



Maroon Journal De Management

Entrepreneurial Competence and Business Sustainability of Rural Agripreneurs in West Sumatra

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Article Info

Article History:

Received: 8 April 2025

Revised: 11 May 2025

Accepted: 13 June 2025

Keywords:

Entrepreneurial

Competence

Business Sustainability

Rural Agripreneurs

Financial Literacy

West Sumatra

Abstract

Agriculture remains the backbone of rural livelihoods in West Sumatra, where farming continues to provide both income and food security for local communities. However, the sustainability of agribusiness ventures extends beyond land ownership and resource availability; it critically depends on the entrepreneurial competence of agripreneurs to anticipate risks, plan strategically, and innovate within increasingly competitive markets. This study examines the influence of entrepreneurial competence on business sustainability among rural agripreneurs in West Sumatra using a quantitative survey design involving 120 randomly selected respondents. Data were collected through structured questionnaires encompassing demographic characteristics, entrepreneurial competence dimensions business planning, marketing, and financial management and sustainability indicators across economic, social, and environmental domains. Statistical analysis revealed that agripreneurs possessed moderate competence in business planning and marketing but exhibited deficiencies in financial literacy and environmental stewardship. Business planning and financial management were identified as the strongest predictors of sustainability, while marketing competence showed a weaker but positive association. Despite contributing to local economic growth, limited strategic foresight and low adoption of sustainable and digital practices constrained long-term viability. Strengthening entrepreneurial competence through targeted training and policy interventions is therefore essential to enhance resilience, competitiveness, and sustainability among rural agripreneurs in West Sumatra.

INTRODUCTION

Agriculture remains a central pillar of rural livelihoods in Indonesia, particularly in provinces such as West Sumatra, where most communities depend on farming as their primary source of income and food security. The agricultural sector not only contributes significantly to the regional economy but also sustains socio-cultural systems rooted in communal land use and traditional farming practices. However, in the era of globalization, agricultural activities are increasingly shaped by market dynamics, technological advancement, and environmental uncertainty (Haldar, 2019; Johar, 2014). Rural agribusinesses must therefore adapt to these changing

conditions through the development of sustainable, innovative, and market-oriented farming systems. Entrepreneurial competence defined as the ability to identify opportunities, mobilize resources, and manage risks has emerged as a decisive factor in determining the success and sustainability of agribusiness ventures (Ali et al., 2025). In this regard, the transformation of farmers into agripreneurs represents a strategic pathway toward improving rural income, competitiveness, and long-term sustainability (Rahman et al., 2023; Arumugam & Manida, 2023; Sithole et al., 2024; Júnior & Bliska, 2022).

Globally, agricultural entrepreneurship has been recognized as a vital mechanism for rural economic diversification and poverty reduction. According to the Food and Agriculture Organization (FAO, 2022), smallholder farmers contribute over 80 percent of global food production, yet their productivity and profitability remain constrained by limited access to capital, information, and technology. Entrepreneurial competence enables farmers to transition from subsistence-based production toward value-added agribusiness models that emphasize innovation, quality management, and market integration (Man et al., 2002; Haldar, 2019). In Southeast Asia, the development of entrepreneurial capacity among rural farmers has become a policy priority to enhance food security, generate employment, and sustain agricultural ecosystems. The Indonesian government, through initiatives such as the *Program Pengembangan Wirausaha Pertanian*, has sought to strengthen the entrepreneurial mindset of farmers by integrating training, mentorship, and access to financial support. Despite these initiatives, many agripreneurs continue to face structural and cognitive barriers that hinder their ability to sustain agribusiness ventures in increasingly competitive markets (Putra et al., 2024; Kademani et al., 2024; Ulvenblad et al., 2020).

The central challenge lies not only in resource scarcity but also in the varying levels of entrepreneurial competence among rural agripreneurs. Business sustainability requires more than technical expertise in crop cultivation; it demands the ability to plan strategically, manage finances, understand consumer preferences, and adopt environmentally responsible practices (Haldar, 2019; Osei et al., 2021). In rural Indonesia, many agripreneurs remain trapped in low-margin production systems due to limited financial literacy, weak market linkages, and dependence on traditional practices. Furthermore, the global push toward sustainable agriculture has added pressure for farmers to integrate environmental considerations such as reduced chemical input use and resource-efficient production into their business models. Without adequate entrepreneurial competence, these sustainability transitions remain difficult to achieve (Ali et al., 2025; Schaltegger et al., 2023; Loorbach & Wijsman, 2013). Therefore, understanding the relationship between entrepreneurial competence and business sustainability is essential for identifying leverage points that can enhance the resilience and competitiveness of rural agribusinesses.

