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# FEASIBILITY ANALYSIS OF THE 2D (DIKI AND DAFA) BURNT RICE CRACKER BUSINESS (A case study of MSMEs of the 2D Burnt Rice Cracker at Mandirancan Street, Mandirancan District, Kuningan Regency)

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#### **ABSTRACT**

This research aims to determine (1) the feasibility of the 2D Burnt Rice Cracker business in terms of financial aspects and (2) the feasibility of the 2D Burnt Rice Cracker business in terms of non-financial aspects. The research was carried out from September to December 2023. The research took a case study at Micro, Small and Medium Enterprises (MSMEs) of the 2D Burnt Rice Cracker on Mandirancan Street, Mandirancan District, Kuningan Regency. The technique for taking respondents in this research was by using saturated sampling (census). The findings of the research show that the 2D Burnt Rice Cracker business on Mandirancan Street is worth pursuing, because several criteria were obtained as follows (1) Judging from the financial aspect, the 2D Burnt Rice Cracker business is profitable and worth pursuing because it has an R/C value of 2,32, BEP production is 1,373 boxes/month while total real production reaches 3,200 boxes/month, then BEP price is Rp. 8,584 while the real price is Rp. 20,000, ROI value of 133% and payback period of 6 months: (2) Judging from the non-financial feasibility analysis including legal aspects, environmental aspects, market and marketing aspects, technical and technological aspects, management aspects and human resource aspects, the 2D Burnt Rice Cracker is worth the effort.

**KEYWORDS** 

Burnt Rice Cracker, financial and non-financial business feasibility



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#### INTRODUCTION

In the development of the agricultural sector, the agro-industrial sub-system has an important role because in this sub-system there is innovation in the development of agricultural products which will have an impact on added value and

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competitiveness on the product so that the income from the product will be greater. Agro-industry is a series of industrial activities consisting of production, processing, transportation, storage, funding, marketing and distribution processes based on agricultural products (Kurniati, 2015). Local food-based agroindustry requires raw materials in the form of agricultural products that are suitable for processing into food products. Agricultural products originating from local production will make it easier for agroindustry producers to obtain them. Besides being closer to the source of raw materials, it provides advantages for producers to obtain more affordable raw source prices. This shows that agri-industry grows along with the availability of raw materials which are relatively sufficient for production (Arifin & Biba, 2018).

Micro, Small and Medium Enterprises (MSMEs) have an important role in economic development because their workforce absorption rate is relatively high and their investment capital requirements are small. MSMEs can flexibly adapt and respond to changing market conditions. This makes MSMEs less vulnerable to various external changes. MSMEs are able to quickly seize various opportunities, for example to carry out import-substituting production and increase the fulfillment of domestic needs (Ginting et al., 2023). In general, the weakness of the agroindustry in Indonesia is the nature of agricultural products which are easily damaged so technology is needed that can overcome this problem so technology is needed that can overcome this problem. Another challenge is that most agricultural products are seasonal and are strongly influenced by the climate so that the continuity aspect of agroindustry production is generally still low so they experience difficulties in market competition. Most of them are small scale with low technology (Suwandi et al., 2022).

Mandirancan street is one of the areas in Kuningan Regency that has MSMEs and they have great potential for development because these MSMEs have been established since 2007. MSMEs of Burnt Rice Cracker on Mandirancan street produce sticky rice which is a salable roasted cracker product. Cracker is a snack that is quite famous among the people, especially in Kuningan Regency. The main raw material for making cracker is sticky rice which is obtained from agricultural products in the surrounding environment. In general, the cracker that is commonly found is processed by frying, but this cracker has different characteristics from another cracker because it is processed by burning. The characteristics of the cracker are square shape and crisp texture.

The development of the 2D Burnt Rice Cracker business cannot be separated from the obstacles it faces. These obstacles include unpredictable weather factors which make drying cracker take longer than usual, not having special financial reports for their business, these MSMEs have never carried out an analysis of the feasibility of their business (Raswiantini et al., 2023). Based on this, it shows that there is a need for the development of MSMEs in the 2D Burnt Rice Cracker in terms of business feasibility analysis. Feasibility means in-depth research aimed at determining whether the business being run will provide greater benefits than the costs incurred. In other words, feasibility can be interpreted as meaning that the business being run will provide financial and non-financial benefits in accordance with the goals they desire. Feasible also means that it can provide benefits not only for the business actors running it but for investors, creditors, the government and

the wider community (Putri Wahyuni Arnold et al., 2020). Based on this, this research aims to determine (1) the feasibility of the 2D Burnt Rice Cracker business in terms of financial aspects and (2) the feasibility of the 2D Burnt Rice Cracker business in terms of non-financial aspects.

