the mediating role of digital technology self-efficacy as a key capability for the strategic use of digital technologies. The resulting business resilience subsequently contributes to higher levels of women's empowerment, with this effect becoming more pronounced when supported by a high level of financial literacy. Practically, these results underscore the importance of training programs and an integrated digital ecosystem to reinforce technology orientation, entrepreneurial orientation, digital technology self-efficacy, and financial literacy, while simultaneously fostering a collaborative ecosystem and sustainable interventions that focus on long-term business resilience and women's empowerment...

Keywords: Technology Orientation, Entrepreneurial Orientation, Digital Technology Self-Efficacy, Business Resilience, Financial Literacy, and Women's Empowerment..

Introduction

Micro and Small Industries (MSIs) are a strategic sector in the Indonesian economy. Based on data from the Central Statistics Agency (BPS, 2025), in 2023 there were more than 4.5 million MSI business units spread across Indonesia. This figure reflects the dominance of MSIs, accounting for more than 95% of all national business units, playing a central role as one of the foundations of the national economy and contributing to Gross Domestic Product (GDP) (Arta, Trisnawati, Budhi, & Suasih, 2024). MSIs play an important role in creating wealth and opportunities for income distribution, generating employment, encouraging balanced regional economic development, improving the standard of living of surrounding communities, expanding businesses into international markets through exports, increasing per capita income, and meeting market needs and demands by creating new, more creative and innovative businesses (Mukhlis et al., 2025).

The distribution of MSI businesses in Indonesia is concentrated on Java Island, which accounts for more than 62% of the total national MSI units. Among the provinces on Java Island, West Java ranks as one of the provinces with the largest number of MSI businesses, recording 641,639 units in 2023. West Java has consistently made a significant contribution to the national economy, contributing approximately 12–13% to national Gross Domestic Product (GDP) annually during the period 2017–2022. In 2023, West Java's contribution reached 13.52% of

national GDP and 22.41% of Java Island's GDP. This highlights the central role of West Java in both the national and regional economic structure.

The large number of MSI businesses in West Java underscores the role of MSIs as the backbone of the regional economy, both in terms of creating economic value added at the local and national levels and absorbing a significant workforce (Nurjanah & Muslihat, 2024), thereby reducing unemployment rates (Kuswardani et al., 2024) and alleviating poverty (Rizkiyah & Nidar, 2022). The West Java provincial government, through decentralization policies, continues to promote the development of MSIs based on local potential. These efforts aim to strengthen the regional economic structure, enhance competitiveness, and ensure a more equitable distribution of economic benefits across the province (Rahmad et al., 2023).

Despite their important economic role, MSI businesses in West Java face challenges related to business resilience, as reflected in the instability of business growth from year to year. These fluctuations occur due to the dynamics of new business entries (increases) and the exit of businesses that are unable to survive (business mortality). This condition indicates instability in the number of active business units, influenced by various internal and external factors. Changes in the number of businesses that are not constant over a certain period serve as a key indicator of business resilience challenges within this sector (Tang & Zhang, 2022). Data on fluctuations in the number of businesses is presented in Figure 1.1.



Figure 1.1 Fluctuation Graph of the Number of Micro and Small Industry (MSI) Businesses in West Java, 2019–2023

Figure 1.1 shows fluctuations indicating that during the period 2019–2020, the number of MSI businesses in West Java decreased by 3,654 units. In the period 2020–2021, the number declined again by 3,718 units. Subsequently, during the period 2021–2022, there was a fairly significant increase of 45,571 units; however, in the period 2022–2023, the number decreased again by 26,157 units.

In addition to fluctuations in the overall number of MSI businesses, there is a downward trend in the number of businesses in the Food Industry subsector in West Java during the period 2020–2023. Each year, the number of MSI business units in the Food Industry subsector continues to decline, as illustrated in Figure 1.2.

