JEMSI: Jurnal Ekonomi Manajemen Sistem Informasi
E-ISSN: 2686-5238
P-ISSN: 2686-4916
https://dinastirev.org/JEMSI dinasti.info@gmail.com +62 811 7404 455
DOI: https://doi.org/10.38035/jemsi.v8i2
https://creativecommons.org/licenses/by/4.0/
Received: 30 October 2026 | **Revised:** 5 November 2026 | **Accepted:** 21 November 2026

Positioning Competitive Advantage Strategies Toward MSME Business Sustainability in Timor-Leste: A Systematic Literature Review

Francisco da Costa[1], Tri Retnawati[2], Ulfi Pristiana[3]
[1]Universidade da Paz (UNPAZ) Timor-Leste, Dili, Timor-Leste, fransdst222@gmail.com
[2]Universitas 17 Agustus 1945 (UNTAG 1945) Surabaya, Surabaya, Indonesia, triratnawati@untag-sby.ac.id
[3]Universitas 17 Agustus 1945 (UNTAG 1945) Surabaya, Surabaya, Indonesia, ulfi@untag-sby.ac.id

Corresponding Author: fransdst222@gmail.com[1]

Abstract: Micro, small, and medium-sized enterprises (MSMEs) are important to employment and local economic activity, but their sustainability is constrained by limited finance, managerial capacity, technology, and market access. This systematic literature review examines the competitive advantage strategies associated with MSME business sustainability and considers their relevance to Timor-Leste. Guided by four research questions, the review uses a PRISMA-oriented process and draws on literature sources identified as Scopus, ScienceDirect, Emerald Insight, SpringerLink, and Google Scholar for the 2019–2025 period. The VOSviewer maps organize the literature into four connected themes: innovation, digital transformation, differentiation, and competitive advantage. The thematic synthesis indicates that innovation supports product and process adaptation, digital transformation can strengthen marketing, information access, and operational coordination, differentiation creates value through distinctive products and services, and competitive advantage integrates these choices with cost efficiency and focused market positioning. These strategies depend on capabilities in finance, skills, networks, technology, and market knowledge. Their relevance to Timor-Leste is especially strong because self-employed businesses and microenterprises dominate the MSME landscape, requiring low-cost, incremental, and context-sensitive approaches. The review included 16 eligible studies (2019–2025), identifying innovation, digital transformation, differentiation, and cost- and focus-based positioning as interconnected strategies for MSME business sustainability. The review therefore provides a structured, context-sensitive synthesis rather than causal estimates of strategy effectiveness.

Keyword: Competitive Advantage, Business Sustainability, MSMEs, Innovation, Timor-Leste

INTRODUCTION

Micro, small, and medium-sized enterprises (MSMEs) contribute to employment, innovation, local economic activity, income distribution, diversification, entrepreneurship, and social cohesion (Fan et al., 2021; Lutfi et al., 2022). However, limited finance, managerial

capabilities, technology adoption, and market access constrain their competitiveness and sustainability. Understanding how competitive advantage strategies address these challenges is particularly important in developing economies.

In Timor-Leste, domestic businesses are important to the national economy. World Bank data reported through Trading Economics indicate GDP of approximately USD 1.88 billion in 2024, following a peak of about USD 3.62 billion in 2021 before declining thereafter. Although these figures do not measure MSME performance directly, they contextualize the need to strengthen productive sectors, diversify economic activity, and improve business resilience. MSMEs can also expand local production, entrepreneurship, and inclusive growth.

The Government of Timor-Leste established an MSME framework through Decree-Law No. 30/2023, covering incubation, training, seed funding, subsidized financing, and credit guarantees (Asian Development Bank, 2024). It classifies microenterprises as employing up to five workers, with turnover up to USD 5,000 or assets up to USD 25,000; small enterprises as employing 6–20 workers, with turnover up to USD 50,000 or assets up to USD 150,000; and medium-sized enterprises as employing 21–50 workers, with turnover up to USD 1 million or assets up to USD 250,000 (Asian Development Bank, 2024). Asset thresholds exclude land, and policy support must be translated into effective business strategies to generate sustainable growth.

The sector is dominated by self-employed businesses (50.4%) and microenterprises (42.6%), followed by small enterprises (6.6%) and medium-sized enterprises (0.5%). Respondents comprise 71.6% registered companies, 13% unregistered businesses, and 14.7% individual entrepreneurs. This profile highlights the prevalence of small-scale activity, for which formal registration alone does not guarantee sufficient finance, managerial capabilities, innovation, or market access.

One of the central challenges facing MSMEs is the development of competitive advantage strategies that enable them to maintain their market position while supporting long-term business sustainability. Porter (1985) identifies differentiation, cost leadership, and focus as principal competitive strategies, respectively emphasizing distinctive value, operational efficiency, and targeted market segments. Their effectiveness depends on market conditions, resources, customer preferences, and implementation capacity. The resource-based view argues that sustained advantage relies on valuable resources and capabilities that competitors cannot easily replicate (Barney, 1991). yet limited finance, managerial skills, product innovation, and marketing constrain MSMEs' ability to deploy them (Ayyagari et al., 2011; Gilmore, 2018).

However, these research strands are often examined separately or within specific industries and national settings, leaving an incomplete understanding of how strategic positioning, implementation capabilities, and multidimensional sustainability interact in resource-constrained MSMEs. An integrated synthesis is needed to identify strategic choices, their potential mechanisms, and the financial, human, technological, and institutional conditions shaping implementation. This is especially relevant to Timor-Leste, where self-employed businesses and microenterprises predominate and strategies designed for larger firms may assume unavailable capital, specialist staff, professional managers, or digital infrastructure. This review therefore integrates competitive strategies, enabling mechanisms, and resource requirements in the local MSME context; its contribution is a context-specific synthesis, not a claim that no prior review exists.