Existing research on agribusiness sustainability has underscored several general solutions. At a policy level, access to training, financial support, and digital technologies has been shown to improve farmers' adaptive capacity and long-term performance (Naminse & Zhuang, 2018; FAO, 2022). The integration of entrepreneurship education into agricultural development programs is recognized as a catalyst for innovation and self-reliance (Pindado & Sánchez, 2017). Similarly, the promotion of *agripreneurship* the fusion of agricultural and entrepreneurial practices has proven effective in enhancing value chain participation, product diversification, and employment generation in rural areas (Rahman et al., 2023). These general approaches, however, often overlook the contextual factors that influence how entrepreneurial competence manifests within specific cultural and regional settings. For example, studies in Sub-Saharan Africa and South Asia have found that socio-cultural norms, risk perceptions, and informal networks significantly shape

entrepreneurial behavior among farmers (Osei et al., 2021; Pindado & Sánchez, 2017). Such contextual nuances highlight the importance of localized empirical studies that capture the distinctive dynamics of rural entrepreneurship in Indonesia's agrarian communities.

Previous empirical studies have examined specific dimensions of entrepreneurial competence such as business planning, marketing, and financial management as predictors of business success (Man et al., 2002; Morris et al., 2013). Effective business planning enables agripreneurs to anticipate market trends, allocate resources efficiently, and adapt to environmental changes. Marketing competence allows them to identify customer needs, develop branding strategies, and compete in both domestic and global markets. Meanwhile, financial management competence ensures the sustainable use of capital and effective reinvestment for growth. Each of these competencies contributes differently to business sustainability, which is typically assessed across economic, social, and environmental dimensions (Osei et al., 2021). However, recent studies have shown that the relationship between competence and sustainability is not linear; it is mediated by external factors such as institutional support, access to information, and technological adoption (Rahman et al., 2023; Putra et al., 2024). These findings suggest that improving entrepreneurial competence must be accompanied by enabling environments that foster innovation and reduce systemic barriers.

In the Indonesian context, efforts to strengthen rural entrepreneurship have focused on enhancing business literacy, cooperative management, and innovation capacity. Nonetheless, research in West Sumatra and other rural regions indicates persistent gaps in farmers' managerial and strategic competencies (Johar, 2014; Ali et al., 2025). Many agripreneurs still rely on informal business models that lack systematic planning, record-keeping, and sustainability-oriented decision-making. Financial literacy remains particularly low, limiting farmers' ability to manage loans, evaluate investment risks, and engage effectively with formal financial institutions. Furthermore, marketing practices are often traditional, relying heavily on middlemen and local markets, which restrict price negotiation power and profitability. Environmental sustainability poses another challenge, as the use of chemical-based fertilizers and pesticides continues to dominate agricultural practices, raising long-term ecological and health concerns (FAO, 2022; Odewale et al., 2023; Yasir et al., 2025). Thus, despite increasing recognition of entrepreneurship as a pathway to sustainability, a significant competency gap persists among rural agripreneurs.

Research in recent times has produced mixed results on the impact of particular competencies in the sustainability outcomes. In particular, studies by Rahman et al. (2023) and Osei et al. (2021) show that business planning and financial management are the most significant predictors of economic sustainability, and the environmental responsibility seems to depend on the awareness of farmers and external incentives. Competence in marketing, in its turn, has a more indirect influence on increasing sales performance and client relations. However, empirical research has been performed in underdeveloped areas that indicate that a large number of agripreneurs have moderate competence, especially regarding the incorporation of sustainability concepts in the business (Ali et al., 2025). Digitalisation is a process that has both opportunities and challenges in rural Indonesia. Even though the implementation of digital marketing, precision farming, and e-commerce promise to make the industry more efficient and accessible, the implementation of these technologies is still underutilised due to a lack of digital literacy (Putra et al., 2024). This means that the connection between entrepreneurial competence and the sustainability outcomes is not yet researched in the context of unique socio-economic and cultural realities of West Sumatra.

