



Comparative Analysis of Definitely Economic Profits in Utilizing Sorghum Commodities

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Abstract

The events of the Russian-Ukrainian war caused the world grain value to soar, and resulted in a crisis for domestic economic actors, such as Small and Medium Enterprises. Small and Medium Enterprises with wheat bread products are also affected in the form of a decrease in net profit, by reducing their production level. This study aims to analyze the potential of sorghum commodity as an alternative form of transition from wheat commodity. The treatment of updating this research from before is to include the amount of quantity as a form of added value beside increase in net profit income. This research is also expected to provide results of suggestions for improvement, and evaluation of downstream economic research in the business world. Analysis of research with downstream principles and alternatives using sorghum, as a substitute for wheat commodities found in 2022 (October - December) and 2023 (January - March) shows an increase in achievements in 2023. This is because the sorghum commodity produces a higher added value in the quantity of flour. the results of the study also show profit conditions, namely based on the calculation of net profit income showing a significant increase in net profit in 2022 (October - December) to 2023 (January - March).

Keyword : Alternative, Downstream, Profit, Sorghum, Wheat.

INTRODUCTION

The world food system in various commodity sectors tends to be dependent, which results from geographical characteristics and natural landscapes. This dependence also results from the production value of domestic commodities that are not proportional

to the consumption value of the domestic demand itself. This phenomenon causes the government of a country to carry out import activities in order to maintain the price of goods and from scarcity. Scarcity is a condition when humans want to have or consume far more than what is produced or a situation when what humans want is far more than what is available (Goldsmith et al., 2020). Scarcity does not show that the commodity or goods are few or limited, but there is a finding of a gap between human needs and available goods. So that with this scarcity there will also be various impacts, especially for the community, and will even make people more worried and even panic when their basic needs are not available, which is commonly referred to as panic buying (Anita, 2022). One of the scarcity events that occurred in the 2023 period was the lack of supply of world wheat commodities. The limited supply of wheat was the result of global inflationary pressures along with the high prices of several food and energy commodities (crude oil, natural gas and coal) due to supply chain disruptions triggered by the Russia-Ukraine war (Tobing et al., 2022). The low amount of production and supply of wheat has also resulted in the economic sector in Indonesia having to have a pricing strategy in maintaining the demand for goods and dealing with rising wheat prices. SMEs XYZ is a business that produces processed wheat food commodities, such as bread. However, due to the high value of wheat, these small and medium businesses must be able to minimize the total quantity of production, in order to maintain the life of the business. These problems are then used as a reference for the main problems by researchers in providing evaluations and solutions to business actors. The reference system used by researchers uses alternative and downstream tactics, which are often echoed by the government. The Downstream System is a process of integrating activities and application of technology that can transform a primary product into a new product so that it can improve added *value* or the added value of the product (Faridah et al., 2023).

Alternative raw materials carried out by researchers, namely proposing a replacement using sorghum commodities. Sorghum was chosen because based on previous research, it showed that the level of antioxidant activity in a food product was 104.48 in the moderate category, so that the processed food was still able to ward off free radicals based on the IC50 value (Faridah et al., 2023). Analysis of sorghum content which has been known based on previous research, can foster the principle of self-sufficient acceleration of downstream agro-industry products. Acceleration of downstream agro-industrial products is a shift in the export of raw material products

to processed products that are competitive and meet the high demands for quality and hygienic processed product (GMP) requirements (Maclennan et al., 2018). In the era of globalization and technology 4.0, it is necessary to accelerate the development of agro-industrial products that are competitive and exist in the global market, related to increasing the income and welfare of farmers, processed product businesses (Elizabeth & Anugrah, 2020). The research is expected to be able to provide results of suggestions for improvement, and evaluation of downstream economic research on businesses. Based on the problems previously described, this study aims to analyze the potential of sorghum as an alternative form of transition from wheat. The treatment of updating this research from before is to include the amount of quantity as a form of added value in addition to increasing net profit income. This research is also expected to provide recommendations for improvement, and evaluation of downstream economic research in the business world.