Recent research has increasingly examined relationships among entrepreneurial orientation, competitive advantage, and sustainable business performance. Ahsan (2023) highlights the relevance of entrepreneurial orientation and sustainable business strategies to competitive advantage and business performance. Other studies have discussed the potential contribution of digital transformation, innovation, and dynamic capabilities to the competitiveness of small and medium-sized enterprises (Costa Melo et al., 2023; Lu &

Shaharudin, 2024; Mick et al., 2024). These developments suggest that MSMEs may strengthen their market positions by adapting to technological change, responding to customer needs, developing innovative products or services, and using available resources more effectively. Nevertheless, the benefits of these approaches may vary according to organizational capabilities, resource availability, and the business environment. Understanding competitive advantage therefore requires consideration of the strategies adopted by MSMEs and the mechanisms and contextual factors that may influence their contribution to business sustainability.

The study addresses four questions, Which competitive advantage strategies contribute to MSME sustainability? Through what mechanisms do they support sustainability? Which organizational capabilities and resource constraints influence their implementation? and How can the findings inform sustainable strategies for MSMEs in Timor-Leste? These questions guide evidence synthesis rather than statistical hypothesis testing. The review identifies strategies, examines their mechanisms, analyzes enabling capabilities and constraints, and derives context-sensitive implications by integrating competitive advantage theory, the resource-based view, and research on innovation and digital transformation.

METHOD

This study adopts a Systematic Literature Review (SLR) to identify, appraise, and synthesize published research on competitive advantage strategies and business sustainability among micro, small, and medium-sized enterprises (MSMEs). The review is structured around the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) reporting framework, which supports transparent reporting of record identification, screening, eligibility assessment, and final inclusion. The review period is 2019–2025. Scopus, ScienceDirect, Emerald Insight, SpringerLink, and Google Scholar were identified as the literature sources. The purpose of the review is to synthesize evidence on competitive advantage strategies and the organizational or market mechanisms associated with MSME business sustainability.

Research Design and Review Object

This study employed a systematic literature review (SLR) to identify, evaluate, and synthesize published research on competitive advantage strategies and business sustainability among micro, small, and medium-sized enterprises (MSMEs). The review followed the PRISMA 2020 reporting framework to structure the identification, screening, eligibility assessment, and inclusion of relevant studies. The unit of analysis consisted of individual scholarly publications that met the predefined eligibility criteria. The synthesis combined descriptive analysis and thematic interpretation to identify recurring strategies, enabling mechanisms, organizational constraints, and implications for MSME sustainability.

Population and Sampling

The final review sample consisted of 16 scholarly articles published between 2019 and 2025. The included studies were selected based on their publication period, scholarly publication status, relevance to MSMEs or SMEs, and substantive coverage of competitive advantage strategies and business sustainability. These studies constituted the evidence base for the subsequent data extraction and thematic synthesis.

Time, Setting, and Search Sources

The review focused on scholarly publications published between 2019 and 2025. Five literature sources were designated for the identification of relevant studies: Scopus, ScienceDirect, Emerald Insight, SpringerLink, and Google Scholar. These sources were selected to cover multidisciplinary research on MSME development, competitive advantage, organizational capabilities, innovation, digital transformation, and business sustainability. The

search was structured around the four main conceptual dimensions of the review: MSME/SME characteristics, competitive advantage strategies, business sustainability, and enabling organizational capabilities.

Search Strategy and Literature Identification

The search strategy was organized around four conceptual groups: MSME/SME characteristics, competitive advantage strategies, business sustainability, and enabling organizational capabilities. Relevant keywords and related terms were used to identify publications addressing these dimensions. The search concepts included terms such as "MSME", "microenterprise", "competitive advantage", "competitive strategy", "business sustainability", "innovation", "digital transformation", and "dynamic capabilities". Boolean operators were used to combine the principal concepts where supported by the search interfaces. The search strategy was designed to identify studies examining the relationships between competitive positioning, organizational capabilities, and MSME business sustainability.

The terms in Table 1 summarize the conceptual framework rather than verified verbatim database queries. For reproducibility, record the exact query string, search date, filters, and result count for each source from the original search history.

Tabel 1. Search concepts and example terms used to identify relevant literature

Search concept	Example terms relevant to this review
MSME population	"MSME", "microenterprise", "small and medium-sized enterprise", SME
Competitive advantage	"competitive advantage", "competitive strategy", differentiation, "cost leadership", "focus strategy"
Business sustainability	"business sustainability", "sustainable business performance", business resilience, sustainability
Enabling mechanisms	innovation, market orientation, digital transformation, dynamic capabilities, organizational capabilities

Source: Authors' compilation based on the review's search concepts.

Eligibility Criteria and Screening

Studies were considered eligible when they met the following criteria: (1) published within the 2019–2025 period; (2) available as scholarly publications; (3) focused on MSMEs or SMEs; and (4) substantively addressed competitive advantage strategies, organizational capabilities, business sustainability, or related organizational outcomes. Publications outside the specified period, duplicate records, and studies without substantive relevance to the research objectives were excluded. Foundational theoretical publications published before 2019 were used only to support the conceptual and theoretical framework and were not counted as studies included in the systematic review.

Data Extraction Instrument

A structured data-extraction matrix was used to organize information from the selected studies. The extracted information included author names, publication year, article title, journal name, DOI or stable URL, geographical context, research design, sample or data source, competitive advantage strategies, principal findings, business sustainability outcomes, and reported limitations. The extracted information was organized to facilitate comparison across studies and to identify recurring strategic dimensions, enabling mechanisms, organizational constraints, and implications for MSME business sustainability.

Quality Appraisal

The selected studies were qualitatively assessed in terms of their relevance to the research objectives, clarity of research design, methodological transparency, and contribution to

understanding competitive advantage strategies and MSME business sustainability. This assessment was used to evaluate the suitability of the studies for thematic comparison and synthesis. No numerical quality scores were assigned because the review employed a qualitative assessment approach rather than a standardized numerical appraisal instrument.

