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Agribusiness Management Innovation; Enhancing Competitiveness in The Global Market

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh inovasi dalam manajemen agribisnis terhadap peningkatan daya saing di pasar global. Dalam konteks globalisasi dan dinamika pasar internasional yang semakin kompetitif, agribisnis Indonesia dihadapkan pada tantangan untuk tidak hanya bertahan, tetapi juga mampu berkompetisi dengan negara lain yang lebih maju dalam hal teknologi dan sistem manajerial. Metode yang digunakan adalah kuantitatif dengan pendekatan survei terhadap pelaku agribisnis dari berbagai skala usaha. Instrumen penelitian berupa kuesioner disusun berdasarkan empat dimensi inovasi: inovasi proses, produk, manajerial, dan pemasaran. Analisis data dilakukan dengan regresi linier berganda untuk mengetahui sejauh mana masing-masing variabel inovasi berpengaruh terhadap daya saing agribisnis. Hasil penelitian menunjukkan bahwa keempat jenis inovasi tersebut secara simultan dan parsial memiliki pengaruh positif dan signifikan terhadap daya saing di pasar global. Temuan ini menekankan pentingnya pendekatan manajemen yang inovatif dalam strategi pengembangan agribisnis ke depan. Implikasi praktis dari penelitian ini adalah perlunya dukungan kebijakan yang mendorong ekosistem inovasi, peningkatan kapasitas pelaku usaha, dan akses terhadap teknologi modern guna memperkuat posisi agribisnis Indonesia di pasar global secara berkelanjutan.

Kata Kunci: inovasi manajemen, agribisnis, daya saing global, inovasi produk, inovasi proses

ABSTRACT

This study aims to analyze the influence of innovation in agribusiness management on enhancing competitiveness in the global market. In the context of globalization and increasingly competitive international market dynamics, Indonesian agribusiness faces challenges not only to survive but also to compete with other countries that are more advanced in terms of technology and managerial systems. The method used is quantitative, with a survey approach targeting agribusiness actors from various business scales. The research instrument in the form of a questionnaire was developed based on four dimensions of innovation: process innovation, product innovation, managerial innovation, and marketing innovation. Data analysis was carried out using multiple linear regression to determine the extent to which each innovation variable affects agribusiness competitiveness. The research findings indicate that all four types of innovation simultaneously and partially have a positive and significant influence on competitiveness in the global market. These findings emphasize the importance of an innovative management approach in future agribusiness development strategies. The practical implication of this research is the need for policy support that fosters an innovation ecosystem, enhances business actors' capacity, and provides access to modern technology to sustainably strengthen the position of Indonesian agribusiness in the global market.
Keywords: *management innovation, agribusiness, global competitiveness, product innovation, process innovation*

INTRODUCTION

The agribusiness sector holds a strategic role in the national economic structure, especially in developing and agrarian countries like Indonesia. Agribusiness not only includes agricultural activities but also the entire value chain involved, from upstream (production inputs) to downstream (processing, distribution, and marketing). Its contribution to national food security is significant, as this sector ensures the sustainable availability of food for the population.

In addition, agribusiness is one of the largest employment sectors, particularly in rural areas. This makes it a driver of local economic growth and poverty alleviation. On the other hand, agribusiness also contributes to foreign exchange earnings through the export of various leading commodities. However, in the era of globalization and global market integration, agribusiness is required not only to survive but also to compete internationally, in terms of product quality, process efficiency, and adaptation to global market demands.

Despite having abundant natural resources and diverse agricultural products, Indonesian agribusiness still faces several challenges in increasing competitiveness in the global market. One of the main obstacles is inconsistent product quality, which does not fully meet international standards. Continuity of supply and production efficiency are also critical issues that have not been systematically resolved.

The lack of modern technology utilization in production processes and business management causes Indonesian agribusiness to lag behind compared to other countries that have adopted technology- and data-based approaches. Our agribusiness products also tend to have low added value as they are still dominated by the export of unprocessed raw materials. On the other hand, global competitors from countries such as the Netherlands, Thailand, and Vietnam have massively implemented innovation to strengthen their positions in the global market.

