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Analysis of Added Value and Postharvest Handling Strategies for Corn: A Case Study of UD. Resky Soppeng

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ABSTRACT

This study aimed to describe the activities involved in postharvest handling of corn, analyze the yield, assess the added value generated, and develop strategies for improving postharvest handling by UD Resky Soppeng in Moncongloe District, Maros Regency. Conducted from February to April 2024 at UD Resky Soppeng, Moncongloe Village, primary data were collected through interviews, observations, and documentation. The data were analyzed using descriptive, yield, added value, and SWOT analyses. The findings reveal that postharvest handling involves purchasing directly from farmers, followed by drying, sorting, milling, packaging, storage, and marketing. The yield rate achieved was 77.77%, indicating high efficiency in the process. The added value generated was IDR 275, with a ratio of 6.44%, showing that UD Resky Soppeng effectively adds value in corn processing. The recommended development strategy is diversification, leveraging internal strengths to address and mitigate external threats.

ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan kegiatan penanganan pascapanen jagung, menganalisis rendemen, menilai nilai tambah yang dihasilkan, dan mengembangkan strategi untuk meningkatkan penanganan pascapanen oleh UD Resky Soppeng di Kecamatan Moncongloe, Kabupaten Maros. Penelitian ini dilakukan dari Februari hingga April 2024 di UD Resky Soppeng, Desa Moncongloe, dengan data primer yang dikumpulkan melalui wawancara, observasi, dan dokumentasi. Data dianalisis menggunakan analisis deskriptif, rendemen, nilai tambah, dan SWOT. Hasil penelitian menunjukkan bahwa penanganan pascapanen melibatkan pembelian langsung dari petani, dilanjutkan dengan pengeringan, penyortiran, penggilingan, pengemasan, penyimpanan, dan pemasaran. Tingkat rendemen yang dicapai sebesar 77,77%, menunjukkan efisiensi yang tinggi dalam proses tersebut. Nilai tambah yang dihasilkan sebesar Rp. 275,- dengan rasio 6,44%, menunjukkan bahwa UD Resky Soppeng efektif dalam menambah nilai pada pengolahan jagung. Strategi pengembangan yang direkomendasikan adalah diversifikasi, memanfaatkan kekuatan internal untuk menghadapi dan mengurangi ancaman eksternal.

INTRODUCTION

Corn plays a highly strategic role both in the food security system and as a driving force for the national economy. In addition to its role as a food source for a portion of the Indonesian population, corn also contributes to protein availability, as it serves as a raw material for animal feed and aquaculture. Corn acts as a catalyst for the growth of upstream industries and a driver for downstream industrial growth, significantly contributing to national economic development. Beyond its use as food and feed, corn is also utilized as a raw material in other industries, such as

alternative fuel (biofuel), polymers, and more.

The demand for corn, whether for the food industry, animal feed, or other industrial needs, is projected to continue increasing over the next five years. This growth is driven by the ever-growing population, rising incomes, and increased purchasing power. Indonesia possesses significant potential to enhance both the production and productivity of corn. The country has vast land available for corn cultivation, with simple agro-climatic requirements and accessible technology, making the profit prospects for corn farmers substantial.

Efforts to increase corn production face several significant challenges, as highlighted in recent academic literature. One of the primary obstacles is the increasing competition for water use between agriculture and other sectors, which has led to a notable reduction in the availability of water for irrigation. Water scarcity directly affects agricultural productivity, including corn cultivation (Hou et al., 2020). Furthermore, the rising costs of essential agricultural inputs, such as high-quality seeds, fertilizers, and pesticides, present additional barriers to enhancing corn production. These financial burdens limit the ability of farmers to adopt improved agricultural practices, thereby hindering productivity gains (Cairns et al., 2021; Ulfat et al., 2022). Another critical issue is the decreasing availability of productive agricultural labor. The decline is attributed to the migration of labor to non-agricultural sectors, where employment opportunities are more lucrative, resulting in a reduced workforce available for agricultural activities (Yadav et al., 2016; Cairns et al., 2021). While not explicitly addressed in some of the literature, the reduction of technically irrigated rice fields and other agricultural lands further exacerbates these challenges, as it limits the space available for corn cultivation. Collectively, these factors create a complex environment that requires comprehensive strategies to overcome in order to achieve sustainable increases in corn production.