Data Analysis and Synthesis

The extracted data were analyzed using descriptive and thematic synthesis. Descriptive analysis was used to summarize the characteristics of the selected studies, including publication years, research contexts, research designs, competitive advantage strategies, and reported sustainability outcomes. Thematic synthesis was conducted by comparing findings across the selected studies to identify recurring patterns, strategic relationships, enabling mechanisms, and organizational constraints. The findings were subsequently organized into interconnected themes, including innovation, digital transformation, differentiation, competitive positioning, cost efficiency, market orientation, and organizational capabilities. The synthesis also distinguished findings directly reported in the reviewed studies from contextual implications derived for MSMEs in Timor-Leste.

Bibliometric Mapping

Bibliometric mapping was conducted using VOSviewer to examine the relationships and thematic structure of keywords in the selected literature. Keyword co-occurrence analysis was employed to identify frequently occurring terms and their associations within the research domain. Three visualization types were used: network visualization to illustrate keyword relationships and thematic groupings, overlay visualization to display the distribution of keywords according to average publication year, and density visualization to identify areas of concentrated keyword activity. The resulting maps were interpreted alongside the thematic synthesis to examine the relationships among innovation, digital transformation, differentiation, competitive advantage, and MSME business sustainability.

Evidence of the SLR Search and Selection

The manuscript reports 250 records across five sources and previously states that 65 records proceeded to eligibility assessment and 30 articles were included. The intermediate figures of 70 duplicates removed and 85 records excluded do not reconcile with those totals: $250 - 70 - 85 = 95$, not 65. Table 5 contains 20 entries for audit, not a verified set of included studies. Because the original search exports and screening log are unavailable, a corrected numerical PRISMA flow cannot be reconstructed from the current manuscript alone. The counts should remain explicitly provisional until the source records and decisions are checked.

The PRISMA diagram should be finalized only after the original search exports, deduplication log, screening decisions, and full-text exclusion reasons have been checked. Until then, report the source-level total of 250 as a figure stated in the draft, not as independently verified, and label the downstream counts (65 and 30) as unverified. Do not replace the inconsistent counts with estimated values.

Tabel 2. Evidence required to document the systematic literature review search and selection

SLR stage	Number of records	Evidence status	Research-specific interpretation / evidence required	Evidence to retain
Records identified through database searching	250	Reported in draft	Verify against combined exports from all five literature sources.	Exported CSV/RIS, query and filters
Duplicates removed	Not reported in the	Not documented in the	Provide deduplication log and number of duplicate records removed.	Exported records, query and filters

	supplied manuscript	available records		
Title and abstract screening	Not reported in the supplied manuscript	Not documented in the available records	Provide the number screened and excluded at this stage.	Exported records, query and filters
Records retained for eligibility assessment	65	Reported in draft	Clarify whether these are full texts sought or full-text articles assessed.	Exported records, query and filters
Full-text reports excluded	Not reported in the supplied manuscript	Not documented in the available records	Record the number excluded and reasons for exclusion.	Search log, date, result range screened
Studies included in final synthesis	16	Not verifiable from supplied records	The 16 entries in Table 5 are an audit list, not a validated included-study count, confirm using exports and screening decisions.	Master record list and deduplication log

Source: Authors' compilation based on the review protocol and information reported in the manuscript.

Tabel 3. Summary of the literature-selection stages and evidence gaps

Selection stage	Count	Status	Evidence / clarification needed
Records identified across sources	250	Reported in supplied draft	Confirm using combined database exports
Duplicates removed	Not reported in the supplied manuscript	Not documented in the available records	Deduplication log needed
Records screened by title/abstract	Not reported in the supplied manuscript	Not documented in the available records	Screening spreadsheet needed
Records excluded before eligibility	Not reported in the supplied manuscript	Not documented in the available records	Record exclusion count and reasons
Records retained for eligibility assessment	65	Reported in supplied draft	Confirm whether these are full texts sought or assessed
Full-text reports not retrieved	Not reported in the supplied manuscript	Not documented in the available records	Record if any full texts were unavailable
Full-text reports excluded	Not reported in the supplied manuscript	Not documented in the available records	Provide counts by reason
Studies included in final synthesis	16	Not documented	Confirm the final eligible-study set against the original screening log.

Source: Authors' compilation based on the review protocol and information reported in the manuscript.

Data-Extraction Matrix Aligned with the Research Questions

To ensure that the review directly addresses competitive advantage and MSME business sustainability, the extraction instrument should capture the strategy, mechanisms linking strategy to sustainability, contextual constraints, and reported outcomes. Table 3 presents a proposed matrix for extracting comparable evidence from each included article.

To ensure reproducibility, the review archive should retain the exact search strings and dates for each source, database exports, the combined master list, duplicate-removal log, title/abstract screening decisions, full-text eligibility decisions with exclusion reasons, the completed extraction sheet for all included studies, quality-appraisal records (if performed), and the VOSviewer project/settings. These materials provide an audit trail from identification to synthesis. Where evidence is unavailable, the manuscript should state the limitation rather than invent missing counts or procedures.

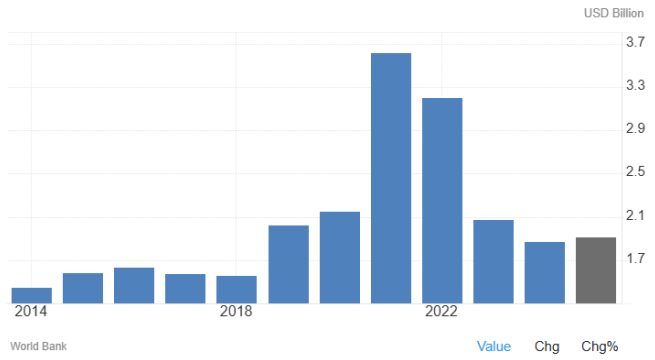
Reproducibility and Evidence Management

For reproducibility, the review archive should retain the search strings and dates, database exports, combined master list, duplicate-removal log, screening decisions, full-text exclusion reasons, data-extraction sheet, quality-appraisal records (where applicable), and VOSviewer project files and settings. These materials provide an audit trail from identification to synthesis. However, the available documentation is insufficient to reconstruct all PRISMA stages or verify every bibliographic record; therefore, the selection diagram and article table require verification against the original records.

