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Sustainable competitiveness through community empowerment and success factors of SMEs?

Hayu Kartika[1,3]*, Hartrisari Hardjomidjojo[2], Machfud Machfud[2], Endang Warsiki[2]
[1]Doctoral Program in Agro-Industrial Engineering, Department of Agroindustrial Technology, IPB University, Indonesia
[2]Department of Agroindustrial Technology, Faculty of Agricultural Technology, IPB University, Indonesia
[3]Department of Industrial Engineering, Faculty of Engineering, Universitas Mercu Buana, Indonesia

Abstract
This study aims to examine the relationship between sustainable competitiveness and community empowerment in the context of small and medium enterprises (SMEs) by conducting a systematic literature review using the PRISMA guidelines. The review identified relevant studies published between 2021 and 2025 in the Scopus database and analyzed them using the VOS Viewer bibliometrics tool. This study explores the role of empowerment in improving Sustainable Competitiveness, findings show that the topics of sustainable competitiveness and community empowerment are still rarely discussed in an integrated manner, although both are significantly interrelated. The analysis identified six main dimensions that contribute to sustainable competitiveness in SMEs: Economic, Social, Environmental, Technological, Organizational, and Human Resources that correlate with sustainable competitiveness in SMEs. In various literatures, sustainable competitiveness in SMEs is often discussed and has a close relationship with the use of technology in SMEs businesses. However, on the other hand, it also needs to be supported by the role of the community which is included in the social dimension, which also plays an important role in SMEs that support business sustainability, foster cooperation networks, and improve the welfare of local communities. These findings provide a basis for insight and information to develop targeted business strategies and public policies aimed at enhancing sustainable competitiveness in SMEs through community engagement.

Keywords:
Community Empowerment;
SMEs;
Success Factors;
Sustainable Competitiveness;

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Corresponding Author:
Hayu Kartika
Doctoral Program in Agro-Industrial Engineering, Department of Agroindustrial Technology, IPB University, Indonesia
Email:
kartikahayu@apps.ipb.ac.id

INTRODUCTION

As SMEs face environmental pressures and competitive market dynamics, the need for sustainable practices becomes increasingly important. Sustainability practices in SMEs tend to be unstructured and lack formal instruments, such as sustainability frameworks, guidelines, and tools, and are not part of a systematic strategy. There is also a lack of institutional support and internal capabilities, which make it difficult for SMEs to implement sustainable practices [1]. In addition, the form of sustainable competitiveness is closely related to the issue of the relationship with the environmental sustainability of SMEs and the existence of innovation in business. Environmental sustainability here is intended as a form of SMEs' efforts to minimize negative impacts on the environment by carrying out SMEs' practices that lead to environmentally friendly product results and produce minimal waste [2].

In achieving sustainable competitiveness, SMEs require an integrated implementation of Environmental, Social, and Governance (ESG) so that this integration can reduce environmental impacts and increase operational efficiency, SMEs' reputation, and competitiveness in the

global market [3][4]. Recent research shows that SMEs need to integrate sustainable competitiveness with local community empowerment as part of their business models [5]. However, the sustainability model in the ESG aspect also has implementation gaps, especially in carrying out community participation effectively due to limited local capacity and lack of formal support [6][7].

Sustainable competitiveness not only influences the increase in economic profits of SMEs but also serves as a foundation for strengthening resilience in running a business that will face market changes and environmental policies [8]. In this context, John et al. [3] researched the impact of implementing SC, namely reducing operational costs by up to 20% and increasing energy by 30%, increasing brand loyalty and customer satisfaction, and increasing employee loyalty and productivity. In addition, SMEs tend to be more resistant to economic crises and market volatility.

Conceptual development related to ESG, especially in the Social (S) pillar, is very important to pay more attention to. So far, many have focused on and emphasized the economic pillar, but the social pillar has not been discussed empirically. The implementation of ESG must be able to have a real social impact, namely, by adopting a relational approach that aims to improve the welfare of workers, communities, and SMEs in a more sustainable ecosystem [9]. This rational approach is built in the context of empowerment, the success of community empowerment depends on strong relationships between SMEs, workers, and local communities and the empowerment process also requires local potential, empowerment capital, social communities, and the capabilities of the actors involved [9][10].

This sustainable competitiveness theory model with community empowerment is based on a theory related to strategic management that looks at the Resource-Based View (RBV), which states that companies can achieve sustainable competitive advantage if they have and manage internal resources to be valuable, rare, difficult to imitate, and not easily replaced. This is in line with research conducted by Gibson et al [11], which emphasizes the need to expand the RBV by viewing communities as strategic resources, so that companies can achieve sustainable competitive advantage. In addition, from the RBV perspective, social relationship management (community/CRM) enhanced by dynamic capabilities indirectly reinforces sustainable competitive advantage for small and medium-sized enterprises (SMEs) [12].

Community empowerment is often discussed and used in the context of tourism sector development, where the role of local partners or communities is needed to build cooperation, and social networks play an important role in the resilience of an organization [13]. There is not much discussion of empowerment carried out in the food processing industry sector, but the author found one journal that discussed a sustainable empowerment model in the context of SMEs development, where empowerment here emphasizes the use of resources, access to funding, community involvement, where the discussion focuses on the economic, social, and environmental dimensions of SMEs [10].

On the other hand, besides the ESG dimension, there are organizational and technological dimensions that need to be considered in creating competitiveness that involves the role of the community in SMEs, this is to the research results of Ikhfi et al. [14], which highlights the role of the community involved in all stages, starting from the planning stage, implementation and monitoring activities so that they are not only involved but also have a role in the organization that is formed or established. Various studies have shown that the technological aspect is crucial in empowering communities in SMEs. For example, Setiadi et al. [15] demonstrate that university-industry partnerships that encourage the adoption of digital technologies can strengthen the capacity of SMEs and local communities. Digital literacy and access to technology are the main foundations for community empowerment through SMEs so that they can achieve a competitive advantage [16].

Considering that community empowerment within an organization is one of the things that can increase the sustainable competitiveness of SMEs, where developing an organization or SMEs is not only focused on internal development, but the organization can also contribute significantly to the external environment, which can also have a broad impact on the welfare of the community and the surrounding society, that can be sustainable. For that, this study began with the systematic review process, where this process is a very important part to create a view by using a systematic approach process in conducting selection, evaluation, and synthesizing research so that researchers can obtain a conclusion [17]. This study aims to systematically examine the interaction between sustainable competitiveness and community empowerment in SMEs, with specific research questions addressing recent developments and key success factors influencing sustainable practices. The insights gained from

this study are not only important for improving the operational efficiency of SMEs but can also serve as actionable guidelines for policymakers who aim to foster community engagement, such as in the context of sustainable economic development through enhancing SME competitiveness.

With the purpose of the study, several research questions (RQ) of this study, namely:

RQ1: Current research developments on the topic of sustainable competitiveness through community empowerment in SMEs?

RQ2: What are the key factors of SMEs' success in creating sustainable competitiveness in SMEs?