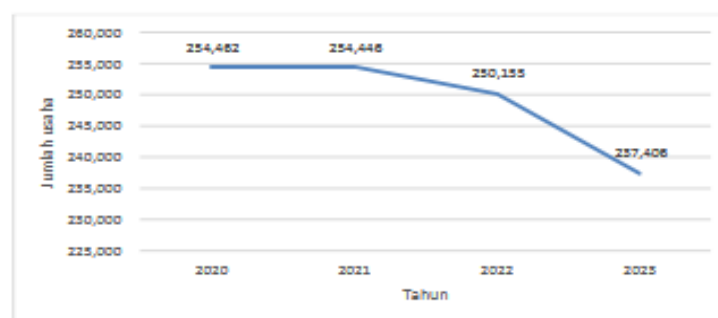


Figure 1.2 Declining Trend of the Number of Micro and Small Industry (MSI) Businesses in the Food Industry Subsector in West Java, 2020–2023
Source: West Java Industry Profile (2022–2025)

Figure 1.2 shows that the number of MSI businesses in the Food Industry subsector decreased by 16 units during the period 2020–2021, then declined significantly by 4,291 units in the period 2021–2022, and decreased again by 12,749 units in the period 2022–2023.

The following presents the percentage growth of MSI businesses in the Food Industry subsector in West Java, as shown in Figure 1.3.

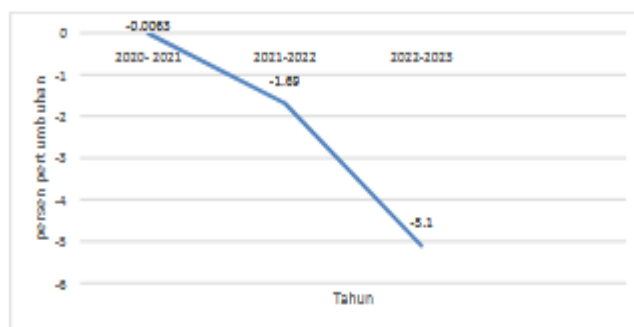


Figure 1.3 Trend of Declining Number of Micro and Small Industry (MSI) Businesses in the Food Industry Subsector in West Java, 2020–2023

Source: Processed data, 2025

Figure 1.3 shows the growth trend in percentage terms; during the period 2020–2021, the growth trend was negative at -0.0063%, in the period 2021–2022 it remained negative at -1.69%, and in the period 2022–2023 the negative trend was the sharpest at -5.1%.

The continued decline in the Food Industry subsector indicates serious challenges faced by business actors, including market demand, competition, and adaptation to changes in the business environment. This situation underscores the urgency of strengthening business resilience, ensuring that enterprises can survive and grow amid increasingly competitive market dynamics.

Fluctuations in the number of MSI businesses in the Food Industry subsector have occurred across all cities/regencies in West Java in recent years. These fluctuations are dynamic; some regions experience growth while others face decline, depending on economic conditions, local policies, innovation, and the competitiveness of business actors in each area (Opendata.jabarpov.go.id; BPS West Java, 2024).

For example, the fluctuation in the growth of MSI businesses in the Food Industry subsector occurred in five cities/regencies in West Java: Tasikmalaya City, Garut Regency, Sukabumi City, Bogor City, and Bandung City. These five cities/regencies sufficiently represent the Food Industry subsector in West Java and will be the survey locations presented in Figure 1.4.

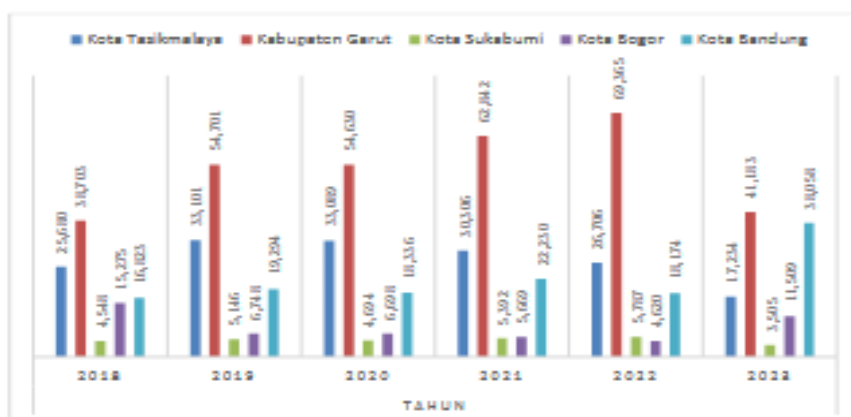


Figure 1.4 Fluctuations in the Number of Micro and Small Industry (MSI) Business Units in the Food Industry Subsector in Five Cities/Regencies of West Java, 2018–2023

Source: Processed data, 2025. From BPS data, 2020–2025.

Figure 1.4 shows the fluctuations in the number of MSI businesses as follows:

Bogor City and Bandung City experienced a significant surge during the period 2022–2023 after a decline in the previous period.