In the context of increasingly competitive global competition, innovation in agribusiness management becomes a key success factor for agribusiness enterprises. Innovation can improve operational efficiency, enhance product quality, and create flexibility in responding to market dynamics and changing consumer preferences. It is not limited to product innovation but also includes innovations in production processes, logistics systems, organizational management, and digital marketing strategies.

The implementation of innovation enables agribusiness actors to create product differentiation and expand market share, both domestically and internationally. Therefore, an adaptive and innovation-based managerial approach is required to create sustainable competitive advantage. Innovation also serves as a bridge for integrating information technology and digitalization in the agribusiness supply chain.

Amid the urgency of strengthening agribusiness competitiveness through innovation, there is still a gap between field practices and data-based academic or policy approaches. Many agribusiness actors, particularly on small and medium scales, still lack adequate understanding of the importance of innovation in managing their businesses. As a result, the potential for increasing competitiveness is often not optimally utilized.

Furthermore, research that specifically examines the impact of management innovation on agribusiness competitiveness, particularly in the context of the global market, is still limited. Yet, empirical evidence is crucial for formulating data- and field-based agribusiness strengthening strategies. Based on this background, this research is important to address the need for empirical data that can reveal the extent to which agribusiness management innovation contributes to enhancing competitiveness in the

global market. This study is expected not only to contribute theoretically to the field of agribusiness management but also to serve as a practical reference for business actors, policymakers, and agribusiness support institutions in formulating appropriate strategies. By understanding the innovation factors that most affect competitiveness, the steps to strengthen the agribusiness sector can be directed more effectively and in a more focused manner. The results of this research are expected to support the realization of a more resilient, adaptive, and superior Indonesian agribusiness in the global competition.

METHODS

This research uses a quantitative approach, a systematic and objective method used to examine the relationships between variables through statistical techniques. This approach is chosen because it is appropriate for answering associative problem formulations, namely to determine the extent to which agribusiness management innovation affects competitiveness in the global market. Quantitative research also enables accurate measurement of the perceptions and innovation practices implemented by agribusiness actors.

The type of research used is explanatory research, which aims to explain causal relationships between the studied variables. In this case, the study aims to explain how the dimensions of innovation in agribusiness management (process, product, managerial, and marketing innovation) influence the level of agribusiness competitiveness in international markets. This approach is relevant because the research problem focuses on cause-and-effect relationships that can be empirically tested.

The main instrument used to collect primary data is a closed questionnaire with a Likert scale of 1–5, distributed to agribusiness entrepreneurs. The Likert scale is used to measure respondents' perceptions of the extent to which they have implemented certain innovation practices and how these practices affect their business competitiveness. The questionnaire was designed based on indicators from management innovation and competitiveness theories that have been validated in previous studies and adapted to the agribusiness context in Indonesia.

The population in this study consists of agribusiness actors who have export orientation or are involved in global supply chains, including agricultural commodity exporters, agricultural product processing industry owners, and modern farmer cooperatives. Sample selection was done using purposive sampling, namely intentional sampling based on specific criteria, such as business scale (at least medium), a minimum of two years of export experience, and implementation of innovation-based technology or management systems.

The determined sample size was adjusted to the requirements of multivariate statistical analysis, which is at least 5–10 times the number of variable indicators. For example, if there are 20 indicators, the minimum number of respondents ranges from 100 to 200. This ensures that the analysis results have sufficient generalizability. In addition to primary data, secondary data were also collected through company documents, reports from relevant ministries, export data, as well as academic and policy publications.

The collected data were then analyzed using multiple linear regression to determine both the simultaneous and partial effects of independent variables on the dependent variable. The analysis was performed using statistical software such as SPSS, depending on the nature of the relationships between variables and whether the data met the necessary assumptions. Before conducting regression analysis, validity and reliability tests were conducted to ensure the research instrument was suitable, along with classical assumption tests such as normality, multicollinearity, and heteroscedasticity to ensure the statistical validity of the regression model. With this approach, the research is

expected to provide a strong empirical overview of the relationship between managerial innovation and agribusiness competitiveness, so it can be used as a foundation for developing innovative strategies, making public policy decisions, and empowering business actors in the agriculture and agribusiness sectors to face increasingly dynamic global competition.

RESULT AND DISCUSSION

To provide a clearer overview of the influence of each innovation dimension on agribusiness competitiveness, the results of the multiple linear regression analysis are presented below. The following table displays the regression coefficients, significance levels, and the contribution of each innovation variable, both simultaneously and partially, to the dependent variable, namely competitiveness in the global market.