METHOD

The method used in this study is a systematic literature review search conducted in electronic databases. The Systematic Review process follows the PRISMA guidelines and consists of five distinct phases: Identification, Screening, Eligibility, Inclusion-Exclusion, and Data Synthesis. Specifically, studies were included if the literature involved SMEs and discussed sustainable competitiveness or community empowerment, and were published in peer-reviewed journals within the last five years.

Search for Information Sources

The electronic database used in the article search is the Scopus Database. With the following search criteria:

1. The articles used have a period of 5 years, namely 2021-2025
2. Using a search using two keywords in the Scopus database, namely Sustainable' AND 'Competitiveness' AND 'SMEs' as well as Community' AND 'Empowerment' AND 'SMEs'
3. The articles used are only those related to sustainable competitiveness and community empowerment in SMEs
4. The articles used are research articles
5. The article contains information related to key success factors in implementing sustainable competitiveness in SMEs

The search begins by determining the main keywords, namely, sustainable competitiveness of SMEs and community empowerment. The search uses a database in Scopus with the Title-Abstract-Keyword search string. To ensure accuracy in identifying relevant studies related to the theme in this study. The keywords 'Sustainable' AND 'Competitiveness' AND 'SMEs' with a period span of 2021-2025 obtained 266 documents on the sustainable competitiveness of SMEs. Figure 1 shows that there are 226 documents related to searches with the keywords 'Sustainable' AND 'Competitiveness' AND 'SMEs' in the 2021-2025 period.

In Figure 1, it can be seen that the keyword sustainable competitiveness SMEs in the 2021-2025 period is: 42 articles in 2021, 40 articles in 2022, 73 articles in 2023, 95 articles in 2024, and 16 articles in 2025. Note that for 2025, there may be an increase because the data access for this research was carried out on March 5, 2025. From this graph, it can be seen that the discussion of the keyword sustainable competitiveness tends to increase.

The keywords 'Community' AND 'Empowerment' AND 'SMEs' with a period span of 2021-2025 produced 20 articles, the number of which can be seen each year in Figure 2.

In Figure 2, it can be seen that the second keyword, namely Community Empowerment of SMEs in the 2021-2025 period, is: 6 articles in 2021, 1 article in 2022, 3 articles in 2023, 7 articles in 2024, and 3 articles in 2025. With a note that for 2025, there may be an increase because the data access for this research was carried out on March 5, 2025. From the graph above, it can also be seen that the theme with the keyword community empowerment in SMEs tends to have opportunities to be explored further.

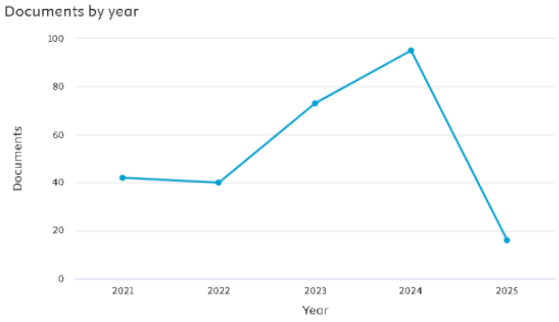

Figure 1. Articles with the Keyword sustainable competitiveness SMEs

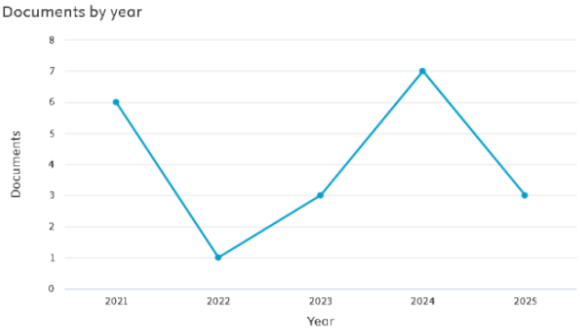

Figure 2. Articles with the Keywords Community Empowerment in SMEs

Methods

Data analysis was performed using VOS Viewer version 1.6.19, which facilitates the visualization of Co-Occurrence among keywords, identifying research clusters and trends in the literature. The minimum threshold for keyword occurrence was set to three, allowing the examination of applicable themes in the context of sustainable competitiveness and community empowerment in SMEs. Collection of study articles with article mapping using VOS Viewer bibliometrics visualization from articles that have been screened according to the PRISMA procedure stages, Figure 3. The VOS viewer software displays bibliometrics maps graphically, where closely related elements are grouped into clusters that are close to each other [18]. Bibliometrics analyzes this information to Different kinds of research, such as calculating metrics such as the h-index and trend analysis over Mapping Co-Authorship and Citation Over Time, Networks, and recognizing key themes Clusters of research [19].

Determination of study selection was carried out using the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) procedure. This approach helps in the systematic review stages through the process of identification, screening, eligibility, and evaluation of inclusion in the article [3][20].

The article screening used in the review process follows the rules of the PRISMA stages. Figure 3 shows that there are 3 stages of the screening flow, namely the identification stage, the article screening stage, and the articles included in the review.

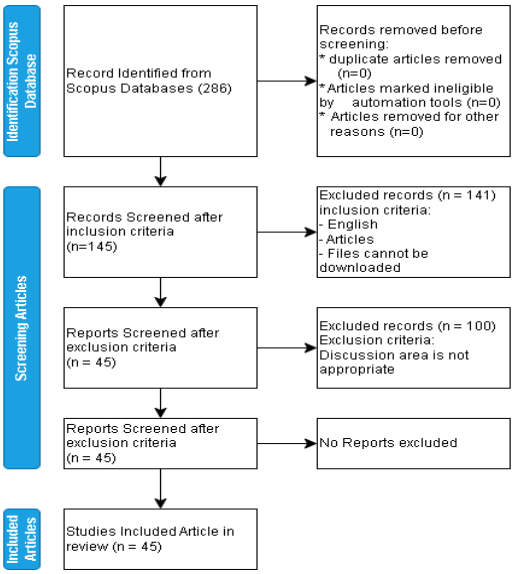

Figure 3. Article Screening Process

An important part of the identification stage is determining keywords by creating a combination of appropriate keywords in searching for literature in the database [21]. The search was conducted on the Scopus database which was conducted in March 2025 by considering the terms: "Sustainable Competitiveness SMEs", and "Community Empowerment SMEs". So the combination of the two keywords after each of these keywords was entered into the Title-Abs-Key search on Scopus there were 286 articles.

From the initial 286 articles identified through a Scopus search using specified keywords, a systematic screening process applying pre-defined inclusion and exclusion criteria, such as language (English), publication type (peer-reviewed), and relevance to the research question resulted in a final selection of 45 articles. This rigorous selection ensured the credibility and relevance of the reviewed literature.

A potential limitation of the systematic review is the reliance on a single database, Scopus, which may not cover all relevant literature, potentially omitting studies available in other databases that could enrich the findings. Future research may benefit from a more comprehensive approach that includes additional databases.