Tasikmalaya City, Garut Regency, and Sukabumi City tended to show a sharp decrease in the period 2022–2023. Garut Regency experienced stable growth but saw a decline in 2023.

The fluctuation pattern of MSI business units in the Food Industry subsector across the five cities/regencies of West Java during 2018–2023 reflects external dynamics, regional policies, and the adaptability of business actors in each area.

Behind the significant contribution of the Micro and Small Industry (MSI) sector to the regional economy, women entrepreneurs play a vital role in maintaining the sustainability and competitiveness of this sector. BPS data from 2024 shows that 70.26% of MSI businesses in Indonesia, including in West Java, are led by women. Approximately 44.75% of MSI businesses are sole proprietorships, and among them, 70.53% are managed by women.

This study further focuses on women entrepreneurs, specifically female business actors who possess characteristics of entrepreneurial orientation, which form the basis of discussion as established in the theoretical framework and will be examined through empirical evaluation in this research. This highlights the dominance of women in the ownership and management of Micro and Small Industry (MSI) businesses, particularly those operated independently. The flexibility of the MSI sector allows women to run businesses while fulfilling domestic roles. The Stellar Women BSG Survey (2023) notes that the Food Industry is the most prevalent subsector among women entrepreneurs, thereby reinforcing the relevance of research in this subsector.

The role of women in the MSI business ecosystem goes beyond numerical dominance; it also positively impacts the distribution of economic benefits in a more inclusive manner (Choudhary, 2024). Women entrepreneurs contribute significantly to sustainable economic growth by creating household-level employment, often involving vulnerable groups, with the resulting economic impact extending to the broader community. This aligns with the sustainable development agenda regarding gender equality and poverty reduction (Awalia et al., 2025).

Consistent with national-level aggregate data, provincial-level data from West Java shows a similar reality. Administrative data from the West Java Provincial Office of Cooperatives and SMEs (DISKOPUMKM) in 2023 provides specific numbers and distribution of women MSI entrepreneurs covered by regional government programs. There are 7,446 women entrepreneurs in the MSI subsector of Industry. The Food Industry is distributed across all cities/regencies in West Java, with 1,833 individuals located in the five survey cities/regencies, namely Tasikmalaya City, Sukabumi City, Garut Regency, Bogor City, and Bandung City, as presented in Figure 1.6.

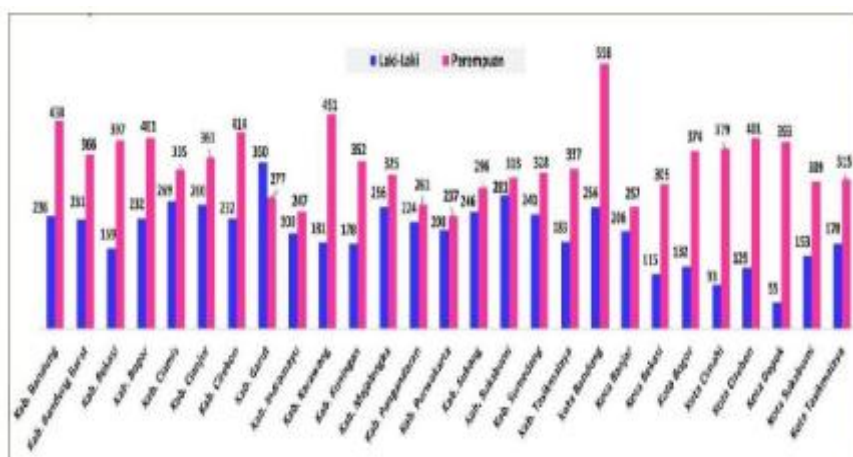


Figure 1.6 Recapitulation of the Number of Entrepreneurs in the Food Industry by Gender in Each City/Regency of West Java, 2023

Source: West Java Office of Cooperatives and SMEs, 2024

Figure 1.6 shows that the owners of MSI businesses in the Food Industry subsector are dominated by women entrepreneurs (indicated by the red color in the graph). This dominance highlights that the role of women entrepreneurs in the Micro and Small Industry sector is highly significant in driving regional economic growth in West Java. Therefore, enhancing business resilience and women's empowerment becomes a strategic step for regional economic development. Efforts such as improving business productivity, strengthening sustainable

entrepreneurial orientation, expanding access to resources, and promoting long-term socio-economic transformation are crucial in this context.