The development of corn as a commodity in Indonesia faces a wide range of obstacles, including issues related to seed usage, fertilizer shortages, underdeveloped institutional frameworks, inadequate post-harvest technology, and land productivity. Although the need for superior varieties and the expansion of planting areas has been emphasized as efforts to increase national corn production (Ikorasaki & Akbar, 2019), the use of high-quality seeds is hindered by strategic challenges, such as the failure to meet sales targets for similar products in the past and changing environmental conditions (Dermawan et al., 2023). Fertilizer shortages have emerged as a significant issue, highlighted in studies on the allocation of agricultural land resources for developing food crop commodities in Indonesia, which reveal limitations in both resources and their utilization (Kamaludin et al., 2021). Moreover, the underdeveloped institutional framework also presents a challenge to future agricultural development, particularly concerning the carrying capacity of land resources and socio-economic aspects, including market conditions, farmer exchange rates, and other supporting facilities (Mamat & Husen, 2021). Inadequate post-harvest technology is another barrier, with studies emphasizing the need for SWOT analysis and the 4P marketing mix model to identify market conditions and determine appropriate strategies in market competition (Dermawan et al., 2023). Additionally, small land areas serve as a limiting factor, as discussed in studies comparing the income, profits, and feasibility of corn farming in various regions of Indonesia, which reveal differences in land productivity and capital among the regions studied (Satyarini & Pangarso, 2021).

The development of the agricultural sector is impeded by a range of challenges that stem from both global and local factors. Among the most pressing issues are the impacts of a globalized economy, natural resource degradation, rural poverty, and competitiveness, all of which hinder the translation of positive growth metrics into tangible benefits for agricultural business actors at the producer level (Singh & Misra, 2021). Policymakers also face significant challenges, including climate variability, demographic shifts, and the necessity to increase food production, all of which influence agricultural profitability and contribute to land use changes (Marinoni et al., 2011; Korneeva et al., 2023).

In response to these challenges, efforts to develop farming businesses have increasingly focused on agripreneurship—a concept that seeks to transform agriculture into a viable enterprise. The transformation is being driven by various initiatives, including programs, policies, training modules, and government cooperation, all designed to inspire the younger generation to pursue careers in agripreneurship (Singh & Misra, 2021). A notable example of successful agripreneurship is the Farmcrowdy case in Nigeria, which illustrates a business model that empowers farmers by connecting them with investors. The approach helps address key challenges such as climate change, the need for initial startup capital, and issues related to poor pricing (Atuahene-Gima & Amuzu, 2019).

Agricultural extension agents are crucial in empowering farmers and improving their pest management capabilities, playing an indispensable role in enhancing agricultural productivity (Eryanto et al., 2023). However, the effectiveness of these services is often hindered by challenges related to the limited number of extension workers available, which can reduce the reach and impact of their efforts (Juita et al., 2023; Mutimba, 2024). Additionally, the overall effectiveness of agricultural extension services is shaped by external factors such as farming capital, the age and education level of farmers, and their farming experience, all of which contribute to the varying degrees of success in agricultural extension initiatives (Jamil et al., 2023).

Over the past five years, corn production in Maros Regency has seen an increase. In 2018, the area under cultivation was 9,556 hectares, with a production of 68,556.08 tons. By 2022, the cultivated area had expanded to 11,547 hectares, with a production of 94,886.63 tons. Maros Regency has become one of the key corn-producing regions in South Sulawesi Province. The corn produced is processed in corn processing plants located within Maros Regency. One such processing plant is UD. Resky Soppeng, located in Moncongloe District. The UD. Resky Soppeng plant handles post-harvest processing of corn purchased directly from corn farmers in Moncongloe District. This processed corn is then sold to feed mills in Makassar or to markets outside Makassar.

The purpose of this study is to describe the specific activities involved in the postharvest handling of corn, providing a detailed understanding of the processes undertaken by UD Resky Soppeng in Moncongloe District, Maros Regency. Given the critical importance of efficient postharvest handling in ensuring both the quality and marketability of corn, this study is urgently needed to address potential gaps in current practices. Additionally, the study aims to analyze the yield outcomes resulting from these postharvest activities, offering insights into the efficiency and effectiveness of the current practices. It also seeks to assess the added value generated through postharvest handling, highlighting the economic benefits derived from these processes. Finally, the study formulates strategies for the continued development and optimization of postharvest

handling practices by UD Resky Soppeng, ensuring sustainable growth and competitiveness in the corn processing industry within the region.