RESULTS AND DISCUSSION

Literature Trends and Subject Areas

The increase in articles related to 'sustainable competitiveness, community empowerment in SMEs' during the period 2021-2025, as shown in Figure 2, highlights the growing recognition of the importance of community engagement in enhancing sustainable competitiveness. This trend suggests that researchers and practitioners are beginning to understand the important role that community dynamics play in shaping SMEs' strategies. This is likely to continue to increase until the end of 2025.

However, there is a finding in Figure 2 that there was a decrease in articles published in 2022, namely only one study, which could be an indication of reduced research funding or a shift in priorities in the SMEs sector during that year. Analyzing potential external factors, such as economic conditions or policy changes affecting SMEs, could explain this trend.

Search on the Scopus database using the TITLE-ABS-KEY search. For key 1, using the search sustainable AND competitiveness AND SMEs, there are 22 Subject Areas of discussion related to the sustainability of competitiveness in SMEs in the 2021-2025 period. However, the researchers only categorized the subject areas

into the top 10. Figure 4 shows the categories of these subject areas.

In Figure 4, there are ten areas of discussion related to sustainable competitiveness. The largest discussion related to sustainable competitiveness is in the subjects of Business, Management, and Accounting, which is 23%. Meanwhile, the Engineering sector is ranked 5th in terms of the discussion area of sustainable competitiveness of SMEs, which is 11%. This indicates that the discussion regarding sustainable competitiveness in this field is still very broad to discuss and research the relationship in the Engineering field.

Key 2 uses the Community AND Empowerment AND SMEs search during the 2021-2025 period; there are 13 subject areas. Figure 5 shows these 13 subject areas.

Figure 5 shows that 24% of SMEs are related to social sciences. In the Engineering field, topics related to community empowerment also rank fifth, at 7%, along with topics in Earth and Planetary Sciences and Economics, Econometrics, and Finance. Based on the search for the subject area of the keywords above, the search in the context of the role of community empowerment in sustainable competitiveness in SMEs is still widely un-discussed in the references found.

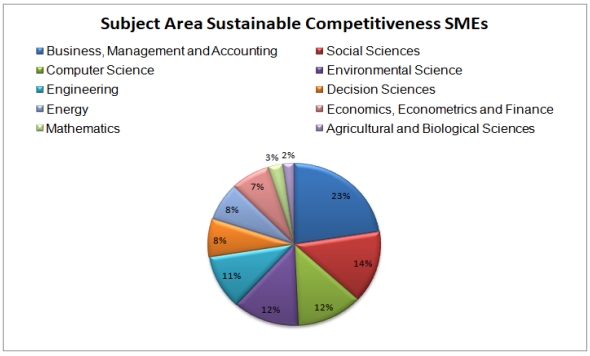

Figure 4. Subject Area: Sustainable Competitiveness

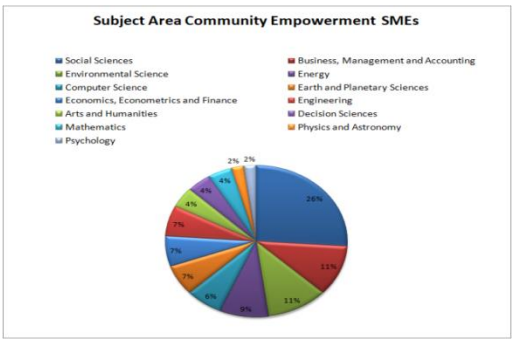

Figure 5. Subject Area: Community Empowerment

The role of this community has a significant influence on the sustainability of SMEs and the community around SMEs. If SMEs implement community empowerment in a more structured, collaborative, and local potential-based manner in the empowerment process, SMEs will be able to improve welfare and create SMEs that can be competitive [10][22].

Topics and Keywords

Determining keywords at the initial stage is an important part of describing the level of Co-Occurrence in the study. This analysis is intended to determine the main research topic regarding sustainable competitiveness in SMEs. Therefore, this analysis uses the help of the VOS Viewer software.

The minimum number of keyword occurrences is set at three occurrences. Figure 4 shows the Co-Occurrence map, the map it produces and identifies four clusters (Table1) with common topics and keywords that often appear in each cluster as follows: cluster 1 "Competitiveness" and "Community Empowerment", in Cluster 2 "SMEs", Cluster 3 "Innovation" and "Sustainable Development" for Cluster 4 "Rural Community", "Tourism" and "Empowerment".

Based on the results of the Co-Occurrence analysis for keywords focused on the topic of this article, namely the discussion of sustainable competitiveness through community empowerment in SMEs, keywords that are related to the same cluster are the keywords sustainable competitiveness and SMEs. Meanwhile, community empowerment has not been connected in the same cluster. This shows that topics related to community empowerment in SMEs still need to be studied further.

Table 1. Co-Occurrence Analysis Results

Cluster	Keyword	Occurrences	Total Link Strength
1 (RED)	Competitiveness	14	14
	Community Empowerment	14	11
	Sustainability	9	14
	Management	4	4
2 (GREEN)	SMES	16	61
	Competitive advantage	8	49
	Sustainable Competitiveness	4	4
	Organizational growth transition	3	48
3 (BLUE)	Innovation	5	4
	Sustainable Development	5	2
	ESG	4	10
4 (YELLOW)	Rural Community	4	8
	Tourism	4	6
	Empowerment	4	6

Visualization of the network results for Co-Occurrence can be seen in Figure 6, which illustrates the relationship between each keyword in the article search results. Figure 7 shows the color density of each text in the keyword. Color density is a file that shows the density of each text of the keyword. In the visualization, the denser an item is, the brighter its color is, but if the density of an item decreases, the color will become fainter [23].

From the visual density results of Figure 7, keywords such as "SMEs", "competitiveness", "community empowerment", and "sustainability" appear to have a high density (yellow zone). This means that this topic is the most discussed and is the main focus of the study. As for topics that can be closely related, keywords such as "innovation", "sustainable competitiveness", and "sustainable development" are closely related to the main topic and often appear together, but are not as dense as the main keywords. Specific or Targeted Topics: Keywords such as "rural community empowerment" appear in areas with lower density, indicating that they are more specific or have not been widely discussed in the literature.

Success Factors for Sustainable Competitiveness

Key success factors are factors that influence the achievement of achieving success, such as in business, career, profession, and so on.