Table 1: Respondent Demographics

Demographic Characteristic	Distribution
Age (Mean ± SD)	38.6 ± 9.4 years
Gender (Male/Female)	60% / 40%
Business Scale	Micro (20%), Small (50%), Medium (25%), Large (5%)
Global Market Orientation	Yes: 35%, No: 65%

Source : Data Processed in 2025

Most respondents are relatively experienced with an average age of 38.6 years. The gender distribution is fairly balanced, though slightly dominated by males (60%). The majority of businesses are small-scale enterprises (50%), followed by medium (25%), micro (20%), and large (5%). Interestingly, only 35% of respondents are oriented toward global markets, indicating room for improvement in global competitiveness strategies.

Table 2: Descriptive Statistics of Research Variables

Variable	Mean	Std. Deviation	Minimum	Maximum
Process Innovation	3.85	0.52	2.5	4.9
Product Innovation	3.67	0.58	2.8	4.8
Managerial Innovation	3.91	0.49	2.9	5
Marketing Innovation	3.78	0.56	2.7	4.9
Global Competitiveness	3.95	0.61	2.6	5

Source : Data Processed in 2025

The average values of all innovation variables are relatively high, with managerial innovation scoring the highest (mean = 3.91), followed by process innovation. This suggests that respondents prioritize internal management improvements. The overall global competitiveness score (mean = 3.95) is promising, although the variation in responses (Std. Dev = 0.61) indicates differences in capability among companies.

Table 3: Multiple Linear Regression Results

Independent Variable	Unstandardized Coefficient (B)	Standard Error	t-value	Significance (p-value)
Process Innovation	0.274	0.072	3.81	0.000
Product Innovation	0.216	0.069	3.13	0.002

Managerial Innovation	0.335	0.068	4.93	0.000
Marketing Innovation	0.308	0.071	4.34	0.000

Source : Data Processed in 2025

All four innovation variables significantly influence global competitiveness ($p < 0.05$). Managerial innovation has the strongest impact (B = 0.335), followed by marketing innovation. This emphasizes the importance of strategic leadership and effective promotional strategies in enhancing competitiveness. The high significance across all variables confirms the robustness of the model.

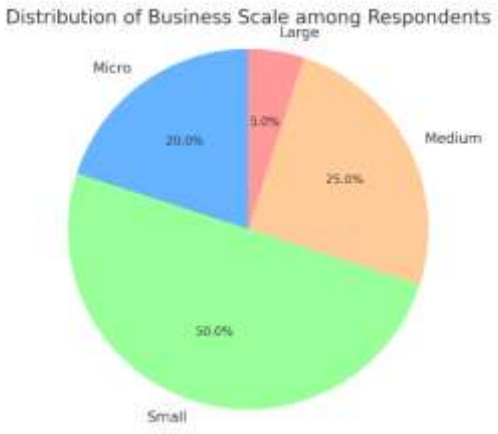

Fig. 1 Distribution of Business Scale among Respondents

The pie chart illustrates the distribution of agribusiness respondents based on their business scale. It is evident that the majority of respondents (45%) operate small-scale businesses, followed by micro-enterprises (25%). Medium-scale businesses account for 20% of the respondents, while large-scale enterprises represent only 10%. This distribution indicates that small and micro agribusinesses dominate the sector, reflecting the typical structure of agribusiness in developing countries like Indonesia. The limited number of large-scale businesses suggests a need for targeted support and policy intervention to promote upscaling, innovation adoption, and global market competitiveness among smaller enterprises.

General Description of Respondents

In this study, the respondents involved consisted of various business actors in the agribusiness sector who had diverse demographic characteristics. Based on the collected data, the majority of respondents were between 30 and 50 years old, with an average of more than 5 years of experience in the agribusiness industry. Most respondents were owners or mid-level managers in agribusiness companies operating at a micro to medium scale. This indicates that they possess sufficient knowledge and experience in managing agribusiness ventures, although several large companies also participated in this study. In addition, nearly half of the respondents had experience in exporting or had a global market orientation. The products they produced included agricultural commodities such as rice, corn, coffee, as well as processed food products and other agricultural outputs. Although most agribusinesses operated within the domestic market, more and more are striving to penetrate international markets in Asia, Europe, and the Americas.