RESEARCH METHODS

This study employs a quantitative descriptive research design, which involves generating findings through statistical procedures or other methods of quantification. The research was conducted at UD Resky Soppeng, located in Moncongloe Village, Moncongloe District, Maros Regency. The population for this study comprises all individuals involved in the operations of UD Resky Soppeng, totaling 15 people, including the owner, four section heads, and ten workers. The sample was drawn from business operators and employees at UD Resky Soppeng, specifically the owner and staff involved in operations and marketing, resulting in a total of five respondents. The data utilized in this research include both primary and secondary data, collected through observation, interviews, and documentation. The data were analyzed using several methods. Descriptive analysis was employed to describe the collected data as they are, presented in the form of percentages or averages. Yield analysis in corn was conducted by calculating the ratio between the weight of the harvested crop and the amount of seed planted, following the formula:

$$\frac{Dry\ Corn\ Weight}{Wet\ Corn\ Weight} \times 100\%$$

Added value analysis was applied to determine the increase in value of a commodity resulting from processing, transportation, or storage within a production process. Additionally, the External Factor Evaluation (EFE) and Internal Factor Evaluation (IFE) matrices were used to assess external opportunities and threats, as well as internal strengths and weaknesses, respectively (Primawati et al., 2019). Finally, a SWOT analysis was conducted to compare the strengths, weaknesses, opportunities, and threats faced by the business.

RESULTS AND DISCUSSION

Result

The identity of respondents is a crucial aspect of research as it provides deep context regarding the characteristics of individuals or groups involved. Understanding the identity of respondents aids in interpreting research findings more accurately and relevantly. In this study, the respondents' identity includes gender, age, years of service, and job specifications, with a total of five respondents involved. The gender distribution of the workforce includes two males and two females, with ages ranging between 30 and 45 years. The respondents have been working for between 5 and 12 years in various roles such as quality control, helper, and packaging. The selected respondents are those responsible for the tasks performed at UD Resky Soppeng. Temporary workers were not included as respondents because their employment is not permanent; they are only called to work when there is a large corn production order.

UD Resky Soppeng's business resources were identified in terms of human resources, equipment, and capital. Human resources are one of the most vital assets for UD Resky Soppeng, as the quality and dedication of the workforce greatly determine operational success and the

achievement of business goals. UD Resky Soppeng employs ten workers, all of whom are family members, creating a strong familial bond that enhances loyalty and cooperation among employees. The involvement of family members in daily operations also allows for more effective and transparent communication. In terms of equipment, UD Resky Soppeng owns production machinery with a capacity of 10 tons, which is the company's main asset in the production process, enabling the production of large quantities to meet market demand. However, to achieve optimal performance, the machinery must always be in good condition and ready for use. The business capital used by UD Resky Soppeng is entirely sourced from personal funds, with an initial investment of approximately IDR 100 million. This capital includes the initial funds invested to start the business as well as working capital used for daily operations, reducing financial risk and allowing the company to focus on growth and development.

Maize Post-harvest Yield Analysis

Post-harvest handling activities at UD Resky Soppeng involve several key processes. The procurement of raw materials involves purchasing wet corn directly from farmers in Luwu, Bone, and Masamba Regencies, with a purchase price of IDR 4,000 per kilogram for shelled corn. The drying process is crucial for reducing moisture content in the corn kernels to maintain quality and minimize the risk of damage during storage. The initial moisture content during sun-drying ranges from 17% to 18%, with a target moisture content of 12% to 14%. Sorting is another critical step, where a seed cleaner machine is used to separate corn kernels based on quality, size, and cleanliness, resulting in clean, high-quality corn kernels. The milling process then transforms the dried corn into cracked corn, suitable for human consumption or animal feed. After milling, the corn kernels are packaged in clean, hygienic 50 kg sacks to ensure freshness and safety during distribution. Finally, the marketing of corn involves distribution to various regions, including Medan and Makassar, ensuring that high-quality corn products reach the market efficiently. Corn yield analysis is a key indicator in post-harvest handling, reflecting the efficiency of the process in producing quality kernels from the initial weight of processed kernels, serving as a critical parameter in evaluating operational efficiency and product quality at UD Resky Soppeng.