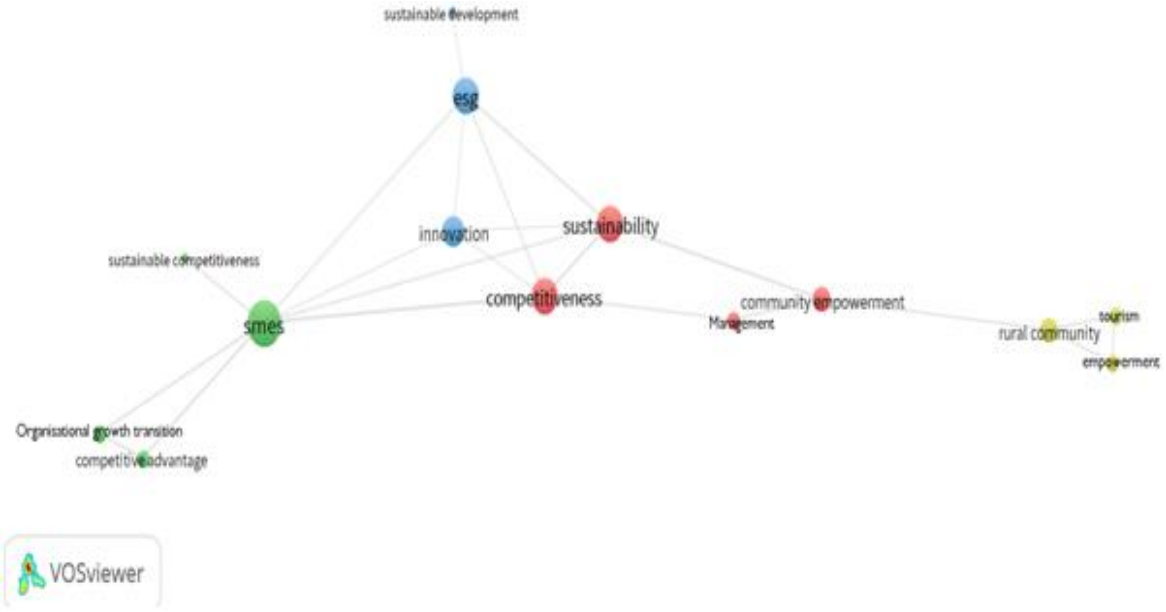

Figure 6. Keyword Cluster

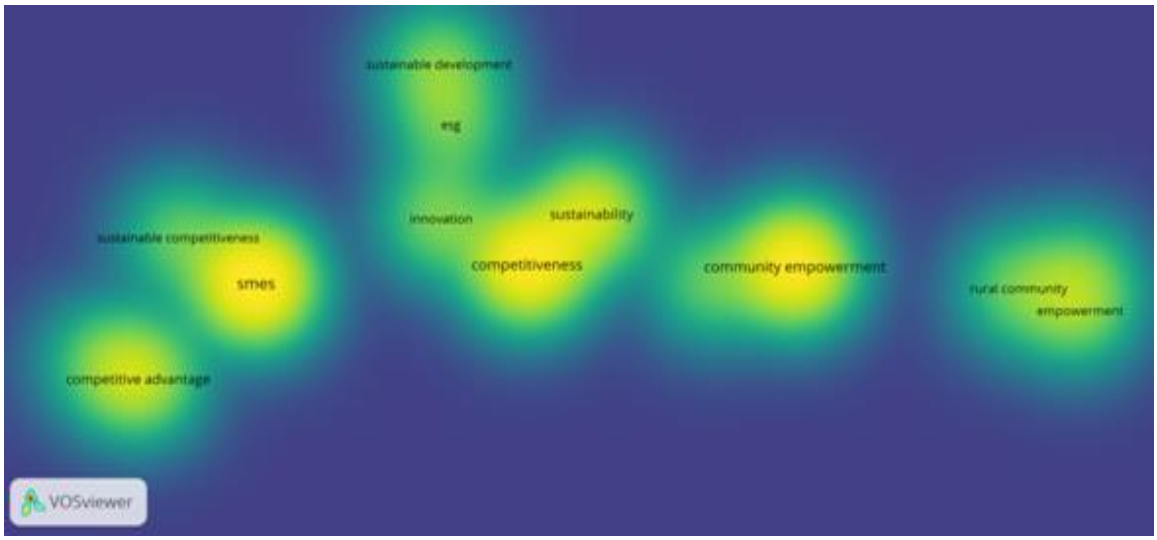

Figure 7. Visual Density

From the results of the literature review, the key success factors found in achieving sustainable competitiveness can be seen in Table 2 and Table 3. Key success factors in helping SMEs adapt to changing consumer needs and expectations will result in increased competitive value and competitiveness for SMEs [24].

Table 2. Key Success Factors

Sector	Journal Publication	Method	Key Success Factors for Sustainable competitiveness of SMEs	Reference
Agriculture	Sustainability	system-based approach, comparative analysis approach	Utilization of information and data developments, Use of digital platforms, Involvement of various stakeholders and institutions.	[25]
Accommodation	International Journal of Business Ecosystem & Strategy	Qualitative with interviews, thematic analysis, TOE, and RBV	Technology Sustainability, Executive Support, Resources and Organizational Capacity, Regulations that support sustainability Support from local communities for sustainable practices.	[26]
Accommodation	Sustainability	Partial Least Squares Structural Equation Modeling (PLS-SEM),	Flexibility, technological innovation, new knowledge, and developing resources, Strong network with business associations or partners	[27]
Non-Specific	Sustainability	Simple linear regression, one-way ANOVA, and T-test	Proper human resource management, continuous innovation, and increased investment in ICT	[1]
Service	International Review of Management and Marketing	Quantitative and qualitative methods (ANOVA) and thematic analysis for interviews	Managerial Capacity, Funding and Financial Resources, Technology Infrastructure, Accessibility and Infrastructure, Partnerships and Collaboration	[28]
Food Processing	Food Research	matrix IFE (Internal Factor Evaluation) and EFE (External Factor Evaluation).	Product quality, innovation, and competitive prices, development of tourism areas, government support, technology, Support from business partners, training programs, and access to funding	[29]
Agriculture	Journal of Environmental Management and Tourism	Regression analysis, Forecasting	Financial Stability, Supportive Infrastructure, Conducive Policy Environment, Adaptation to Changes in the External Environment, Collaboration with Financial Institutions, Human Resources Competency Improvement, Operational Digitalization.	[30]
Non-Specific	Sustainability	Structural Equation Modeling (SEM), Principal Component Analysis (PCA).	Collaboration, Availability of competent and trained human resources, Leadership that supports sustainability and innovation, Knowledge Infrastructure, Organizational Culture, Use of Technology.	[31]
Food Processing	International Journal of Emerging Markets	Smart PLS-SEM	Relationships with Customers and Stakeholders, Leadership Involvement, Balance of Interests, CSR Awareness and Consistency, Adequate Infrastructure and Technology, Appropriate Performance Measurement System	[32]
Manufacturing	Cogent Business & Management	Qualitative and Quantitative methods. Covariance-Based Structural Equation Model (CB-SEM).	External Support, Intangible Assets, Flexibility, Speed and Quality of Innovation. Human Resource Management, CSR Implementation.	[33]
Manufacturing	Frontiers in Environmental Science	Partial Least Squares Structural Equation Modeling (PLS-SEM)	Environmental Regulatory Support, Collaboration, Investment in Green Intellectual Capital (GIC), Absorptive Capacity (AC), Commitment to Green Innovation (GI).	[2]
Non specific	Jurnal Optimasi Sistem Industri	Quantitative research with a causal approach, Structural Equation Modeling-Partial Least Squares (SEM-PLS).	Effective Government Support, Collaboration with External Institutions, Continuous Education and Training, Financial Capacity and Infrastructure.	[34]

Table 3. Key Success Factors (Continue)