Tabel 4. Data-extraction matrix aligned with the research questions

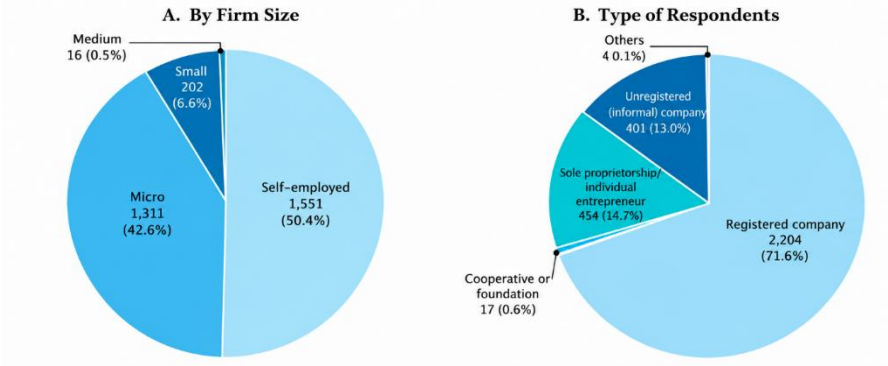
Extraction field	Information to record	Relevance to the review	Example categories
Study identification	Author, year, title, journal, country/context	Enables traceability and comparison	Bibliographic details, geographic context
Competitive advantage strategy	Strategy examined in the study	Identifies strategies discussed in the literature	Differentiation, cost leadership, focus, hybrid/other
Enabling mechanism	How strategy may influence sustainability	Identifies pathways connecting strategy and outcomes	Innovation, market orientation, digital capability, dynamic capabilities
Capabilities and constraints	Resources and barriers reported	Explains conditions that enable or limit implementation	Finance, skills, technology, networks, market access
Sustainability outcome	Business continuity and performance outcomes	Clarifies the outcome examined in each study	Continuity, resilience, economic performance, environmental/social outcomes
Method and findings	Design, data/sample, analysis, principal findings	Supports critical appraisal and interpretation	Qualitative, quantitative, mixed methods, conceptual/review
Relevance to Timor-Leste	Contextual implications supported by evidence	Distinguishes direct evidence from contextual interpretation	Direct evidence, transferable insight, limited relevance

Source: Authors' compilation based on the data-extraction fields specified for this review.



Source: Trading Economics, based on World Bank data

Figure 1. Gross domestic product (GDP) trends in Timor-Leste



Source: Asian Development Bank (2024).

Figure 2. Profile of micro, small, and medium-sized enterprises (MSMEs) in Timor-Leste

RESULT AND DISCUSSION

The review synthesis draws on the 16 studies listed in Table 5, all published within the predefined 2019–2025 period. Table 5 therefore retains the eligible publication years and excludes records dated 2026. Figures 3–5 present complementary views of the keyword structure: the network map displays co-occurrence relationships, the overlay map locates terms by average publication year, and the density map identifies areas of concentrated keyword activity. The discussion interprets these patterns alongside the four research questions and the characteristics of Timor-Leste's MSME sector. The reported search totals are retained as stated in the review record, no unreported intermediate screening counts are inferred..

PRISMA-based literature selection

The final synthesis comprises 16 studies published between 2019 and 2025, as listed in Table 5. The review protocol applied the publication window consistently, and no 2026 publication is included in the retained table. The manuscript reports 250 records identified across the five literature sources and 65 records retained for eligibility assessment. Because the intermediate screening counts are not specified in the available selection record, the results do not derive or estimate additional PRISMA-stage totals. The 16 listed studies form the article-level evidence base used for the thematic synthesis and bibliometric interpretation (Page et al., 2021).

Tabel 5. Bibliographic characteristics of the 16 studies included in the systematic literature review

No	Author	Year	Article Title	Publisher
1	Ahsan	2023	Entrepreneurial Orientation, Sustainable Business Strategy and Competitive Advantage toward Sustainable Business Performance	MDPI
2	Lutfi et al.	2022	Business Sustainability of Small and Medium Enterprises during the COVID-19 Pandemic: The Role of AIS Implementation	MDPI
3	Fan et al.	2021	The Role of SMEs in Economic Growth and Employment Creation	Public Library of Science
4	Mohaghegh et al.	2025	Digital Transformation and Sustainable Performance: The Mediating Role of Triple-A Supply Chain Capabilities	Emerald Publishing
5	Noer et al.	2025	Digital Marketing and Sustainable Innovation in SMEs through Bibliometric and Systematic Review	Taylor & Francis
6	Mondal et al.	2023	Exploring the impact of green entrepreneurial orientation on sustainable performance: insights from CSR, policy and innovation	Emerald Publishing
7	Li et al.	2020	Green Innovation and Business Sustainability: New Evidence from Energy Intensive Industry in China	MDPI