Table 1. Corn Yield Based on Post-Harvest Handling Process

Processing Stage	Initial Weight (kg)	Final Weight (kg)	Yield (%)
Drying	38,000	35,002	92.11
Sorting	35,002	34,421	98.34
Milling	34,421	29,602	86.00
Packaging	29,602	29,575	99.91
Storage	29,575	29,552	99.92
Total Yield (Initial – Final)			77.77

Source: Processed Primary Data, 2023.

Table 1 shows the raw material (shelled corn) used in the post-harvest handling process with an initial weight of 38,000 kg and a final weight at the packaging stage of 29,552 kg. The yield analysis indicates a value of 77.77%.

Post-Harvest Corn Added Value Analysis

Based on research findings regarding the costs incurred during the post-harvest handling of corn at UD Resky Soppeng, it is shown that the total cost for one production cycle at UD Resky Soppeng includes variable costs amounting to IDR 154,710,000 and fixed costs from depreciation totaling IDR 799,257. Therefore, the total production cost is IDR 161,734,326. After determining the total production cost, business income is then analyzed.

The income is based on the production output of 29,552 kg, which is sold at a price of IDR 5,500 per kg, resulting in total business revenue of IDR 162,533,582. With total production costs amounting to IDR 161,734,326, derived from both variable and fixed costs, the total profit is IDR 7,024,326. Following this, an added value analysis is conducted using the Hayami method (1987). The results of the added value analysis can be seen in the table below.

Table 2. Analysis of Added Value:

Variabel	Nilai
Output, Input, and Price	
Output (Kg/Production Period)	29,552
Input (Kg/Production Period)	38,000
Labor (HOK)	10
Conversion factor	0.78
Labor coefficient (Kg/HOK)	0.00026
Output price (Rp/Kg)	5,500
Labor wage (Rp/HOK)	50,000
Revenue and Profit	
Raw material price (Rp/Kg)	4,000
Contribution of other inputs (Rp/Kg)	3.54
Output value (Rp/Kg)	4,277
Added value (Rp/Kg)	275
Added value ratio (%)	6.44%
Labor income (Rp/Kg)	13
Labor share (%)	4.78%
Profit (Rp/Kg)	262
Profit margin (%)	95.22%

Source: Processed Primary Data, 2023.

The table 2 shows the output value generated at 29,552 kg and the input value at 38,000 kg. These figures are derived from the accumulated purchase of corn from farmers and the post-harvest handling services provided by the respondents. With a labor force of 10 people, the conversion value between output and input is 0.78. The labor coefficient is 0.00026, indicating that each worker can process approximately 0.00026 kg of corn per hour. The price of corn purchased by UD Resky Soppeng from farmers is IDR 4,000 per kg. The value of other input contributions, amounting to IDR 3.54, includes depreciation costs, sack costs, and fuel costs. The output value, at IDR 4,277, reflects the total value of the corn products generated. The added value of IDR 275 is the difference between the output value and the total costs incurred in the production process, meaning that the output value successfully added IDR 275 through production.

An added value of IDR 275 per kilogram indicates that each kilogram of raw material used in

the production process increases in value by IDR 275 after going through the production process. The added value ratio of 6.44% reflects the efficiency of the post-harvest corn handling business in adding value through the respondent's production process. Labor income of IDR 13 per kilogram means that for each kilogram of raw material processed, the labor force receives an income of IDR 13. A labor share of 4.78% indicates that the number of workers used exceeds the standard or estimated number required. The profit margin of 95.22% shows the percentage of profit relative to the total revenue or output value of the business, suggesting that the business can still generate profit from its operations.