Sector	Journal Publication	Method	Key Success Factors for Sustainable competitiveness of SMEs	Reference
Industrial	International Journal of Advanced Computer Science and Applications	Descriptive research design, Structural Equation Modeling, SEM, SPSS and AMOS	Collaboration, Innovation as Competitive Core, Commitment to Continuous Improvement, Effective Resource Management, Appropriate Use of Technology, Capacity for Adaptation, Deep Understanding of the Market	[35]
Tourism	MDPI - Water	Quantitative and Qualitative narrative descriptive.	Collaboration with Stakeholders, The Right Investment Approach, Focus on High Value Niche Markets, Adaptability to Crisis, Optimization of Resources, Innovation and Technology.	[36]
Non specific	International Journal of Economics and Management	Exploratory qualitative methods	Collaboration and Networking, Use of Technology, Operational Flexibility, Market Understanding, Effective Resource Management, Commitment to Sustainability, Training and Development	[37]
Food	Journal of Infrastructure, Policy and Development	Life Cycle Assessment (LCA), ESG (Environmental, Social, Governance)	Stakeholder Engagement, Access to Funding, Management Commitment, Efficient Technology Adoption, Innovation, Effective monitoring system	[3]
Non specific	Sustainability	Qualitative methods	Management Commitment, Internal Competency Training and Development, Use of Data and Analytics from social media to understand market trends.	[8]
food, health and beauty		Qualitative methods	Characteristics of Technology Providers, Collaboration Between Stakeholders, Appropriate Technology	[38]
handicrafts and creative industries	International Journal of Sustainable Development and Planning	PLS-SEM (Partial Least Squares Structural Equation Modeling)	Collaboration with Business Partners, Utilization of Appropriate Technology, Innovation Capabilities, Human Resource Competence, Utilization of Digital Data.	[39]
logistics	Journal of Infrastructure, Policy and Development	Regression analysis, Testing of relationships	Close Collaboration, Trust as a Foundation, Development of Shared Culture and Values, Focus on Creating Shared Value	[40]
Textile	Journal of Human, Earth, and Future	Qualitative Approach, Business Model Canvas	Collaboration with Stakeholders, environmentally friendly products, Management Commitment, Ability to continuously innovate in design, Use of Appropriate Technology	[41]
Non specific	Journal of the Knowledge Economy	Descriptive statistical analysis, Principal Component Analysis (PCA),	Knowledge, Intellectual capital utilization, Collaboration, Culture, innovation	[42]
Fashion Industry	Review of Managerial Science	Qualitative approach	Partnership collaborations that contribute to SDGs	[43]
Manufacturing	African Journal of Applied Research	ISM, MIC MAC	Government policy, customer pressure, technological and managerial readiness	[44]
Agricultural Food	Sustainability	content analysis, source triangulation	Partnership collaboration, Customer Education, Innovation and Technology, Policy and Regulation	[4]

Table 2 and Table 3 show the results of the search for key factors that support the success of SMEs in creating competitiveness.

Based on Table 2 and Table 3, the author will categorize the key success factors, which can be seen in Table 4. These key factors are divided into 6 dimensions, namely: Economic, Social, Environment, Technology, Organization, and Human.

Economic Dimensions

The economic dimension of sustainability is greatly influenced by the financial stability of SMEs. Access to financing is one of the things that can increase the competitiveness and resilience of SMEs in the long term and is able to contribute directly to national economic development in a sustainable and inclusive manner [30]. In addition, SMEs must also be able to demonstrate the

importance of brand identity and respond to market opportunities, so they are required to have a strong understanding of the market, which is a key component in sustainability [36].

Social Dimensions

An important aspect that is sometimes overlooked is social, where if this is paid attention to, it will have a big impact on society, improving reputation and long-term sustainability [45]. Support from local communities plays an important role in driving the success of sustainable practices, which is influenced by community knowledge about the benefits of sustainability, so it is very important to increase community awareness and education as a strategic step [26].

Collaboration is a key point in achieving successful SME development. Cross-sector partnership collaboration is a strategic foundation in strengthening SME competitiveness, and the success of this collaboration requires effective management, policy support, and strengthening infrastructure. This is intended to ensure long-term sustainability [28].

Environment Dimensions

The environmental dimension plays an important role in sustainability, environmental policies, and regulations as drivers of the integration of sustainable practices. Adaptive, collaborative, and contextual policies are needed to accelerate the sustainability transformation by considering the large role of SMEs in the supply chain and the cumulative environmental impacts [4]. The development of environmentally friendly products in SMEs can be carried out in a real way with a sustainable approach by integrating it into the product life cycle. In addition, this integration needs to be supported by innovation, environmental awareness, and a planned production strategy [41].

Technology Dimensions

Technological innovation is an important foundation that can help business actors manage resources more efficiently, reduce waste, and increase productivity, with the use of technologies such as digital transformation, AI, ICT, and data analytics enabling SMEs to collect, analyze, and utilize them to support better and more responsive decision making [25]. For SMEs to improve sustainable competitiveness, innovation from technology is needed as a strategic solution. However, SMEs usually face limitations in resources and R&D capacity, so assistance is needed in the form of technology transfer, such as assistance in developing new products, improving product standards, digital marketing, and production efficiency [38].

Organization Dimensions

An organization is an entity that has resources, capabilities, managerial structures, and strategies that play a role in adopting sustainable practices, where the organization is the key to success in adopting sustainable practices, especially in developing countries [26].

The main challenges within the organization are related to capacity and management, there are obstacles related to this such as: lack of skilled workers and less than optimal organizational structure, ineffective coordination between stakeholders, limited financial resources and technological infrastructure [28] To increase the competitiveness of SMEs sustainably in the current digital era, SMEs also need to have adequate Information and Communication Technology (ICT). Without this, SMEs will have difficulty competing, be slow to innovate, and lose dynamic market opportunities [1].

Supporting the success of information management, knowledge, and intellectual capital development in SMEs is influenced by organizational culture, where this organizational culture is included in the context of the SMEs network, namely, creating a collaborative culture, being open to learning, and encouraging trust between network members so that it can facilitate the creation and exchange of knowledge effectively [42]. In developing or increasing the sustainable competitiveness of SMEs, the main foundation in this sustainability practice requires commitment from management. This must be aligned with business objectives that lead to and apply sustainability practices [3].

Human Dimensions

Competent human resources are an important prerequisite for businesses to be able to adapt to changes such as facing market demands, new technologies, and sustainability strategies. SMEs need to collaborate with related companies and institutions to assist in improving the skills and retraining of their human resources [37].

Human resources must have new knowledge because it is one of the strategic assets that drives innovation, increasing competence, and adapting to market changes. New knowledge enriches human capital (improving skills), structural capital (better systems and processes), and relational capital (strategic partnerships) for the long-term competitiveness of SMEs [42].