8	Ferreira et al.	2020	Dynamic Capabilities, Creativity and Innovation Capability and Their Impact on Competitive Advantage and Firm Performance: The Moderating Role of Entrepreneurial Orientation	Elsevier
9	Karneli et al.	2021	Measurement of Sustainable Competitive Advantages Through Digital Capability and Innovation Strategy: An Empirical Study in Indonesia	Korean Distribution Science Association
10	Sulistyo & Ayuni	2019	Competitive Advantages of SMEs: The Roles of Innovation Capability, Entrepreneurial Orientation, and Social Capital	Universidad Nacional Autónoma de México (UNAM)
11	Carlos et al.	2025	The Impact of Entrepreneurial Ecosystems on Value Co-Creation in SME: The Moderating Role of Marketing Innovations	MDPI
12	Al Hakim et al.	2021	An Empirical Study of Knowledge Mapping Implementation in Indonesian Organizational Context	Emerald Publishing
13	Ferreira et al.	2021	Dynamic Capabilities and Mediating Effects of Innovation on the Competitive Advantage and Firm's Performance: The Moderating Role of Organizational Learning Capability	Springer Nature
14	Priyono et al.	2021	How to Harness Digital Technologies for Pursuing Business Model Innovation: A Longitudinal Study in Creative Industries	Emerald Publishing
15	Jones et al.	2021	An Exploration of the Role and Contribution of Entrepreneurship Centres in UK Higher Education Institutions	Emerald Publishing
16	Centobelli et al.	2022	Towards a Sustainable Development Assessment Framework to Bridge Supply Chain Practices and Technologies	Wiley

Source: Authors' compilation. All 16 studies listed in Table 5 fall within the predefined 2019–2025 publication window, publications dated 2026 are excluded.

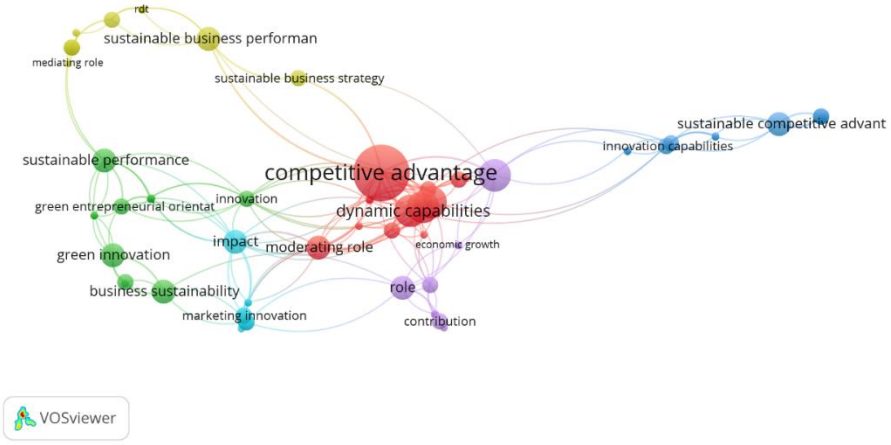
Across the 16 studies, the recurring strategic concerns are entrepreneurial orientation, innovation capability, digital technology and marketing, sustainable business strategy, differentiation-related value creation, and competitive advantage. The studies connect these strategic concerns with business performance and sustainability through product and process improvement, stronger market relationships, more effective resource use, and the development of organizational capabilities. The evidence also shows that strategy implementation depends on enterprise resources, including finance, managerial knowledge, technology, skills, networks, and access to customers. These findings provide the basis for interpreting the VOSviewer maps and answering the four research questions.

Network Visualization and Keyword Co-occurrence

Figure 3 shows the VOSviewer network, where node size represents keyword frequency, links indicate co-occurrence, and proximity reflects relatedness. "Competitive advantage" occupies the network's central position, connecting with dynamic capabilities, innovation, and business sustainability. The green cluster focuses on innovation and sustainability, the red on competitive advantage and dynamic capabilities, the blue on innovation capabilities and sustainable competitive advantage, and the yellow on sustainable business performance and strategy. Smaller peripheral clusters include marketing innovation, impact, role, and contribution. Overall, the network highlights the interconnectedness of competitive advantage, innovation, organizational capabilities, and sustainability outcomes.

The network reveals four thematic relationships relevant to MSME strategy. The green cluster links innovation and green innovation with business sustainability and performance; the blue connects innovation capabilities with sustainable competitive advantage; the yellow associates sustainable business strategy with long-term performance; and the red links

competitive advantage with dynamic capabilities and resource adaptation. Marketing innovation emerges as a supporting theme. These relationships reflect thematic connections in the literature, not causal effects or rankings of strategy effectiveness (Page et al., 2021; Van Eck & Waltman, 2010).



Source: Authors' VOSviewer analysis based on the 16 studies included in the systematic literature review.

Figure 3. Network visualization of keyword co-occurrence

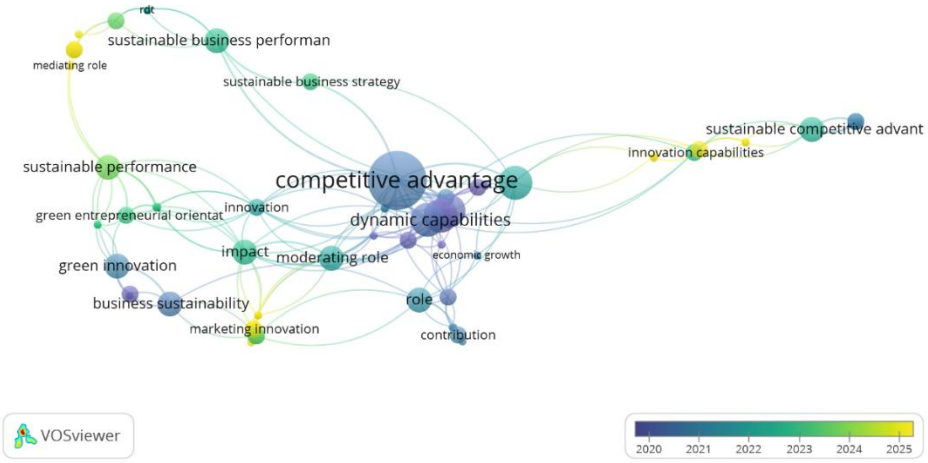
Figure 4 presents the overlay visualization, in which node colour represents the average publication year of each keyword. The legend runs from earlier blue/purple tones to later green/yellow tones. The map shows that the central concepts—competitive advantage, dynamic capabilities, innovation, sustainable business strategy, sustainable performance, innovation capabilities, and sustainable competitive advantage—occur across the 2019–2025 review period. The overlay therefore demonstrates the temporal distribution of the mapped themes and complements Figure 3 by showing when the terms appear in the selected literature.