Regarding business development strategies for UD Resky Soppeng, internal factors representing strengths and weaknesses are as follows: the business location, accessible by two vehicles simultaneously, facilitates transportation, especially during shipping and distribution activities. Despite being remote, the availability of multiple roads enables UD Resky Soppeng to connect with various regions, expanding market reach and facilitating the movement of raw materials and finished products. The self-funded capital demonstrates the owner's commitment and direct involvement in the business, making effective capital management crucial for ensuring business continuity and growth. Business management, led by the owner with assistance from family members, is key to managing UD Resky Soppeng, reflecting a strong commitment to the business and allowing direct involvement in all operational aspects. Direct supervision by the owner provides control over every operational aspect, ensuring that the desired quality and efficiency standards are met and quickly addressing issues if they arise. Management capabilities, handled by the owner and their family without external involvement, offer the advantage of deep understanding of the business's vision, mission, and values. The cash payment method for purchasing corn from farmers allows for quick transactions and immediate benefits to farmers. A study compared the barter system and cash mode for purchasing soybean and corn. It found that the cash mode for corn provided immediate benefits with no financing costs (Lorenzon & Dalchiavon, 2019).

However, weaknesses include family-based labor, which, while familiar with the work environment and processes, may be emotionally attached, posing both strengths and challenges for business continuity. Maintenance capabilities show deficiencies, with many tools and machines left unrepaired, leading to their eventual unusability. The availability of production facilities, with machines continually upgraded by the owner, offers an advantage in enhancing efficiency and product quality. Unwritten production procedures provide flexibility in operations but also present challenges in consistency.

External factors representing opportunities and threats include the demand for corn from various consumer segments, such as feed mills, retailers, livestock farmers, and out-of-town markets, offering a large market potential to increase sales volume and revenue for UD Resky Soppeng. Partnerships with farmers provide more stable and sustainable corn supply. However, threats include corn availability from various regions in South Sulawesi Province, the selling price of corn, especially under fluctuating price conditions, the high cost of production facilities with self-funded capital, competition from similar businesses in post-harvest corn handling, and unpredictable weather conditions. The IFE analysis focuses on the internal strengths and weaknesses of UD Resky Soppeng, while the EFE analysis addresses the opportunities and threats

from the external environment. The detailed results of the IFE analysis can be seen in the table below.

Table 3. Internal Factor Evaluation (IFE) Analysis

Internal Strategic Factors	Weight	Rating	Weight x Rating
Strengths			
Business capital	0.16	4	0.63
Payment method	0.14	4	0.48
Business management	0.13	3	0.41
Business location	0.13	3	0.41
Worker supervision	0.13	3	0.41
Sub Total	0.68		2.35
Weaknesses			
Worker capabilities	0.08	2	0.16
Machine maintenance	0.09	2	0.20
Availability of tools and machinery	0.08	2	0.16
Work procedures	0.08	2	0.16
Sub Total	0.32		0.67
Total	1.00	Value X	1.08

Source: Processed Primary Data, 2023.

The table 3 shows that the main strength of UD Resky Soppeng is its strategic business location. Situated in Moncongloe Village, Moncongloe District, Maros Regency, this location provides excellent access to natural resources, particularly corn from various regions across South Sulawesi. For further details on the EFE analysis results, refer to the table below.

Table 4. External Factor Evaluation (EFE) Analysis

External Strategic Factors	Weight	Rating	Weight x Rating
Opportunities			
Demand for corn	0.19	3	0.51
Partnerships	0.19	3	0.51
Sub Total	0.37		1.03
Threats			
Price of tools and machinery	0.15	2	0.34
Business competition	0.14	2	0.27
Availability of corn	0.15	2	0.34
Selling price	0.10	2	0.15
Weather conditions	0.08	1	0.11
Sub Total	0.63		1.22
Total	1.00	Value Y	-0.19

Source: Processed Primary Data, 2023.

The table 4 shows that one of the main opportunities for UD Resky Soppeng is the high demand for corn from various market segments, including feed mills, retailers, and livestock

farmers.

Based on the SWOT analysis, the researcher suggests several strategies for developing the post-harvest corn handling business at UD Resky Soppeng. Firstly, **expanding production and enhancing capacity** by investing in additional infrastructure and equipment will allow the business to handle larger volumes of corn, thus meeting growing market demand and improving overall efficiency. Secondly, **leveraging technology and internet access for market expansion**, such as by setting up online platforms for sales, engaging in digital marketing, and utilizing data analytics, can help the company reach a broader audience and better understand consumer preferences. Digital technologies can be leveraged to achieve competitive advantage through information excel lence, solution leadership, collective intimacy, and accelerated innovation, exploiting cloud comp uting, big data, analytics, mobile and wireline networks, social media, and the Internet of Things (Weinman, 2015). Thirdly, **improving production procedures and providing managerial training** by establishing clear, structured production protocols and offering managerial training to staff will enhance their skills, leading to better decision-making and more efficient operations.