LITERATURE REVIEW

Technology Orientation

In the context of SMEs, technology orientation is defined as the company's strategic orientation that reflects its capability and propensity to acquire, adopt, and utilize technological knowledge in the product innovation process. This technology orientation is considered to strengthen the innovation process by supporting knowledge-intensive activities related to product innovation (Haug *et al.*, 2023). Technology orientation is measured using four indicators: Uses advanced technologies in product development, products contain the latest technology, actively develops new technologically advanced products, and research-based technological innovations are readily accepted.

Entrepreneurial Orientation

Entrepreneurial orientation is viewed as a theory of new value creation based on increasing consumer benefits or reducing costs, enabled through sustainable innovation/novelty (Wales *et al.*, 2023), using 3 dimensions: Innovations, pro-activity, and risk-taking.

Digital Technology Self-Efficacy

Digital self-efficacy represents a comprehensive viewpoint integrating both technical and non-technical competencies essential for responsible and productive participation in digital environments (Paredes-Aguiere, 2023).

D. Business Resilience

Business resilience is the ability of an organization, particularly SMEs, to survive, adapt, and recover from major changes, disruptions, or crises in the business environment. Business resilience is not only about enduring negative impacts but also encompasses the ability to adapt quickly, make positive adjustments, and leverage opportunities arising from difficult situations (Alberti *et al.*, 2018). Subsequently, the review results were consistently grouped into dimensions that enable SMEs to become more resilient and achieve competitiveness, namely: Value Creation Strategy, Strategy Competitiveness, Resource Competitiveness, and Organizational Resources.

E. Women's empowerment is a process that enables women to recognize their identity, capabilities, and leadership across all facets of life. This empowerment occurs through economic, social, political, and psychological channels, empowering women to make decisions, engage actively, and enhance their own well-being as well as that of their families and communities (Hassan *et al.*, 2022).

9 Hipotesis

Technology Orientation → Business Resilience

Entrepreneurial Orientation → Business Resilience

Digital Technology Self-Efficacy → Business Resilience

Technology Orientation → Digital Technology Self-Efficacy

Entrepreneurial Orientation → Digital Technology Self-Efficacy

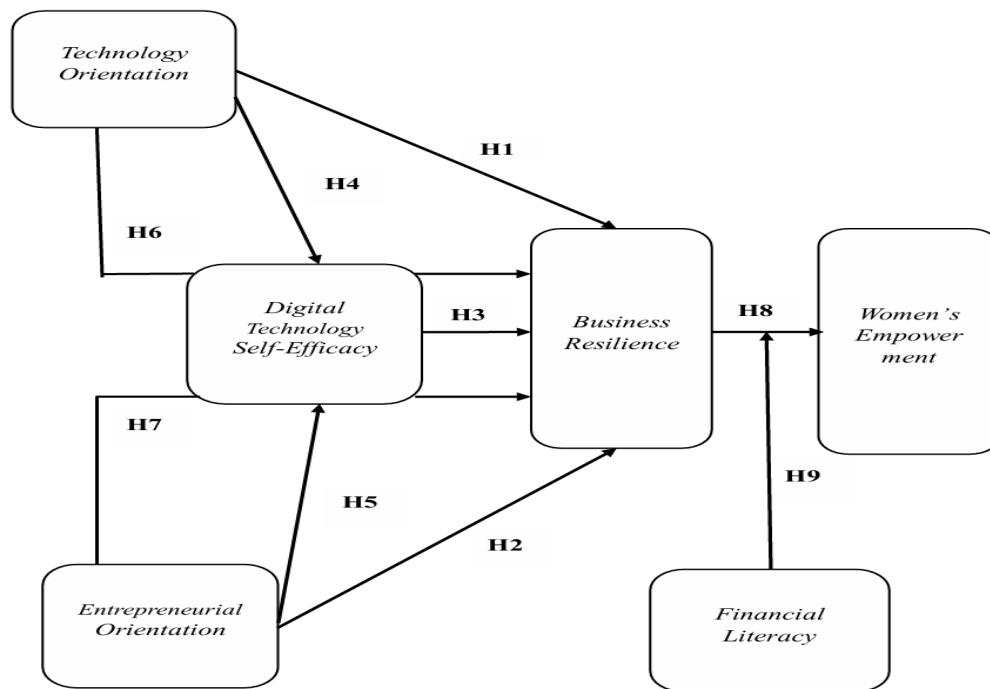
Technology Orientation → Digital Technology Self-Efficacy → Business Resilience

Entrepreneurial Orientation → Digital Technology Self-Efficacy → Business Resilience

Business Resilience → Women's Empowerment

Business Resilience + Financial Literacy → Women's Empowerment

Research Model



RESEARCH METHODS

This study adopts a systematic quantitative approach, aimed at describing the characteristics of the variables and testing the causal relationships among variables formulated in the conceptual model. The quantitative approach was chosen because it provides data that can be measured objectively and analyzed using statistical methods that emphasize the validity and reliability of the research results (Creswell, 2014; Hardani et al., 2020).