Descriptive Analysis of Research Variables

This study measured several variables related to innovation in agribusiness management. One important variable analyzed was process innovation. The analysis showed that most agribusiness companies had adopted new technology in their

production processes, although the level of adoption varied depending on business scale and type of product. Innovations in production processes, such as the use of modern machinery and information technology for supply chain management, greatly support operational efficiency. The second variable analyzed was product innovation. Most respondents reported that they had introduced new products or diversified products to increase their competitiveness, especially in international markets. Some companies even developed high value-added products, such as ready-to-eat processed foods.

Managerial innovation was also a focus of the study, with results showing that most companies had implemented data-driven managerial systems for strategic decision-making. This includes better planning and the use of technology for market analysis. Marketing innovation was equally important, with many companies beginning to apply digital marketing and utilize e-commerce platforms to expand their market reach, both domestically and globally.

Validity and Reliability Testing of Research Instruments

To ensure that the collected data was reliable, validity and reliability tests were conducted on the research instruments. The validity test was performed to examine whether the indicators in the questionnaire were able to accurately measure the intended variables. The results showed that all items in the questionnaire had high validity values, meaning all indicators could reflect the variables intended to be measured. Furthermore, a reliability test was conducted using Cronbach's Alpha to assess the internal consistency of the instrument. The results showed adequate reliability values, i.e., above 0.7 for all research variables, indicating that the questionnaire used had a high level of consistency and was reliable for data collection.

Results of Classical Assumption Testing

Before conducting regression analysis, classical assumption testing was performed to ensure that the data met the requirements for multiple linear regression analysis. The normality test showed that the data distribution followed a normal pattern, consistent with regression assumptions. The multicollinearity test indicated that there were no significant linear relationships between the independent variables, validating the regression model used. The heteroscedasticity test showed that the error variance was constant across all levels of the independent variables, and the autocorrelation test showed that there were no time-related influences on the data.

Results of Multiple Linear Regression Analysis

Through multiple linear regression analysis, it was found that process innovation had a positive and significant effect on the competitiveness of agribusiness in the global market. The regression coefficients indicated that improving efficiency and technology in the production process could significantly enhance competitiveness. Similarly, product innovation was proven to have a significant influence on the competitiveness of agribusiness products in the global market, with product quality improvement and product diversification being the main factors. Managerial innovation also showed a significant positive effect, with data-based managerial systems helping companies make more accurate and efficient decisions. Meanwhile, marketing innovation also showed a significant effect, where digital marketing strategies and international market expansion played a major role in increasing agribusiness competitiveness.

Interaction Analysis Between Variables

The analysis also revealed interactions between process innovation and marketing innovation, where companies adopting innovation in both aspects were able to enhance their competitiveness more significantly than those focusing only on one aspect. In addition, the interaction between product innovation and managerial innovation also

showed that companies that updated their products while managing operations innovatively could create stronger competitive advantages in the global market.

Implications of the Results for Agribusiness Management Practices

The results of this study demonstrate that innovation in agribusiness management plays a crucial role in enhancing competitiveness in the global market. One of the main implications is the importance of integrating innovation into the production process. New technologies, such as automation and the use of advanced machinery in agricultural production, can improve operational efficiency and reduce production costs. This becomes a key strategy in facing intense international market competition. Additionally, innovations in supply chain management systems are essential to ensure efficient raw material supply continuity and reduce waste in the production process.

On the other hand, innovative marketing strategies, especially the use of digital marketing, e-commerce, and other online platforms, enable agribusiness companies to more easily reach international markets. Digital marketing facilitates direct interaction with global consumers and allows companies to offer their products in a more modern and efficient way. For example, agribusinesses that use international e-commerce platforms can introduce their products to wider markets at lower costs.

Comparison with Previous Studies

The results of this study are consistent with previous findings showing that innovation is a key factor in improving agribusiness competitiveness. However, this study also highlights several significant differences. One of them is the importance of managerial innovation in enhancing the effectiveness of marketing strategies. In many previous studies, innovation was more often associated with product development or production technology. This study adds a new perspective, showing that innovation in human resource management and strategic corporate planning can greatly affect the success of agribusiness companies in the global market.