Figures 3 and 4 show a connected and temporally distributed research structure. Competitive advantage is the central organizing concept, innovation and dynamic capabilities describe capability-related routes, while sustainable business strategy and performance connect strategic choices with longer-term outcomes. Innovation capabilities and sustainable competitive advantage extend this structure toward the development and maintenance of market position. The overlay adds publication-year information but does not measure the adoption of these strategies by MSMEs or establish their effects on business sustainability (Van Eck & Waltman, 2010).

Overlay visualization and publication timing

The overlay visualization in Figure 4 adds a temporal dimension to the network. The colour gradient identifies the average publication year associated with each keyword: blue and purple indicate relatively earlier average years, while green and yellow indicate relatively later average years. The distribution shows that the mapped themes are represented throughout the review period rather than being confined to a single publication year. The figure is therefore useful for identifying the timing of scholarly attention to the mapped concepts.

The temporal pattern places competitive advantage, dynamic capabilities, innovation, and sustainability-related terms within the same evolving body of MSME research. More recent average publication years for some terms indicate their later representation in the selected records, while earlier terms remain connected to the central network. This pattern supports an integrated reading of strategic positioning and organizational capabilities. It should be interpreted as a publication pattern, not as evidence that a strategy has become more widely adopted or more effective in business practice.



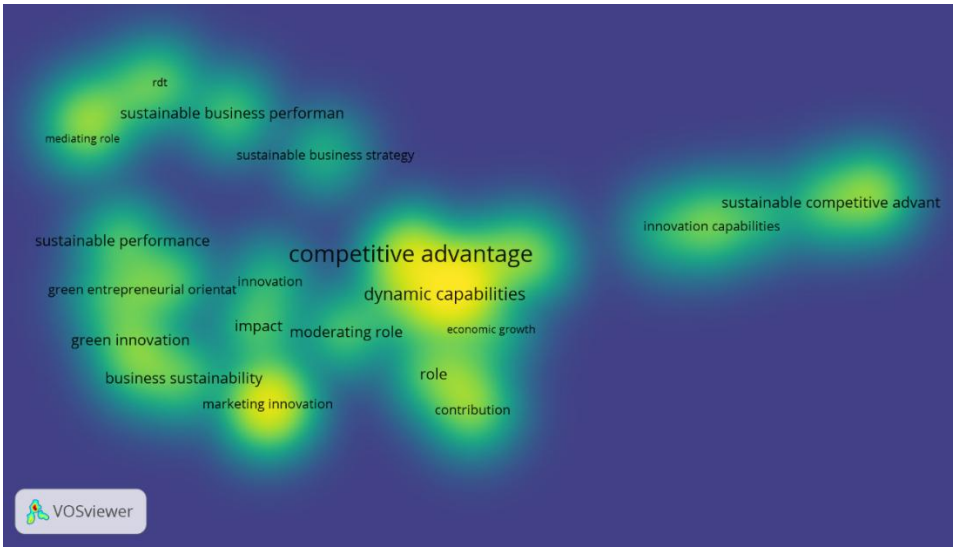
Source: Authors' VOSviewer analysis based on the 16 studies included in the systematic literature review.

Figure 4. Overlay visualization of keyword co-occurrence by average publication year

Density visualization

Figure 5 presents the density visualization of keyword co-occurrence. Yellow areas indicate the highest concentration of keyword occurrences and links, green areas indicate intermediate concentration, and blue/purple areas indicate lower concentration. The strongest density is located around competitive advantage, dynamic capabilities, sustainable business performance, sustainable business strategy, innovation, innovation capabilities, and sustainable competitive advantage. Green innovation, business sustainability, and marketing innovation also form visible areas of concentrated activity. The density map therefore identifies competitive advantage and its related capability and sustainability concepts as the most prominent areas of the selected bibliographic network.

The density pattern reinforces the network interpretation: competitive advantage is the central theme, supported by innovation and dynamic capabilities and connected to sustainability-related performance. Innovation capabilities and sustainable competitive advantage form a further concentration, while sustainable business strategy and sustainable business performance are prominent in the upper-left region of the map. Marketing innovation appears as a related but more localized theme. Density indicates the frequency and proximity of terms in this dataset, it does not measure the quality of studies, the strength of causal effects, or the comparative success of strategies (Page et al., 2021; Van Eck & Waltman, 2010).



Source: Authors' VOSviewer analysis based on the 16 studies included in the systematic literature review.
Figure 5. Keyword co-occurrence density visualization of competitive advantage and MSME business sustainability

Thematic synthesis and implications for MSMEs in Timor-Leste

The green grouping in Figure 3 connects innovation and green innovation with business sustainability and sustainable performance. The reviewed literature associates innovation with product and process adaptation, quality improvement, customer responsiveness, and resource efficiency. Given that self-employed businesses and microenterprises account for 50.4% and 42.6% of Timor-Leste's MSME profile, respectively (Figure 2), feasible innovation should involve incremental improvements such as better packaging, refined recipes or craft designs, reduced material waste, standardized services, and product variations based on customer feedback. Such changes can increase value without requiring substantial research and development expenditure.

Digital transformation represents an important capability-related implication, particularly through digital marketing, marketing innovation, and technology-enabled customer and information access. However, Figure 3 does not identify digital transformation as a separate blue cluster; instead, the blue grouping connects innovation capabilities with sustainable competitive advantage. Therefore, digital transformation is interpreted as a related capability rather than a direct cluster label. Practical applications for microenterprises include social-media promotion, digital customer and supplier communication, basic bookkeeping, and electronic payments, adopted incrementally according to affordability, connectivity, customer needs, and owners' digital skills.