Table 4. Dimensions and factors of sustainable competitiveness of SMEs

Dimension	Factors	Reference
Economic	Financial Capacity and Stability	[30][34]
	Funding and Financial Resources	[28][3]
	competitive prices	[29]
	Understanding of the Market	[35,36, 37, 8]
Social	Support from local communities	[26][34]
	Collaboration and Partnership	[28,31, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 4]
	Corporate Social Responsibility	[32, 33, 4]
	Relationships with Customers	[32]
Environment	Environmental Regulatory and Policy	[2,30, 44, 4]
	environmentally friendly products	[41]
Technology	Technological innovation	[25,1,28, 29, 31, 32, 34,2,3,36,39, 4, 38, 41]
	Technology Sustainability	[26][38]
	Utilization of Digital Data	[39][25]
	Appropriate Technology	[38, 39, 41]
Organization	Organizational Capacity	[26, 31, 35]
	Infrastructure	[34][28]
	Managerial Capacity	[28, 2, 44]
	investment in ICT	[1]
	Organizational Culture	[31, 40, 42]
	Management Commitment	[3, 8, 41]
Human	Education and Training	[34, 4, 31, 37]
	Human Resources Competency	[1, 30, 31, 37, 39]
	New Knowledge	[27] [42]

Source: Self-Elaboration

Based on Table 4, in an effort to achieve organizational goals sustainably, there are various dimensions and factors that must be considered. Based on the results of the literature synthesis, there are six main dimensions, namely: economic, social, environmental, technological, organizational, and human resources. Each dimension has supporting factors that contribute directly or indirectly to the success of the organization's strategy and operations.

1. Economic Dimension
   The economic dimension emphasizes the importance of financial strength and market competitiveness in supporting organizational sustainability. Factors such as financial capacity and stability, financial resources, competitive pricing, and market understanding are key to ensuring business continuity and adaptation to market dynamics. [3, 28, 29, 30, 34, 35, 36, 37].
2. Social Dimension
   Social factors reflect the importance of a harmonious relationship between an organization and its social environment. This includes support from the local community, collaboration and partnership, corporate social responsibility (CSR), and good relationships with customers. These social aspects not only enhance the organization's reputation but also strengthen social acceptance of the organization's existence and activities. [4, 8, 25, 28, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43]
3. Environmental Dimension
   Awareness of environmental issues is also an integral part of sustainability. Organizations need to comply with environmental policies and regulations, and develop environmentally friendly products to minimize negative impacts on ecosystems and meet consumer demands for sustainable products. [2, 4, 30, 41, 44]
4. Technology Dimension
   Technology is an important supporting factor in increasing organizational efficiency and competitiveness. Factors such as technological innovation, technological sustainability, digital data utilization, and appropriate use of technology all play a role in driving digital transformation and increasing organizational capabilities in the industrial era 4.0. [4, 24, 25, 27, 28, 37, 39, 41]
5. Organizational Dimension
   The organizational dimension focuses on internal aspects such as organizational capacity, infrastructure, managerial capacity, and strategic investment, all of which support the achievement of long-term goals. Strong internal capabilities enable organizations to manage change, overcome challenges, and innovate sustainably.
   [2, 25, 27, 28, 31, 34, 35, 44]
6. Human Dimension
   The human dimension reflects the importance of developing and managing competent individuals to drive organizational performance and innovation. Important factors in this dimension include education and training, availability and quality of human resources, competence, and new knowledge. Investment

in human resource development is the foundation for increasing the competitiveness of the organization in a sustainable manner. [4, 26, 27, 30, 34, 37, 39, 42]

Related to RQ1, our systematic review revealed that current research developments mainly focus on the integration of sustainable competitiveness with an emphasis on the role of community within SMEs, as evidenced by the clustering of studies around CSR practices, stakeholder engagement and building close collaboration and cooperation in SME management and development. This insight signifies a paradigm shift where SMEs are increasingly recognized not only as economic units but also as integral components of their communities. This indicates that the discussion regarding sustainable competitiveness in this field is still very broad to discuss and research the relationship in the Engineering field.

Regarding RQ 2 related to the success factors of sustainable competitiveness through community empowerment, 24 success determinants were obtained which were grouped into 6 dimensions. These results can be seen in Table 4. These factors can be a reference and additional new insights related to things that can be considered and considered in measuring or maintaining so that SMEs can develop and improve their competitiveness.

Implications and Applications

The practical implications and applications related to these findings require a reconsideration of how SMEs develop their operational strategies and adjust them to the vision and mission of the organization itself. If we want to improve and focus on community empowerment within SMEs, a framework is needed that instills the involvement of stakeholders from the community who play a role in SMEs' strategic planning. So with this framework, SMEs are able to improve sustainability and competitive advantage by increasing resources such as knowledge, skills, and ease of obtaining information.

These findings can also be used as considerations in formulating relevant policies to improve the sustainability of community economic development.

Although this review highlights significant trends in the literature, it has limitations due to the use of a single database and the exclusion of literature not included in the Scopus database. It is still possible to find and gain other valuable insights. Future research is expected to take these limitations into account by utilizing multiple databases and incorporating qualitative studies that explore community empowerment in SMEs in more detail in an effort to improve competitiveness.

CONCLUSION

This study shows an increasing trend in the development of sustainable competitiveness research with community empowerment that has a tendency to increase, which indicates that practitioners and researchers are starting to pay attention to community empowerment as an important thing to improve in the development of SMEs to be able to survive and contribute to building the welfare of SMEs and communities. In addition, the subject area of discussion, Engineering still has the potential to raise discussions related to sustainable competitiveness that involve communities in the implementation of this field.

In this study, we also found one important component of sustainable competitiveness that can be improved through community empowerment by paying attention to 6 main dimensions, namely the Economic, Social, Environmental, Technological, Organizational and Human Resource dimensions as important for achieving success in improving the competitiveness of SMEs in a sustainable manner.

In order to achieve competitiveness, encouragement from stakeholders and policymakers is needed in a framework that facilitates the involvement of community roles in SMEs. In addition, there needs to be a practice of collaboration, building partnerships, and cooperation among various parties. This serves as one of the strategic tools to improve community welfare and business sustainability. Although this study can provide valuable knowledge, there are limitations, namely, the focus of the literature that uses a single database. Future research can consider this by using broader sources and qualitative case studies so that it can offer deeper insights into contextual factors influencing community empowerment in various SME environments.

This study underlines the importance of integrating community empowerment as one of the strategies of SMEs to improve their competitive advantage and sustainability. This study contributes to the literature that community empowerment is important in developing sustainable competitiveness of SMEs, of course this can offer a new perspective that emphasizes the role of the community in business success. Based on these findings, it is very important for SMEs and policymakers to recognize the transformative potential of community empowerment strategies, because the role of this

community not only improves business performance but also fosters a resilient and thriving local economy. This supports the development and welfare of the areas around SMEs.

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REFERENCES

[1] B. Kahouli, A. Nafla, and N. Chaaben, "Exploring the Influence of the Information and Communication Technology Dimensions on the Sustainability of Competitiveness in Small and Medium-sized Enterprises in the Hail Region," *Sustainability*, vol. 15, no. 16325, pp. 1–19, 2023, doi: 10.3390/su152316325.