Wheat Commodity Business Analysis

Wheat (*Triticum aestivum* L.) is a cereal plant from the family Gramineae. This commodity is an important food ingredient in the world as a source of carbohydrates and protein. Wheat is a staple food for most of the world's population and is the raw material for wheat flour which is widely used for the manufacture of various food products such as bread, cakes, noodles, biscuit cakes and other snacks (Andriyanti et al., 2020). Review the risks of previous research regarding the wheat business in the majority of Arab countries, where the main risks for business there are the high cost of food raw materials and the consumptive culture in wheat food and is followed by political and security crisis turmoil so that the government implements a cheap food policy (Jesslyn, Maitri et al., 2022). It is feared that the concept of cheap food policy in developing countries will lead to local wheat price values, making it difficult for the productivity and development of sustainable wheat farmers. Market analysis is widely known that the demand for Wheat in Indonesia is completely dependent on imports, so that Indonesia is the largest wheat importing country in the world. This is unlikely to change because production is unable to meet the rapid consumption of domestic and livestock needs of the population. This is because the independence of Indonesian agriculture for wheat practically does not exist due to the fault of environmental factors, Wheat thrives in hot and dry climates while Indonesia's humid climate will increase the chances of killing Wheat plants with diseases (Maldin et al., 2022).

Sorghum Commodity Business Analysis

Sorghum is the main food crop that can be integrated and utilized as ruminant animal feed. Some of the advantages of sorghum are that it has wide adaptability and requires relatively less amount of water than wheat for its growth, as well as the potential for relatively high nutrient content, and cultivation which is said to be easy because it is resistant to pest attacks (Nahak et al., 2019). Sorghum as a world food source is ranked 5th (five) after wheat, rice, corn and barley. Every 100 g of sorghum contains 73 g of carbohydrates, 11 g of protein, 3.3 g of fat, 0.38 g of vitamin B1 and 28 mg of calcium, 4.4 mg of iron and 287 mg of phosphorus. The business analysis on the content allows for the potential for rice, rice cake, porridge, as well as fermented tempeh, tape, and functional beverage products. Meanwhile, sorghum flour is used as a substitute for various flours: wheat flour, glutinous rice flour, and rice flour (Noerhartati et al., 2021).

METHOD

Analysis The method used in this research is using a simple net profit approach. The definition of profit adopted by accounting organizations today is accounting profit which is the positive difference between income and costs. Therefore net profit is the excess of all revenue over all costs for a certain period after deducting income tax which is presented in the form of a profit and loss statement .

$$\text{Net Profit} = \text{Total Revenue} - \text{Total Expenses} \dots \dots \dots (1)$$

This approach was selected by researchers, based on requests from the leaders of the XYZ SME economic actors. The form of data collection uses the following method approach:

Literature Review Method

This type of method involves collecting data by reading books based on the topic of the agricultural commodity sorghum, and then analyzing it based on theories of problem relationships.

Interview Method

This type of method emphasizes a question and answer system with related parties in the raw material processing section of SMEs XYZ. This type of method is carried out

both online and offline, based on the willingness of stakeholders, which concerns data collection permits.

Observational Method

The principle of the observation method is carried out by observing the production process, up to the internal part of the business bookkeeping. This analysis emphasizes data processing by prioritizing facts, without any elements of data manipulation.

Documentation Method

The documentation method puts forward the principle of collecting image objects and documents. This method system is said to be effective in data processing, because it supports the facts before and after the observation. Can research suggestions change the principle of improvement for the better or make production financial performance worse.

RESULTS AND DISCUSSION

Wheat Bread Products

Data processing in the first stage, by comparing the production of wheat-based bakery products with initial data from October to December 2022 and declared sold as a whole, with the data referred to as follows:

Table 1 Data Report October – December 2022

2022 Sales Report			
	October	November	December
Selling Price Per Unit (IDR)	2.000	2.000	2000
Production Amount (Pcs)	1.200	1000	600
Total Sales (IDR)	2.400.000	2.000.000	1.200.000
Gross Profit (IDR)	1.080.000	900.000	540.000