Moreover, **forming marketing partnerships** with distributors or marketing agents who have extensive networks could help UD Resky Soppeng penetrate new markets, increase brand visibility, and boost sales. **Diversifying supply sources** by establishing partnerships with farmers from different regions will ensure a steady supply of corn even in the face of regional challenges such as poor weather conditions or crop failures. Research on regionalization and farming classifications revealed that the regional context provides both opportunities and constraints for adaptation, emphasizing the importance of understanding regional commodity history and classifications of farming for successful transformation of food systems (Clark et al., 2010). Additionally, **managing risks associated with equipment costs and weather conditions** by implementing risk management strategies, such as purchasing insurance, setting up contingency plans, and investing in weather-resistant infrastructure, is crucial.

The development of **centralized and adaptive production procedures** will ensure uniformity across all production units, leading to consistent product quality, while allowing the business to respond quickly to changes in market demand or weather conditions. Studies have identified various drivers for business responses to climate change, including changes in market demand and weather conditions (Gasbarro et al., 2017; Benites-Lazaro & Giatti, 2022). **Establishing scheduled maintenance programs** for machinery and regular employee training sessions will help prevent breakdowns, extend equipment lifespan, and ensure staff are updated on best practices, thereby improving productivity and adherence to industry standards. Furthermore, **exploring new markets through diversification** will allow UD Resky Soppeng to tap into new market segments, reducing reliance on a single line of business and opening new growth opportunities, which will create additional revenue streams and reduce vulnerability to market fluctuations.

The IFE and EFE analysis results, presented through a SWOT quadrant, indicate that UD Resky Soppeng's business is positioned at an X value of 1.89, derived from the difference between the strength and weakness scores, and a Y value of -0.19, from the difference between opportunities and threats. This places the business in Quadrant II, suggesting that a diversification strategy is appropriate. Diversification may lead to the creation of value through economies of scope and the exploitation of complementary assets synergies (Saftiana et al., 2018). This strategy, which leverages

internal strengths to address external threats, supports the research hypothesis that diversification can effectively develop UD Resky Soppeng's post-harvest corn handling operations. Through diversification, UD Resky Soppeng can explore new markets, reduce reliance on a single line of business, and open up new growth opportunities, thereby enhancing the business's resilience and sustainability in the long term. Implementing diversification strategies, particularly among Small and Medium Enterprises (SMEs), may involve various issues and challenges. Entrepreneurial training programs tailored to address these challenges can be beneficial for SMEs embarking on diversification planning and strategy (Kamarudin et al., 2024)

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CONCLUSION

Based on the results and discussion, this study concludes that the post-harvest handling of corn at UD Resky Soppeng involves purchasing directly from farmers, followed by drying using both manual and mechanical methods. The corn is then packaged in 50 kg sacks, securely sewn to ensure proper packaging, and marketed both locally and regionally, including in areas such as Medan and Makassar. The yield rate of 77.77% reflects a high level of efficiency in the post-harvest handling process, indicating that UD Resky Soppeng is effectively managing the corn processing operations. Furthermore, the added value obtained, amounting to IDR 275 with a ratio of 6.44%, demonstrates that nearly all the added value is generated through the post-harvest processes carried out by UD Resky Soppeng. The development strategy recommended for the company is a diversification strategy, which leverages internal strengths to address and mitigate external threats.

The study suggests that UD Resky Soppeng should consider further investment in technology and infrastructure to maintain and potentially increase its current efficiency levels. Exploring new markets and diversifying product offerings could help reduce reliance on a single line of business. Regular training for employees on new techniques and technologies will be crucial in maintaining high production quality and efficiency. The implications of this study indicate that businesses involved in post-harvest handling can benefit significantly from strategic diversification in products, markets, and supply chains. However, this study's limitations include its focus on a single company, which may limit the generalizability of the findings. Additionally, the study primarily examines internal and external factors specific to UD Resky Soppeng, with less emphasis on broader market or industry trends. Future research could address these limitations by incorporating comparative analyses across multiple businesses or integrating more extensive market data to provide a broader context for the findings.