Collectively, these results indicate a conspicuous research gap in the area of effects of entrepreneurial competence on the sustainability of agribusiness ventures in rural areas of Indonesia. In spite of the wide range of theoretical approaches to agripreneurship and sustainability provided by the global scholarship, there are limited empirical data with the grounding in the Indonesian provinces. The current studies have mostly focused on SMEs in urban areas or national-level entrepreneurial programs and thus they have not focused on micro and small scale agripreneurs who engage in traditional agricultural systems. In addition, there is a lack of investigations that examine the economic, social, and environmental aspect of sustainability simultaneously in the context of entrepreneurial competence. This gap is critical to fill in understanding how competence development can enhance financial performance and social inclusion and the development of ecological custodianship in rural communities.

In line with this, this paper aims at examining the association between entrepreneurial competence and business sustainability amidst rural agripreneurs in West Sumatra. It has concentrated on the dimensions of key competence such as business planning, marketing and financial management on the economic, social and environmental aspects of agribusiness sustainability. By using a quantitative survey approach, the study produces an empirical data on the measure of this relationship as well as the qualitative nature of this relationship in the local agribusiness environment. The value of the study is indicated by the fact that the study has conducted an integrated analysis of entrepreneurial competence and sustainability, and its multidimensional approach has synthesised managerial and environmental views. The expected deliverables go beyond the theoretical (e.g., through conceptual refinement of entrepreneurial competence in rural agribusiness) and pragmatic (e.g., by providing evidence-based policy suggestions on capacity building, training design and institutional support). Finally, the supportive entrepreneurial ability of agripreneurs is one of the strategic interventions to increase resilience, competitiveness, and sustainability of the rural economy of Indonesia.

METHODS

The current research will utilize a quantitative survey design, which implies the use of correlational analysis as the most suitable method of methodology to explore the relationship between entrepreneurial competence and business sustainability among rural agripreneurs in West Sumatra. The approach will make it possible to systematically measure the levels of entrepreneurial competence and sustainability results in a fairly high number of people, thus allowing statistical analysis of correlations between variables. The standardized survey tool will provide comparability of the generated responses and will make it easier to quantify the constructs objectively. The structured questionnaires will be created to focus on the various dimensions of entrepreneurial competence- the business planning, marketing and financial management and sustainability indicators which include the economic, social and environmental dimensions. The use of Likert-like format makes it possible to convert the qualitative perceptions into numerical data, which can be statistically assessed to determine patterns and relationships in the dataset.

Data analysis also includes descriptive and inferential analysis in order to have a complete picture of the phenomenon. Descriptive statistics are the techniques used to describe demographic profiles and overall levels of entrepreneurial competence, and inferential techniques, in particular, Pearson or Spearman tests of correlation based on the data distribution, are used to analyze the strength and direction of the correlation between competence and sustainability indicators. This method of analysis will allow determining what dimensions of competence have the greatest impact on sustainability performance.

As a way of enhancing methodological soundness of the research, the survey tool is subjected to pilot testing to ensure that it is clear, consistent, and construct valid. Furthermore, the random sampling will be used to reduce the selection bias and maximize the representativeness of the sample, thus being able to generalize the results to the rest of the population of rural agripreneurs in West Sumatra.

RESULTS AND DISCUSSION

Demographic Characteristics of Respondents

The demographic profile of respondents provides an overview of the background of rural agripreneurs in West Sumatra. A total of 120 agripreneurs participated in the study, representing various age groups, gender, and education levels. These factors are important because demographic conditions often influence entrepreneurial competence and sustainability of agribusiness ventures.

Table 1. Demographic Characteristics of Respondents (n=120)

Variable	Category	Frequency	Percentage (%)
Gender	Male	83	69.2
	Female	37	30.8
Age	<30 years	18	15.0
	30–39 years	42	35.0
	40–49 years	46	38.3
	≥50 years	14	11.7
Education	Primary school	21	17.5
	Secondary school	64	53.3
	Higher education	35	29.2

The findings show that agripreneurs are dominated by males, reflecting the fact that agricultural activities in rural West Sumatra are still primarily managed by men. However, women also play a significant supporting role in marketing and processing agricultural products. In terms of education, most respondents had only completed secondary school, which may affect their ability to adopt modern farming technologies or advanced financial management practices.

The demographic data indicate that the majority of agripreneurs are in their productive age (30–49 years). This suggests that they have the physical capacity to manage agricultural businesses while also being open to innovation and entrepreneurship. These conditions provide a solid foundation for efforts to enhance entrepreneurial competence.

Entrepreneurial Competence in Business Planning

Entrepreneurial competence in business planning is one of the key dimensions in agripreneurship. It reflects the ability of agripreneurs to set clear goals, design strategies, and allocate resources effectively. Proper business planning provides a roadmap that ensures consistency and adaptability in facing market dynamics.