Similarly, differentiation is a strategic implication of the synthesis rather than an explicit keyword in the yellow grouping, which connects sustainable business strategy with sustainable business performance. Differentiation can nevertheless help Timor-Leste MSMEs establish distinctive value through local products, cultural or geographic identity, product quality, reliable services, and specialization in particular customer segments. Such positioning should reflect actual customer demand and consistent delivery. The red grouping, linking competitive advantage with dynamic capabilities, further emphasizes resource adaptation and market positioning. For microenterprises, this may involve combining cost discipline, dependable quality, customer relationships, local distinctiveness, and selective digital adoption rather than competing through scale (Barney, 1991; Page et al., 2021).

These implications are particularly relevant because self-employed businesses and microenterprises represent 93.0% of the enterprise-size profile in Figure 2. Public support should therefore address their limited working capital, staffing, managerial time, and specialist expertise. Decree-Law No. 30/2023 provides the national MSME support framework, while IADE's Business Incubation Facility (FIN) offers a practical implementation channel. Support should include clear eligibility criteria, simplified applications and referrals, municipal access points, service standards, and coordinated pathways to training, incubation, seed funding, subsidized financing, and credit guarantees. Through FIN, IADE can provide business diagnostics, business-plan assessment, tailored mentoring, costing and bookkeeping assistance, product development, marketing support, and milestone-based follow-up. These interventions connect innovation, organizational capabilities, strategic positioning, and sustainability with the needs of Timor-Leste's predominantly micro-scale enterprises (Page et al., 2021; Van Eck & Waltman, 2010).

CONCLUSION AND RECOMMENDATION

Conclusion

This review identifies four interconnected findings. First, the strategies discussed include innovation, digital and marketing capabilities, differentiation, and competitive positioning through cost efficiency and market focus. Second, these strategies may support sustainability by improving products and processes, strengthening customer relationships and market access, creating distinctive value, and using resources more effectively. Third, implementation depends on financial resources, managerial and digital skills, technology, infrastructure, business networks, market information, and customer access, particularly for owner-operated microenterprises. Fourth, MSMEs in Timor-Leste require incremental innovation, affordable digital tools, locally grounded differentiation, cost discipline, and focused market strategies. Decree-Law No. 30/2023 and IADE's Business Incubation Facility (FIN) provide institutional channels for developing these capabilities. Accordingly, the review offers a context-sensitive framework for MSME sustainability, while recognizing that bibliometric maps represent thematic relationships rather than causal effects.

Policy implementation should translate Decree-Law No. 30/2023 into accessible support for self-employed businesses and microenterprises through clear eligibility criteria, simplified applications, coordinated referrals, transparent resource allocation, and outcome monitoring. IADE's FIN can deliver this support through business diagnostics, business-plan assistance, technical mentoring, and tailored guidance on operating costs, raw materials, product development, marketing, and equipment. Evaluation should measure practical outcomes, including record-keeping adoption, product improvements, market access, sales continuity, and cost management, rather than relying solely on participation figures.

Limitations

This review has several methodological limitations. First, reliance on English-language keywords may have excluded relevant studies in Tetum, Portuguese, Indonesian, and other languages, creating language and regional bias. Second, the use of five sources (Scopus, ScienceDirect, Emerald Insight, SpringerLink, and Google Scholar) may have omitted relevant studies from regional databases, institutional repositories, and grey literature. Third, the 2019–2025 publication window excludes earlier empirical evidence. Fourth, variations in MSME definitions, competitive advantage, sustainability measures, research designs, and national contexts limit cross-study comparability and the transferability of findings to Timor-Leste. Finally, the reliance on secondary evidence prevents direct assessment of strategy effectiveness among local self-employed businesses and microenterprises. Future research should employ multilingual searches, expand database coverage, standardize outcome classifications, and conduct empirical studies in Timor-Leste to validate the applicability of the identified strategies.

Recommendations

The Government of Timor-Leste should operationalize Decree-Law No. 30/2023 through simplified guidelines covering eligibility, documentation, application procedures, institutional responsibilities, and access to training, incubation, and financial support, particularly for microenterprises across municipalities. IADE should strengthen its Business Incubation Facility (FIN) through tailored assistance in business planning, financial management, bookkeeping, product development, digital literacy, marketing, mentoring, and access to buyers and financing. Support should be monitored through practical indicators, including cost control, product improvement, market access, repeat customers, and business continuity. At the enterprise level, owners should prioritize feasible improvements, validate customer demand, and adopt cost-effective digital tools. Future research should evaluate these interventions longitudinally using economic, social, and environmental sustainability indicators.

Author's Contribution

Francisco da Costa: Conceptualization, methodology, literature investigation, data curation, formal analysis, and writing, original draft preparation. Tri Retnawati: Supervision, validation, interpretation of findings, and critical review and editing of the manuscript. Ulfi Pristiana: Supervision, validation, and critical review and editing of the manuscript. All authors reviewed the manuscript, contributed to its intellectual development, and approved the final version. The stated roles should be confirmed by all authors before submission.

AI Statement

During the preparation of this manuscript, the authors used an AI-assisted language tool to support language refinement, improve readability, and assist with editorial organization. The tool was not treated as a source of research evidence, and it did not replace the authors' responsibility for the search process, screening decisions, interpretation of the literature, or conclusions. The authors reviewed and edited the resulting text and take full responsibility for the accuracy, integrity, and final content of the manuscript.

REFERENSI

Ahsan, M. (2023). Entrepreneurial Orientation, Sustainable Business Strategy and Competitive Advantage toward Sustainable Business Performance. *Sustainability*, *15*(8), 1–18.