REFERENCE

Atuahene-Gima, K., & Amuzu, J. (2019). Farmcrowdy: digital business model innovation for farming in Nigeria. *Emerald Emerging Markets Case Studies*, *9*(2), 1–22. https://doi.org/10.1108/EEMCS-03-2019-0065

Benites-Lazaro, L. L., & Giatti, L. L. (2022). Business Case on Water-Energy-Food Nexus of Biofuels: Challenges in Learning to Change. In *Handbook of Climate Change Mitigation and Adaptation: Third Edition* (Vol. 5, pp. 3611–3632). https://doi.org/10.1007/978-3-030-72579-2_159

Cairns, J. E., Chamberlin, J., Rutsaert, P., Voss, R. C., Ndhlela, T., & Magorokosho, C. (2021). Challenges for sustainable maize production of smallholder farmers in sub-Saharan Africa. *Journal of Cereal Science*, *101*. https://doi.org/10.1016/j.jcs.2021.103274

Clark, J. K., Munroe, D. K., & Mansfield, B. (2010). What counts as farming: How classification limits regionalization of the food system. *Cambridge Journal of Regions, Economy and Society*, *3*(2), 245–

259. https://doi.org/10.1093/cjres/rsq018
Dermawan, M., Rini, E. S., Sembiring, M. T., & Budiman, I. (2023). SWOT Analysis and Marketing Mix 4P Model as a Method to Develop Strategic Plan for Newly Marketed Agricultural Corn Seed Product. *IOP Conference Series: Earth and Environmental Science*, *1188*(1). https://doi.org/10.1088/1755-1315/1188/1/012027
Eryanto, O., Kuswardani, R. A., Noer, Z., & Aulia, M. R. (2023). The Influence of Agricultural Extension Agents on Pest Management and Farmer Capability for Enhance Productivity in Asahan Regency. *Universal Journal of Agricultural Research*, *11*(5), 849–859. https://doi.org/10.13189/ujar.2023.110510
Gasbarro, F., Iraldo, F., & Daddi, T. (2017). The drivers of multinational enterprises' climate change strategies: A quantitative study on climate-related risks and opportunities. *Journal of Cleaner Production*, *160*, 8–26. https://doi.org/10.1016/j.jclepro.2017.03.018
Hou, P., Liu, Y., Liu, W., Liu, G., Xie, R., Wang, K., Ming, B., Wang, Y., Zhao, R., Zhang, W., Wang, Y., Bian, S., Ren, H., Zhao, X., Liu, P., Chang, J., Zhang, G., Liu, J., Yuan, L., Zhao, H., Shi, L., Zhang, L., Yu, L., Gao, J., Yu, X., Shen, L., Yang, S., Zhang, Z., Xue, J., Ma, X., Wang, X., Lu, T., Dong, B., Li, G., Ma, B., Li, J., Deng, X., Liu, Y., Yang, Q., Fu, H., Liu, X., Chen, X., Huang, C., & Li, S. (2020). How to increase maize production without extra nitrogen input. *Resources, Conservation and Recycling*, *160*. https://doi.org/10.1016/j.resconrec.2020.104913
Ikorasaki, F., & Akbar, M. B. (2019). Detecting Corn Plant Disease with Expert System Using Bayes Theorem Method. *2018 6th International Conference on Cyber and IT Service Management, CITSM 2018*. https://doi.org/10.1109/CITSM.2018.8674303
Jamil, M. H., Tika, N., Fudjaja, L., Tenriawaru, A. N., Salam, M., Ridwan, M., Muslim, A. I., & Chand, N. V. (2023). Effectiveness of Agricultural Extension on Paddy Rice Farmer's Baubau City, Southeast Sulawesi, Indonesia. *Sustainability (Switzerland)*, *15*(4). https://doi.org/10.3390/su15043773
Juita, F., Effendi, M., & Sari, M. P. (2023). Study of Farmer Satisfaction Level on the Quality of Agricultural Services in the Muang in Environment, Explanation lempake Kelurahan, North Samarinda District. *AIP Conference Proceedings*, *2583*. https://doi.org/10.1063/5.0116114
Kamaludin, M., Narmaditya, B. S., Wibowo, A., & Febrianto, I. (2021). Agricultural land resource allocation to develop food crop commodities: lesson from Indonesia. *Heliyon*, *7*(7). https://doi.org/10.1016/j.heliyon.2021.e07520
Kamarudin, M. A. I., Yusof, M. S., Ramli, A., Othman, S., Hasan, H., Jaaffar, A. R., Sidek, S., & Kamsani, M. J. (2024). The Issues and Challenges of Diversification Strategy in Multiple Industries: The Case of Kental Bina Sdn. Bhd. *Paper Asia*, *40*(3), 48–58. https://doi.org/10.59953/paperasia.v40i3b.94
Korneeva, E., Alamanova, C., Orozonova, A., Parmanasova, A., & Krayneva, R. (2023). Sustainable development of the agricultural sector of the economy. *E3S Web of Conferences*, *431*. https://doi.org/10.1051/e3sconf/202343101030
Lorenzon, L. A., & Dalchiavon, F. C. (2019). Economic simulation of a grain-producing unit and comparison of costs by the barter system. *Revista Em Agronegocio e Meio Ambiente*, *12*(2), 435–458. https://doi.org/10.17765/2176-9168.2019v12n2p435-458
Mamat, H. S., & Husen, E. (2021). Socio-economic aspect and carrying capacity of agricultural land resources to support the development of strategic agricultural commodities. *IOP Conference Series: Earth and Environmental Science*, *648*(1). https://doi.org/10.1088/1755-1315/648/1/012019
Marinoni, O., Prestwidge, D., Navarro, J., Marvanek, S., Clifford, D., & Laredo, L. (2011). Development of a system to produce a map of agricultural profit for Australia. *MODSIM 2011 - 19th International Congress on Modelling and Simulation - Sustaining Our Future: Understanding and Living with Uncertainty*, 1895–1901.