Table 2. Entrepreneurial Competence in Business Planning

Competence Indicators	Low (%)	Moderate (%)	High (%)
Ability to set clear business goals	12.5	56.7	30.8
Designing long-term strategies	18.3	51.7	30.0
Allocating resources effectively	20.0	55.0	25.0
Overall business planning competence level	16.9	54.5	28.6

The study found that a majority of agripreneurs in West Sumatra demonstrated moderate competence in business planning. While many were able to set short-term goals such as increasing production, fewer had developed long-term strategic plans

related to market expansion or value-added product development. This gap indicates the need for capacity-building programs that focus on business strategy formulation.

The findings also revealed that agripreneurs with higher education levels tended to score better in planning competence. This suggests that formal education contributes positively to the ability to think analytically and strategically.

Marketing Competence of Agripreneurs

Marketing competence is critical for ensuring that agricultural products reach consumers efficiently and competitively. Agripreneurs in West Sumatra primarily rely on traditional markets, with limited exposure to modern distribution channels or digital marketing.

Table 3. Marketing Competence of Agripreneurs

Competence Indicators	Low (%)	Moderate (%)	High (%)
Ability to identify market demands	14.2	60.0	25.8
Customer relationship management	11.7	55.0	33.3
Use of digital marketing platforms	42.5	40.8	16.7
Branding and product differentiation	30.0	52.5	17.5

The data show that while many agripreneurs excel in maintaining customer relationships, only a small portion effectively utilize digital platforms such as social media or e-commerce. This reflects both limited digital literacy and infrastructural challenges in rural areas. As a result, their products often fail to penetrate larger markets or achieve premium pricing.

Nevertheless, a strong local customer base remains a strength for agripreneurs in West Sumatra. Strengthening marketing competence, especially in branding and digital promotion, would greatly improve business sustainability.

Financial Management Competence

Financial management is a crucial element in sustaining agribusiness. It involves budgeting, record-keeping, and profit reinvestment. The findings revealed that financial literacy among rural agripreneurs is relatively low. Many of them rely on informal bookkeeping methods or do not separate household and business finances.

Table 4. Financial Management Competence

Competence Indicators	Low (%)	Moderate (%)	High (%)
Ability to prepare budgets	37.5	48.3	14.2
Record-keeping and bookkeeping	41.7	45.0	13.3
Access to credit and loan systems	46.7	40.0	13.3
Reinvestment of profits	35.0	50.8	14.2

The lack of financial planning reduces the capacity of agripreneurs to access formal credit or loans from financial institutions. This is a major challenge because capital is essential for adopting new technologies or expanding operations. Respondents who practiced systematic financial management reported better business growth and profitability.

The results underscore the importance of financial literacy training tailored to the needs of rural agripreneurs, especially in terms of bookkeeping and credit management.

Business Sustainability Indicators

Sustainability was measured across three dimensions: economic viability, environmental responsibility, and social contribution. Most agripreneurs reported

stable income but faced challenges related to environmental practices such as soil management and organic farming.

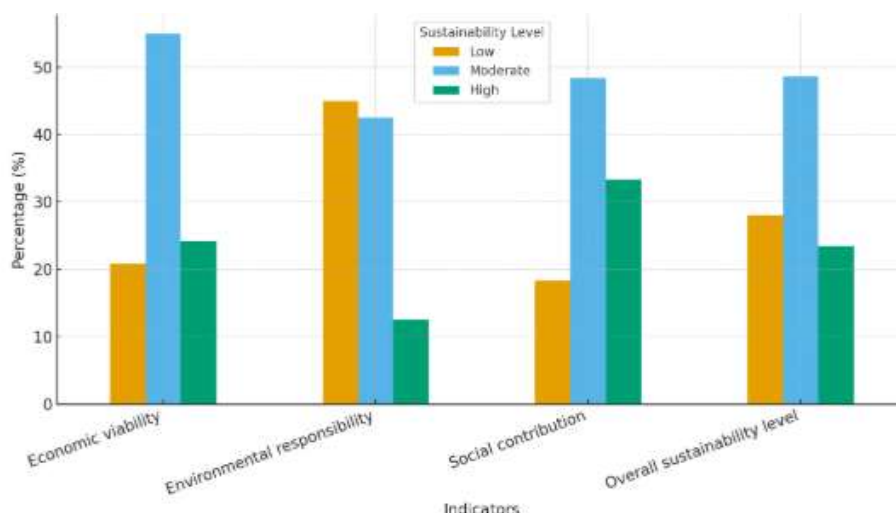


Figure 1. Business Sustainability Indicators

The results showed that social sustainability, including contributions to community welfare and employment generation, was relatively strong. However, environmental sustainability remained a weak point, as many agripreneurs still used chemical fertilizers and pesticides extensively. This imbalance highlights the need for integrated programs that promote eco-friendly agricultural practices while ensuring profitability and community benefits.