Descriptive and Veripikative are two aspects of the research synergistically build a solid foundation for understanding the phenomenon and scientifically testing theories on the studied population. Thus, this study falls under the category of comprehensive explanatory quantitative research (George & Merkus, 2023).

The method used for data collection in this study is the explanatory survey method, which collects information from a sample using structured questionnaires to represent various aspects of the population (Hardani et al., 2020). Furthermore, this research model integrates the Resource-Based View (RBV) to analyze the role of internal resources in supporting the competitive advantage and resilience of women-owned MSEs from descriptive, explanatory, and verificative perspectives. Dynamic Capability Theory (DCT) complements the RBV by explaining how adaptation, innovation, and transformation capabilities are dynamically applied to respond to rapidly changing and disruptive business environments, both from explanatory and verificative perspectives.

The research location focuses on women entrepreneurs in Micro and Small Enterprises (MSEs) within the Food Industry subsector in West Java Province, specifically in: Tasikmalaya City, Garut Regency, Sukabumi City, Bogor City, and Bandung City. Overall, these five regions were selected because: Representative diversity of regional characteristics, Strength of the Food Industry ecosystem, Infrastructure Support & Stakeholder Collaboration, Market and Growth Potential, and Synergy of Tourism, Culinary, and the Food Industry.

RESULTS AND DISCUSSION

RESULTS

Kontruks	β	t-statistic	p-values	Finding
Technology Orientation → Business Resilience	0.117	1.852	0.064	Not Significant
Entrepreneurial Orientation → Business Resilience	0.250	3.063	0.002	Significant
Digital Technology Self-Efficacy → Business Resilience	0.434	3.514	0.000	Significant

Technology Orientation → Digital Technology Self-Efficacy	0.390	4.907	0.000	Significant
Entrepreneurial Orientation → Digital Technology Self-Efficacy	0.441	5.643	0.000	Significant
Business Resilience → Women's Empowerment	0.371	5.572	0.000	Significant
Technology Orientation → Digital Technology Self-Efficacy → Business Resilience	0.169	3.674	0.001	Significant
Entrepreneurial Orientation → Digital Technology Self Efficacy → Business Resilience	0.191	3.979	0.005	Significant
Financial Literacy x Business Resilience → Women's Empowerment	0.058	2.320	0.019	Significant

CONCLUSION

Descriptive variables—Technology Orientation, Entrepreneurial Orientation, Digital Technology Self-Efficacy, Business Resilience, Financial Literacy, and Women's Empowerment—fall into the moderate category. This moderate level indicates that women entrepreneurs in the food industry subsector of micro and small enterprises (IMK) in West Java already possess foundational capabilities or resources in each variable, but have not yet maximized their full potential and development opportunities.

Technology Orientation has no significant effect on Business Resilience.

Entrepreneurial Orientation positively affects Business Resilience. The higher the entrepreneurial orientation, the stronger the business resilience directly becomes.

Digital Technology Self-Efficacy positively affects Business Resilience. The higher the digital technology self-efficacy, the stronger the business resilience.

Technology Orientation positively affects Digital Technology Self-Efficacy. The higher the technology orientation, the greater the increase in digital technology self-efficacy.

Entrepreneurial Orientation positively affects Digital Technology Self-Efficacy. The higher the entrepreneurial orientation, the greater the increase in digital technology self-efficacy.

Technology Orientation, mediated through Digital Technology Self-Efficacy, positively affects Business Resilience. The higher the technology orientation via digital technology self-efficacy, the stronger the business resilience.

Entrepreneurial Orientation, mediated through Digital Technology Self-Efficacy, positively affects Business Resilience. The higher the entrepreneurial orientation via digital technology self-efficacy, the stronger the business resilience.

Business Resilience positively affects Women's Empowerment. The stronger the business resilience, the stronger the women's empowerment.

Financial Literacy moderates the relationship between Business Resilience and Women's Empowerment. High financial literacy strengthens the influence of business resilience on women's .

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