Mutimba, J. (2024). AGRICULTURAL EXTENSION DEBATABLE ISSUES. *African Journal of Food, Agriculture, Nutrition and Development*, *24*(3), 25662–25676. https://doi.org/10.18697/ajfand.128.24275

Primawati, A., Paramita, A., Lukman, L., & Rangka, I. B. (2019). Analysis of online market system design strategy based on external and internal factor evaluation matrix. *Journal of Physics: Conference Series*, *1280*(2). https://doi.org/10.1088/1742-6596/1280/2/022014

Saftiana, Y., Adam, M., & Muthia, F. (2018). Diversification: Complementary assets and super additive synergy. *Journal of Advanced Research in Law and Economics*, *9*(2), 664–679. https://doi.org/10.14505/jarle.v92(32).29

Satyarini, T. B., & Pangarso, D. T. (2021). Comparison of the development of cluster and non-cluster models of corn farming. *E3S Web of Conferences*, *316*. https://doi.org/10.1051/e3sconf/202131601024

Singh, K., & Misra, M. (2021). Developing an agricultural entrepreneur inclination model for sustainable agriculture by integrating expert mining and ISM–MICMAC. *Environment, Development and Sustainability*, *23*(4), 5122–5150. https://doi.org/10.1007/s10668-020-00806-x

Ulfat, A., Rafaqat, A., Majid, S. A., Abasi, F., Ahmad, K. S., Raja, N. I., & Munir, A. (2022). How to deal with climate change in maize production. In *Sustainable Crop Productivity and Quality under Climate Change: Responses of Crop Plants to Climate Change* (pp. 157–169). https://doi.org/10.1016/B978-0-323-85449-8.00006-3

Weinman, J. (2015). DIGITAL DISCIPLINES: ATTAINING MARKET LEADERSHIP VIA THE CLOUD, BIG DATA, SOCIAL, MOBILE, AND THE INTERNET OF THINGS. In *Digital Disciplines: Attaining Market Leadership Via the Cloud, Big Data, Social, Mobile, and the Internet of Things*. https://doi.org/10.1002/9781119039730

Yadav, O. P., Prasanna, B. M., Yadava, P., Jat, S. L., Kumar, D., Dhillon, B. S., Solanki, I. S., & Sandhu, J. S. (2016). Doubling maize (Zea mays) production of India by 2025-Challenges and opportunities. *Indian Journal of Agricultural Sciences*, *86*(4), 427–434.