Relationship Between Entrepreneurial Competence and Business Sustainability

Correlation analysis was conducted to determine the relationship between entrepreneurial competence and business sustainability. The results indicated a positive and significant correlation between the two variables, suggesting that agripreneurs with higher competence levels are more likely to achieve sustainable business outcomes.

Table 5. Correlation Between Entrepreneurial Competence and Business Sustainability

Competence Dimension	Correlation (r)	Significance (p)
Business Planning	0.621	0.001
Marketing	0.497	0.004
Financial Management	0.643	0.000
Overall Competence Score	0.588	0.002

Business planning competence and financial management competence showed the strongest correlations with sustainability, followed by marketing competence. This implies that agripreneurs who can plan strategically and manage their finances effectively are better positioned to sustain their businesses over the long term.

The findings validate the theoretical assumption that entrepreneurial competence serves as the foundation of business sustainability. Strengthening these competencies is therefore critical for ensuring the resilience of agribusiness in West Sumatra.

Discussion

The current paper otherwise adds to the existing literature, which emphasizes entrepreneurial competence as one of the most important factors of the sustainability of agribusiness, especially in the developing rural economies. The results are

empirical evidence to support the claim that business planning, marketing, and financial management competence reinforce the ability of agripreneurs to maintain their businesses in economic, social and environmental levels. In addition to validating statistical relations, these findings need to be interpreted in the context of the wider theoretical and contextual perspectives in order to comprehend their implications in enhancing the sustainable rural entrepreneurship.

The fact that entrepreneurial competence is closely related to business sustainability in this research is consistent with the resource-based view (RBV) that resource based approach on sustainable competitive advantage is highly dependent on intangible resources as knowledge, skills, and managerial capabilities (Barney, 1991). In agribusiness, entrepreneurial competence is a dynamic capability that also allows entrepreneurs to make predictions on risks, mobilize resources, and react to environmental and market uncertainties in a strategic fashion. This research supports the statement by Santandreu-Mascarell et al. (2013) that the concept of entrepreneurial competence is not confined solely to individual capacity, it is an organizational capability that favors flexibility and novelty. In the case of rural agripreneurs in West Sumatra, competence serves as the vehicle that mediates between the traditional modes of farming with the contemporary market needs, and this makes entrepreneurship the center of change leading to sustainability.

Business planning competence turned out to be the strongest predictor of sustainability, which demonstrates the role of strategic foresight in managing agribusiness. This observation confirms that strategic planning is not a procedural exercise only but a cognitive process that improves long-term decision-making. Formal planning in a rural setting where the business practice is usually informal gives a guideline in how to optimize resources available, align it with the market, and manage the risks involved. The data supports the previous findings by Alibašić (2018), who claimed that a good plan is a key to resilience as it provides the connection between operational performance and sustainability goals. The planning is also an indication of the capacity of the entrepreneur to match his internal capabilities and external opportunities, which is a crucial role in facing turbulent market conditions and environmental pressures. Accordingly, the importance of the planning competence in this paper is that sustainability in rural agribusiness is dependent on the capacity to institutionalise proactive strategies in small-scale businesses.

The statistical significance of the relationship between marketing competence and sustainability is relatively low but still invites a more nuanced debate. Though the concept of marketing is commonly linked to competition and profitability, its performance in the rural area is often limited by the lack of infrastructure, low rates of digital literacy, and the reliance on intermediaries. The possible effect of the marketing competence on the sustainability outcomes is dampened by these structural barriers. Marketing is therefore not a promotional exercise but a process of relationship that bridges the producers, the consumers and the value chains (Pindado & Sánchez, 2017). Institutional means of creating marketing competence, then, include cooperative marketing systems, digital platforms, and market intelligence training to help smallholder agripreneurs reach wider markets. The discourse here goes beyond the statistical result to indicate that marketing competence is contingent upon ecosystem-level support and that there is a need to have a more integrated entrepreneurial ecosystem in the rural economies.