Al Hakim, S., Sensuse, D. I., Budi, I., Mishbah, Winarni, M., & Khusni, U. (2021). An empirical study of knowledge mapping implementation in Indonesian organizational context. *VINE Journal of Information and Knowledge Management Systems*, *51*(5), 773–791. https://doi.org/10.1108/VJIKMS-11-2019-0170

Asian Development Bank. (2024). *Asia Small and Medium-Sized Enterprise Monitor 2024*. https://doi.org/10.22617/SGP240536-2

Ayyagari, M., Demirguc-Kunt, A., & Maksimovic, V. (2011). Small vs. Young Firms Across the World: Contribution to Employment, Job Creation, and Growth. *World Bank Policy Research Working Paper*, (5631). https://documents.worldbank.org/en/publication/documents-reports/documentdetail/478851468161354807

Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, *17*(1), 99–120. https://doi.org/10.1177/014920639101700108

Carlos, V. S., Almeida, J., Rodrigues, F. S., Macedo, A. C., & Veiga, P. M. (2025). The Impact of Entrepreneurial Ecosystems on Value Co-Creation in SME: The Moderating Role of Marketing Innovations. *Administrative Sciences*, *15*(12), 475. https://doi.org/10.3390/admsci15120475

Centobelli, P., Cerchione, R., Oropallo, E., El-Garaihy, W. H., Farag, T., & Al Shehri, K. H. (2022). Towards a sustainable development assessment framework to bridge supply chain practices and technologies. *Sustainable Development*, *30*(4), 647–663. https://doi.org/10.1002/sd.2262

Costa Melo, Dr. I., Queiroz, G. A., Alves Junior, P. N., Sousa, T. B. de, Yushimito, W. F., & Pereira, J. (2023). Sustainable digital transformation in small and medium enterprises (SMEs): A review on performance. *Heliyon*, *9*(3), e13908. https://doi.org/10.1016/j.heliyon.2023.e13908

Fan, M., Qalati, S. A., Khan, M. A. S., Shah, S. M. M., Ramzan, M., & Khan, R. S. (2021). Effects of entrepreneurial orientation on social media adoption and SME performance: The moderating role of innovation capabilities. *PLOS ONE*, *16*(4), e0247320. https://doi.org/10.1371/journal.pone.0247320

Ferreira, J., Cardim, S., & Coelho, A. (2021). Dynamic Capabilities and Mediating Effects of Innovation on the Competitive Advantage and Firm's Performance: the Moderating Role

of Organizational Learning Capability. *Journal of the Knowledge Economy*, *12*(2), 620–644. https://doi.org/10.1007/s13132-020-00655-z

Ferreira, J., Coelho, A., & Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation*, *92–93*, 102061. https://doi.org/10.1016/j.technovation.2018.11.004

Gilmore, A. (2018). SME Marketing and Competitive Advantage. *Journal of Strategic Marketing*, *26*(5), 1–15.

Jones, P., Maas, G., Kraus, S., & Lloyd Reason, L. (2021). An exploration of the role and contribution of entrepreneurship centres in UK higher education institutions. *Journal of Small Business and Enterprise Development*, *28*(2), 205–228. https://doi.org/10.1108/JSBED-08-2018-0244

Karneli, O., Heriyanto, M., Febrian, A. F., Ngatno, N., Purnomo, M., & Rulinawaty, R. (2021). *Measurement of Sustainable Competitive Advantages Through Digital Capability and Innovation Strategy: An Empirical Study in Indonesia*. *8*(6), 1121–1128. https://doi.org/10.13106/jafeb.2021.vol8.no6.1121

Li, L., Msaad, H., Sun, H., Tan, M. X., Lu, Y., & Lau, A. K. W. (2020). Green Innovation and Business Sustainability: New Evidence from Energy Intensive Industry in China. *International Journal of Environmental Research and Public Health*, *17*(21), 7826. https://doi.org/10.3390/ijerph17217826

Lu, H., & Shaharudin, M. S. (2024). Role of digital transformation for sustainable competitive advantage of SMEs: a systematic literature review. *Cogent Business & Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2419489

Lutfi, A., Al-Khasawneh, A. L., Almaiah, M. A., Alsyouf, A., & Alrawad, M. (2022). Business Sustainability of Small and Medium Enterprises during the COVID-19 Pandemic: The Role of AIS Implementation. *Sustainability*, *14*(9), 5362. https://doi.org/10.3390/su14095362

Mick, M. M. A. P., Kovaleski, J. L., & Chiroli, D. M. de G. (2024). Sustainable Digital Transformation Roadmaps for SMEs: A Systematic Literature Review. *Sustainability*, *16*(19), 8551. https://doi.org/10.3390/su16198551

Mohaghegh, M., Blasi, S., Russo, I., & Baldi, B. (2025). Digital transformation and sustainable performance: the mediating role of triple-A supply chain capabilities. *Journal of Business & Industrial Marketing*, *40*(4), 896–910. https://doi.org/10.1108/JBIM-02-2023-0098

Mondal, S., Singh, S., & Gupta, H. (2024). Exploring the impact of green entrepreneurial orientation on sustainable performance: insights from CSR, policy and innovation. *Management Decision*, *62*(12), 3946–3977. https://doi.org/10.1108/MD-10-2023-1816

Noer, M. Y., Chan, A., Tresna, P. W., & Purbasari, R. (2025). Digital marketing and sustainable innovation in SMEs through bibliometric and systematic review. *Cogent Business & Management*, *12*(1). https://doi.org/10.1080/23311975.2025.2548953

Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., … Moher, D. (2021). The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*, *372*, n71. https://doi.org/10.1136/bmj.n71

Porter, M. E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*. Free Press.

Priyono, A., Darmawan, B., & Witjaksono, G. (2021). How to harnesses digital technologies for pursuing business model innovation: a longitudinal study in creative industries. *Journal of Systems and Information Technology*, *23*(3/4), 266–289. https://doi.org/10.1108/JSIT-06-2020-0101

Sulistyo, H., & Ayuni, S. (2019). Competitive advantages of SMEs: The roles of innovation capability, entrepreneurial orientation, and social capital. *Contaduría y Administración*, *65*(1), 156. https://doi.org/10.22201/fca.24488410e.2020.1983

Van Eck, N. J., & Waltman, L. (2010). Software survey: VOSviewer, a computer program for bibliometric mapping. *Scientometrics*, *84*(2), 523–538. https://doi.org/10.1007/s11192-009-0146-3