[2] J. M. Sohu *et al.*, "Driving sustainable competitiveness : unveiling the nexus of green intellectual capital and environmental regulations on greening SME performance," *Front. Environ. Sci.*, no. February, pp. 1–13, 2024, doi: 10.3389/fenvs.2024.1348994.

[3] J. Pinedo-López, R. Baena-Navarro, Y. Carriazo-Regino, A. Urrea-Ortiz, and D. Reyes-Guevara, "Sustainability strategies: A proposal for food sector SMEs, based on the integration of life cycle assessment and ESG strategies," *J. Infrastructure, Policy Dev.*, vol. 8, no. 12, pp. 1–30, 2024, doi: 10.24294/jipd.v8i12.8934.

[4] G. Camelo and M. Nogueira, "The ESG Menu: Integrating Sustainable Practices in the Portuguese Agri-Food Sector," *Sustain.*, vol. 16, no. 11, 2024, doi: 10.3390/su16114377.

[5] S. Suriyankietkaew, K. Krittayaruangroj, and N. Iamsawan, "Sustainable Leadership Practices and Competencies of SMEs for Sustainability and Resilience: A Community-Based Social Enterprise Study," *Sustain.*, vol. 14, no. 10, pp. 1–36, 2022, doi: 10.3390/su14105762.

[6] E. Harinurdin, B. S. Laksmono, R. Kusumastuti, and K. A. Safitri, "Community Empowerment Utilizing Open Innovation as a Sustainable Village-Owned Enterprise Strategy in Indonesia: A Systematic Literature Review," *Sustain.*, vol. 17, no. 8, pp. 1–30, 2025, doi: 10.3390/su17083394.

[7] S. Purnomo and S. Purwandari, "A Comprehensive Micro, Small, and Medium Enterprise Empowerment Model for Developing Sustainable Tourism Villages in Rural Communities: A Perspective," *Sustain.*, vol. 17, no. 4, 2025, doi: 10.3390/su17041368.

[8] E. Korcsmáros and B. Csinger, "Sustainable Competitiveness in the Case of SMEs—Opportunities Provided by Social Media in an International Comparison," *Sustain.*, vol. 14, no. 19, pp. 1–18, 2022, doi: 10.3390/su141912505.

[9] L. Becchetti, E. Bobbio, F. Prizia, and L. Semplici, "Going Deeper into the S of ESG: A Relational Approach to the Definition of Social Responsibility," *Sustain.*, vol. 14, no. 15, pp. 1–22, 2022, doi: 10.3390/su14159668.

[10] M. Hermansyah, I. Santoso, S. Wijana, Sucipto, and A. Fudholi, "Implementation of Participatory Rural Appraisal (PRA) in empowering gaplek SMEs using Partial Least Square (PLS) analysis," *Int. J. Sustain. Dev. Plan.*, vol. 16, no. 3, pp. 543–550, 2021, doi: 10.18280/ijsdp.160315.

[11] C. B. Gibson, S. C. Gibson, and Q. Webster, "Expanding Our Resources: Including Community in the Resource-Based View of the Firm," *J. Manage.*, vol. 47, no. 7, pp. 1–21, 2021, doi: 10.1177/0149206320987289.

[12] S. A. Alenazi and T. M. Alanazi, "The Mediating Role of Sustainable Dynamic Capabilities in the Effect of Social Customer Relationship Management on Sustainable Competitive Advantage: A Study on SMEs in Saudi Arabia," *Sustain.*, vol. 15, no. 3, 2023, doi: 10.3390/su15031952.

[13] H. Azwar, M. H. Hanafiah, A. A. Ghani, M. Azinuddin, and N. S. M. Shariffuddin, "Community-Based Tourism (Cbt) Moving Forward: Penta Helix Development Strategy Through Community Local Wisdom Empowerment," *Plan. Malaysia*, vol. 21, no. 1, pp. 72–88, 2023, doi: https://doi.org/10.21837/pm.v21i25.1225.

[14] I. Imaniah, M. Shahreza, and E. Purwanto, "Effective Development communication strategies for enhancing MSME empowerment in the Cikadu Tourism Village, Tanjung Lesung," *E3S Web Conf.*, vol. 592, pp. 1–16, 2024, doi: 10.1051/e3sconf/202459206013.

[15] N. J. Setiadi, T. Prasandy, and D. P. Alam, "Enhancing Msme Empowerment Through Technology Adoption: a University-Industry Partnership," *Soc. Econ. Ecol. Int. J.*, vol. 8, no. 1, pp. 17–34, 2024, doi: 10.21512/seeij.v8i1.11370.

[16] Alviano Fidya Nugroho, Kanaya Rifhalda Putri, and Ikhsan Azidan, "Optimizing Empowerment, Digital Technology Literacy,

Ease of Access, and Creative Economy Inclusiveness of MSME Actors: Empirical Study in Purwakarta Regency," *J. Kendali Tek. dan Sains*, vol. 2, no. 2, pp. 01–23, 2024, doi: 10.59581/jkts-widyakarya.v2i2.2985.

[17] S. Gouveia, D. H. de la Iglesia, J. L. Abrantes, and A. J. López Rivero, "Transforming Strategy and Value Creation Through Digitalization?," *Adm. Sci.*, vol. 14, no. 11, 2024, doi: 10.3390/admsci14110307.

[18] A. Kirby, "Exploratory Bibliometrics: Using VOSviewer as a Preliminary Research Tool," *Publications*, vol. 11, no. 1, 2023, doi: 10.3390/publications11010010.

[19] S. W. Mudjanarko, Paikun, and B. D. Daniel, "Bibliometric analysis of research trends in rigid pavement over the last decade," *Sinergi (Indonesia)*, vol. 29, no. 2, pp. 317–330, 2025, doi: 10.22441/sinergi.2025.2.005.

[20] V. Mishra and M. P. Mishra, "Prisma for Review of Management Literature – Method, Merits, and Limitations – an Academic Review," *Rev. Manag. Lit.*, vol. 2, pp. 125–136, 2023, doi: 10.1108/s2754-586520230000002007.

[21] S. Kraus, M. Breier, and S. Dasí-Rodríguez, "The art of crafting a systematic literature review in entrepreneurship research," *Int. Entrep. Manag. J.*, vol. 16, no. 3, pp. 1023–1042, 2020, doi: 10.1007/s11365-020-00635-4.

[22] Purwowibowo, "Improving Community Welfare Through the Cultivation of Coffee: A Case Study of Bondowoso's Coffee Republic, Indonesia," *Acad. J. Interdiscip. Stud.*, vol. 12, no. 2, pp. 315–322, 2023, doi: 10.36941/ajis-2023-0051.

[23] N. J. van Eck and L. Waltman, "VOSviewer Manual version 1.6.19," *Leiden: Univeristeit Leiden*, no. January, p. 54, 2023, [Online]. Available: http://www.vosviewer.com/documentation/Manual_VOSviewer_1.6.1.pdf.