The documented lack of financial management skills among rural agripreneurs is a crucial issue, which aligns with existing literature that stated that financial literacy is a lasting threat to sustainability in the developing economies (Naminse & Zhuang, 2018). Financial competence is a multidimensional measure which includes budgeting, record-keeping, risk assessment, and investment planning. Regarding the

theoretical framework, this competence implies the dynamic capability of an entrepreneur to control liquidity and redistribute financial resources to suit the altered situation. The lack of financial literacy noted in this research can be explained by the lack of exposure to the formal banking systems and proper training in financial management that limits access to capital and prevents the development of businesses. Increasing financial competence is both an educational requirement and a structural one in the inclusive economic development. Policymakers and financial institutions should work together to establish convenient financial education programmes to the rural entrepreneurs to fill the bridging gap between financial inclusion and sustainable development of enterprises.

One of the dimensions that the study brings out is the lopsided focus on the three pillars of sustainability, which include economic, social, and environmental. As much as economic performance has been the center stage of agripreneurial activities, environmental and social aspects are not deeply ingrained in business operations. Such imbalance indicates the pragmatic attitude toward income earning, which is in line with findings of Zaca et al. (2025), who noted that smallholder entrepreneurs are interested in short-term financial security and not the environmental ethics. These tendencies highlight a disconnect between the knowledge of sustainability principles and their realisation in the every day business practice. Theoretically, this tension indicates the initial phase of sustainability integration among small agribusinesses where sustainability is viewed as an extrinsic value to a business, instead of an intrinsic value. Competencies including eco-innovation, and resource efficiency are the development of environmental awareness that can be used to change sustainability into a compliance practice into a competitive advantage over the long term.

This difference in the competence and level of engagement among job hierarchies also gives more information about the social setup of agribusiness organization. The results on higher engagement of managerial employees compared with operational ones are in line with the study findings that access to information, power, and closeness to the top management predict employee engagement in the change processes (Meintjes & Hofmeyr, 2018). In terms of the institutional theory (Scott, 2014), this gap shows that the organizational norms and power structures influence the ways in which competence is diffused in businesses. The concept of sustainable transformation not only develops personal skills but also forms organizational cultures that can foster the learning and sharing of knowledge. Participatory management can be promoted in agribusiness environments, where small teams and community-based operations are predominant, and contribute to an increased inclusivity that will guarantee sustainability at all levels within the organization.

Another important cultural feature that is underscored in this research entails the embeddedness of Indonesian entrepreneurship in the culture. West Sumatra rural entrepreneurship is organized in the framework of collective society in which the principles of solidarity, reciprocity, and communal welfare play a very important role in business conduct. These social values have been integrated in agribusiness practices and it is clear that sustainability is not limited to economic prosperity but is also linked with social cohesion and cultural preservation. This context-dependent knowledge corresponds to the recently developed approaches to sustainable entrepreneurship theory that propose hybridization approaches that combine profit-focused with social and environmental missions. It means that the entrepreneurial competence in these environments should be re-conceptualized in terms of relational and ethical aspects, which would imply to incorporate the ethos of the local communities. Sustainability of the Indonesian rural agribusiness, therefore, must be perceived not as a direct result of personal competency but the resultant product of the interplay between cultural values and institutional support.

Regarding policy recommendations, these results underscore the importance of developing capacity-building models that support managerial development, digital literacy development, and sustainability development. Enhancement of entrepreneurial competence presupposes the cooperation between educational organizations, governments and financial bodies. The policies must facilitate experiential learning, mentorship and community-based training programs that make global entrepreneurship frameworks fit local realities. Digitization and innovation in the agricultural business can also be encouraged to promote competitiveness and environmental effectiveness. Moreover, it is possible to develop regional support systems, including business incubators and rural cooperatives, that will support the development of competence on a lasting basis and provide access to finance, which will make sure that the enhancement of the sustainability outcomes is evident.

CONCLUSION

Based on the research findings, it can be concluded that the sustainability of rural agripreneurs in West Sumatra is strongly influenced by their entrepreneurial competence, particularly in business planning and financial management, which show the most significant correlation with long-term business viability. While agripreneurs generally possess moderate competence in planning and marketing, their limited financial literacy and weak adoption of environmentally sustainable practices present critical challenges that threaten long-term resilience. The results further indicate that although agribusiness ventures contribute positively to local economies and community welfare, the lack of strategic foresight, digital marketing adoption, and eco-friendly practices restricts their growth potential. Therefore, strengthening entrepreneurial competence through targeted training, financial literacy programs, and sustainable farming initiatives is essential to enhance competitiveness, resilience, and overall business sustainability of rural agripreneurs in West Sumatra.

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