Source: Data processed by 2023 researchers

It is known that the sales report has a gross profit of Rp. 900/unit, and it is known that for 3 months, the SMEs XYZ gross profit has decreased significantly as a result of a reduction in the amount of production. However, the imposition of a selling price per unit is still being sold at Rp. 2,000, because the prices of competing products with the same commodity raw materials are not much different. The next analysis, at the calculation stage of the cost classification which includes Variable Costs and Fixed

Costs. Variable costs (variable costs) are costs that change proportionally with business activities, this can also be considered normal costs (Assegaf, 2019). Meanwhile Fixed Costs are costs or business expenses that do not depend on changes in the amount of goods or services produced (Yuni et al., 2019). Analysis of the two costs can be seen in Table 2 the details are as follows :

Table 2 Cost Classification Data Report October – December 2023

Classification of Variable Costs and Fixed Costs			
	October	November	December
Variable Cost			
Marketing Expenses (IDR)	100.000	100.000	100.000
Fixed Cost			
Employee Cost (IDR)	250.000	250.000	250.000
Logistics Cost (IDR)	50.000	50.000	50.000
Logistics Cost (IDR)	45.000	45.000	45.000
Total Fixed Costs (IDR)	345.000	345.000	345.000

Source: Data processed by 2023 researchers

Calculations in Table 2 show that the amount of variable costs and fixed costs has the same nominal amount for three consecutive months, namely Rp. 100,000 and Rp. 345,000. Subsequent analysis when knowing the Total Variable Costs and Fixed Costs, then processed again in the calculation of net income, with the following results:

Table 3 Calculation of Gross Profit

	October	November	December
Gross Profit (IDR)	1.080.000	900.000	540.000
Variable Cost (IDR)	100.000	100.000	100.000
Fixed Cost (IDR)	345.000	345.000	345.000
Net profit (IDR)	635.000	455.000	95.000

Source: Data processed by 2023 researchers

Bakery Products Sorghum

The stages of financial analysis for calculating net profit refer to the same financial management stage as wheat bread products. The results can then be compared with sales in the period Moon January – March 2023 as follows :

Table 4 Comparison of Data Reports for 2022 and 2023

	October – December 2022	January – March 2023
Selling Price Per Unit (IDR)	2.000	2.000
Production Amount	2.800	6.000

	October – December 2022	January – March 2023
Total Sales (IDR)	5.600.000	12.000.000
Gross profit (IDR)	2.520.000	5.400.000
Net profit (IDR)	1.185.000	4.405.000

Source: Data processed by 2023 researchers

The details of why XYZ SMEs can produce higher bread products in 2023 (January - March), are due to the value of the sorghum commodity resulting in a higher amount of processing, and has a relatively standard price in accordance with shipments from Eastern Indonesia. Not only that, consumer demand for sorghum bread products turns out to have high interest, because sorghum commodities are often intensified and promoted by the government, regarding its benefits for health and alternatives. This is based on the carbohydrate content of Sorghum reaching 74.63 g/100g of material and a protein content of 10.4%, especially the amino acid leucine (1.29 - 1.31%) (Saloko et al., 2022). The campaign is in line with government programs related to food sovereignty which focus more on food self-sufficiency, protection of farmers and local ecosystems, taking into account both food and human aspects (Fauzin, 2021).

The research, which was conducted for 6 months, is more detailed and prioritizes the year 2021 (October - December 2022). The data obtained by researchers in 2023 is only in the form of accumulation or recapitulation for 3 months, due to licensing issues for detailed bookkeeping reports. However, these limitations do not hinder and lead to engineered conclusions.

CONCLUSION

The conclusions drawn by the researchers are based on the concept of downstream and alternatives using sorghum commodities is comparative production levels per unit in 2022 (October - December) and 2023 (January - March) show an increase in achievement in 2023. This is because the sorghum commodity produces a higher added value to the quantity of flour. The market demand for the shift from wheat to alternative materials for sorghum is a hope for SMEs XYZ in continuing the downstream program without any concerns about the scarcity or high world wheat prices. Net profit income shows a significant increase in 2022 (October - December) to 2023 (January - March), counting from a total net profit of IDR 1,185,000 to IDR 4,405,000. In accordance with the research objectives, that the sorghum commodity is said to have the potential to replace wheat as a raw material.

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