[24] M. Hamdouna and M. Khmelyarchuk, "Technological Innovations Shaping Sustainable Competitiveness—A Systematic Review," *Sustain.*, vol. 17, no. 5, 2025, doi: 10.3390/su17051953.

[25] A. Figurek and A. Thrassou, "An Integrated Framework for Sustainable Development in Agri-Food SMEs," *Sustain.*, vol. 15, no. 12, 2023, doi: 10.3390/ su15129387 Academic.

[26] M. F. Islam, "Exploring key drivers of tourism sustainability practices and their impact on sustainable competitive performance in the accommodation industry," *Int. J. Bus. Ecosyst. Strateg.*, vol. 6, no. 1, pp. 28–44, 2024, doi: 10.36096/ijbes.v6i1.465.

[27] L. Rienda and L. Ruiz-fern, "Internationalization and Sustainable Hotel Competitiveness : Resilience and Network Ties to Increase Tourism Sustainability," *Sustainability*, vol. 16, no. 3267, pp. 1–12, 2024, doi: 10.3390/ su16083267 Academic.

[28] K. L. Armas, C. Dela Cruz, J. E. Navarro, and V. Viloria, "Triple Helix for Sustainable Development Goals: An Impact Assessment of Shared Service Facility for Micro, Small, and Medium Enterprises Competitiveness in the Philippines," *Int. Rev. Manag. Mark.*, vol. 14, no. 3, pp. 65–73, 2024, doi: 10.32479/irmm.16103.

[29] C. Novia, S. Syaiful, and D. Utomo, "Analysis of strategies for increasing the competitiveness of jackfruit chips small medium enterprises in Malang Regency, Indonesia," *Food Res.*, vol. 8, no. 5, pp. 303–309, 2024, doi: 10.26656/fr.2017.8(5).639R.

[30] A. Belgibayeva, O. Denissova, M. Kozlova, I. Savchenko, A. Tleubayev, and G. Siximbayeva, "Analysis of Sustainable Development of SMEs in Agriculture," *J. Environ. Manag. Tour.*, vol. VII, no. 4, 2022, doi: 10.14505/jemt.v13.3(59).09.

[31] R. D. Acosta-Velásquez, J. León-Pulido, A. García-Pérez, W. S. Fajardo-Moreno, and L. Espinosa-Leal, "Contemporary Management Practice Applying the Dynamic Absorptive Capacity Measurement Model (PM 4 AC) for Improved Business Sustainability," *Sustainability*, vol. 14, no. 11036, pp. 1–12, 2022, doi: 10.3390/su141711036.

[32] T. T. Le, "Corporate social responsibility and SMEs ' performance : mediating role of corporate image , corporate reputation and customer loyalty," *Int. J. Emerg. Mark.*, vol. 18, no. 10, pp. 4565–4590, 2023, doi: 10.1108/IJOEM-07-2021-1164.

[33] T. Le Thanh, N. Q. Huan, T. Thi, and T. Hong, "Determinants for competitiveness in the context of international integration pressure : Case of small and medium enterprises in emerging economy – Vietnam," *Cogent Bus. Manag.*, vol. 8, no. 1, 2021, doi: 10.1080/23311975.2021.1893246.

[34] H. Rahman, S. Oktavia, N. Shetye, and W. L. S. Azonhoumon, "Enhancing Operations for Sustainability in Indonesian SMEs through Climate Change Awareness and Business Orientation," *J. Optimasi Sist. Ind.*, vol. 23, no. 1, pp. 109–119, 2024, doi: 10.25077/josi.v23.n1.p109-119.2024.

[35] R. R. P. Advincula, C. G. Chavesta, and L. Ocares-Cunyarachi, "Innovation Management Model as a Source of Business Competitiveness for Industrial SMEs," *Int. J.*

Adv. Comput. Sci. Appl., vol. 13, no. 8, pp. 620–627, 2022, doi: 10.14569/IJACSA.2022.0130871.
[36] E. Santos, R. A. Castanho, and D. Meyer, "Is Investment Contributing to Competitiveness in Nautical Tourism in the Atlantic Area?," *Water (Switzerland)*, vol. 14, no. 19, pp. 1–17, 2022, doi: 10.3390/w14192964.
[37] H. A. Halima, S. R. M. Zainala, and N. H. Ahmada, "Strategic Foresight and Agility: Upholding Sustainable Competitiveness Among SMEs During COVID-19 Pandemic," *Int. J. Econ. Manag.*, vol. 16, no. SpecialIssue1, pp. 81–97, 2022, doi: http://doi.org/10.47836/ijeamsi.16.1.006.
[38] O. Khongmalai and A. Distanont, "Technology Transfer Model to Enhance Sustainable Competitiveness of SMEs," *Proc. Eur. Conf. Manag. Leadersh. Gov.*, vol. 2022-Novem, pp. 222–228, 2022, doi: 10.34190/ecmlg.18.1.906.
[39] R. Machmud, N. F. Wuryaningrat, and D. Mutiarasari, "Technopreneurship-Based Competitiveness and Innovation at Small Business in Gorontalo City," *Int. J. Sustain. Dev. Plan.*, vol. 17, no. 4, pp. 1117–1122, 2022, doi: 10.18280/ijsdp.170408.
[40] Y. Chen, "The sustainable development of small and midsize enterprises in China on green reverse logistics," *J. Infrastructure, Policy Dev.*, vol. 8, no. 11, p. 8209, Oct. 2024, doi: 10.24294/jipd.v8i11.8209.
[41] R. Hurriyati, D. Dagustani, A. Surachim, S. Sulastri, and L. Lisnawati, "Triple-Layered Business Model Canvas Environment Based in the Fashion Industry," *J. Human, Earth, Futur.*, vol. 4, no. 4, pp. 411–423, 2023, doi: 10. 28991/HEF-2023-04-04-03.
[42] R. V. D. Jordão and J. C. Novas, "Information and Knowledge Management, Intellectual Capital, and Sustainable Growth in Networked Small and Medium Enterprises," *J. Knowl. Econ.*, vol. 15, no. 1, pp. 563–595, 2024, doi: 10.1007/s13132-022-01043-5.
[43] P. Castellani, C. Rossato, E. Giaretta, and A. Vargas-Sánchez, "Partner selection strategies of SMEs for reaching the Sustainable Development Goals," *Rev. Manag. Sci.*, vol. 18, no. 5, pp. 1317–1352, 2024, doi: 10.1007/s11846-023-00656-7.
[44] D. V. Bhise, M. A. Kumbhalkar, M. M. Sardeshmukh, S. A. Choudhari, S. H. Sarje, and N. B. Kardekar, "Study for Identification and Classification of Advanced Manufacturing Technology Implementation Drivers in Small and Medium Enterprises," *African J. Appl. Res.*, vol. 11, no. 1, pp. 388–407, 2025, doi: 10.26437/ajar.v11i1.
[45] C. R. Carag *et al.*, "Development and Validation of a Knowledge Audit Framework for SMEs," *Asian J. Mechatronics, Electr. Eng.*, vol. 2, no. 1, pp. 69–94, 2023, doi: 10.55927/ajmee.v2i1.4090.