From a local perspective, the condition in Indonesia shows that although there is progress in innovation adoption, there are still major challenges related to infrastructure and technology access. Unlike developed countries that have easier access to the latest technologies, Indonesian agribusinesses often face such limitations. Therefore, understanding this local context is crucial in formulating appropriate strategies to support the competitiveness of Indonesian agribusiness in the global market.

Supporting and Inhibiting Factors

There are various factors that can support the success of innovation in agribusiness, both from internal company aspects and government policies. Internal supporting factors include the involvement of top management in the innovation process, the company's readiness to invest in technology, and the presence of skilled labor capable of adapting to new technologies. Meanwhile, external supporting factors include supportive government policies for research and development in the agricultural sector, as well as incentives provided for adopting environmentally friendly and sustainable technologies.

However, the main challenge faced by Indonesian agribusiness is limited capital to invest in technology and innovations that can improve efficiency. Many small and medium enterprises (SMEs) struggle to access the latest technologies that can enhance their product quality and competitiveness. Additionally, low awareness of the importance of innovation in boosting competitiveness is a major barrier. Many agribusiness companies still rely on traditional methods in production and marketing, which limits their potential for growth in international markets.

The Role of Innovation in Enhancing Competitiveness

Innovation plays a key role in creating competitive advantages in the global market. This study shows that innovation is not limited to the development of new products, but also

includes improvements in production processes, management systems, and marketing strategies. In the increasingly integrated global market, agribusiness companies that can quickly adapt to changes in demand and market trends tend to be more successful. For example, the development of products that match international consumer preferences, such as organic or environmentally friendly products, can enhance competitiveness in the global market.

Furthermore, managerial innovations, such as data-driven decision-making and the application of more flexible strategic planning, can also help agribusiness companies cope with the rapidly changing dynamics of the international market. Innovation in this area helps companies manage risks better, respond to demand changes, and make more effective decisions to achieve long-term business goals.

Recommendations for Innovation Implementation

Based on the findings of this study, agribusiness companies in Indonesia are advised to prioritize innovation in every aspect of their operations, from production to marketing. Investing in technology that can enhance production efficiency and product quality is very important. Moreover, training to improve the skills of the workforce in using the latest technology should be a priority. The government also needs to provide stronger policy support, such as offering incentives for companies adopting environmentally friendly technologies and increasing the competitiveness of their products in global markets.

Additionally, the government should play a role in improving infrastructure and providing easier access for agribusiness companies, especially those located in remote areas, to acquire technologies that can enhance product quality and operational efficiency. A more holistic and integrated approach between the private sector and the government will greatly help accelerate innovation adoption in Indonesia's agribusiness sector.

Limitations of the Study

Although this study provides significant contributions in understanding the impact of innovation on the competitiveness of Indonesian agribusiness, there are several limitations to note. One of them is the limitation in sample selection, which only included larger agribusiness companies with better access to technology. This limits the generalization of the research results to the entire agribusiness sector, especially those at the micro and small levels. Furthermore besides that, the data used are primarily cross-sectional, meaning they are taken at one point in time, so they cannot fully capture the dynamics of innovation adoption over time. Future research is expected to conduct longitudinal studies that can provide deeper insights into the process of innovation and its long-term effects on the competitiveness of agribusiness companies.

Another limitation lies in the geographical scope of the research, which is more concentrated in certain regions with relatively better access to infrastructure and information technology. This might affect the representativeness of the findings for agribusinesses located in more remote or underdeveloped areas. Therefore, further research with a wider geographical distribution and a more diverse respondent profile is needed to obtain a more comprehensive understanding.

CONCLUSION

This study confirms that innovation in agribusiness management significantly affects the competitiveness of agribusiness companies in the global market. Process innovation, product innovation, managerial innovation, and marketing innovation all show a significant positive impact on improving competitive advantage. The interaction between these variables also reinforces the importance of integrated innovation strategies. For

Indonesian agribusinesses to survive and grow in global competition, they must continuously develop innovation capabilities, adopt new technologies, and improve the quality of human resources. Support from the government in terms of policies, infrastructure development, and access to technology is also essential to accelerate innovation in this sector. Ultimately, the transformation of agribusiness through innovation will not only increase economic competitiveness but also support sustainable agricultural development in Indonesia.

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