#### RESEARCH METHOD

The method used in the research was a case study at MSMEs of the 2D Burnt Rice Cracker on Mandirancan street, Mandirancan District, Kuningan Regency. Based on the consideration that MSMEs of the 2D Burnt Rice Cracker is one of the MSMEs of the Burnt Rice Cracker in Kuningan Regency and its products have their own characteristics. This research was conducted from September to December 2023. The technique for collecting respondents in this research was by using saturated sampling (census). Saturated sampling technique is a sampling technique where all the population in this study is sampled (Sugiyono, 2019). The sample in this research is the owner of the 2D Burnt Rice Cracker business.

The types of data used in this research include secondary and primary data. Secondary data was obtained from related agencies such as the Central Statistics Agency and other government agencies related to this research. Meanwhile, primary data was obtained through direct interviews with business owners (entrepreneurs) of the 2D Burnt Rice Cracker. The data analysis technique in this research uses quantitative descriptive analysis techniques. Data analysis techniques in this research include:

# a. Revenue / Cost Ratio (R/T ratio)

The use of the R/C ratio aims to find out the extent to which the results obtained from the business are profitable in a certain period (Sujarweni, 2018), with the following formula:

$$R/C = \frac{Total\ of\ Income}{Cost\ of\ Production}$$

The assessment criteria include (1) if the R/C ratio value is <1 then the burnt cracker business is not feasible to implement or develop; (2) if the R/C ratio value is >1 then the burnt cracker business is feasible to implement or develop; (3) if the R/C ratio value = 1 then the burnt cracker business has no profit or loss.

#### b. Benefit/Cost Ratio (B/C Ratio)

Within the limits of the B/C value, it can be seen whether a business is profitable or not (Sujarweni, 2018). Mathematically it can be written with the following formula:

$$B/C = \frac{Total\ of\ Income}{Total\ of\ Cost\ Bussiness}$$

The assessment criteria include (1) if the B/C ratio value is > 0 then the burnt opaque business is profitable and worthy of development; (2) if the B/C ratio value = 0 then the burnt opaque business makes a profit or no loss (break-even); (3) if the B/C ratio value = 0 then the burnt opaque business has no profit or loss.

#### c. Return on Investment (ROI)

Return on Investment is a ratio that measures the company's overall ability to generate profits with the total amount of assets available within the Company (Sujarweni, 2018). The formula is as follows:

$$ROI = \frac{Net\ Profit}{Capital} \times 100\%$$

#### d. Break Event Point (BEP)

Breakeven point analysis or Break Event Point (BEP) is an analysis technique used to study the relationship between costs, fixed costs, variable costs, income and production volume (Supriadi and Nurulita, 2018). The BEP formula can be calculated as follows:

1) break-even point for production:

$$BEP = \frac{\textit{Total of Cost}}{\textit{Price per Product}} \ \textit{Kg}$$

The assessment criteria are if (1) production BEP < product achieved by the burnt cracker business, then there is a loss: (2) Production BEP = product achieved by the burnt cracker business means it reaches the break-even point; (3) BEP production > the product achieved by the burnt opaque business results in a profit.

2) Break-even point on price

$$BEP = \frac{Total \ of \ Cost}{Number \ of \ Product} \ Rp$$

The assessment criteria are if (1) BEP price < product achieved by the burnt cracker business, then there is a loss: (2) BEP price = product achieved by the burnt cracker business means reaching the breakeven point; (3) BEP price > product achieved by the burnt cracker business will make a profit.

# e. Payback Period (PP)

Payback Period (PP) is a method for calculating the length of time or period required to return the money invested from the annual cash inflow (proceed) generated by the investment project (Kurniawan, 2019). The formula used to calculate PP with the same annual proceeds from year to year is as follows:

$$Payback\ Period = \frac{Initial\ Investmen}{Net\ Cash}\ x\ 1\ tahun$$

The eligibility criteria for accepting investments using the PP method are that an investment is declared feasible if the PP is shorter than the maximum payback

period and if there are several investment alternatives, then the best alternative is selecting the investment with the shortest PP (Ekayana et al., 2015).

Furthermore, the non-financial feasibility analysis includes legal aspects, environmental aspects, market and marketing aspects, technical and technological aspects, management aspects and human resource aspects.

#### RESULT AND DISCUSSION

## **Business Feasibility from Financial Aspects**

## a. Revenue Cost Ratio (R/C Ratio)

The total revenue for MSMEs of the 2D Burnt Rice Cracker is IDR. 64,000,000 and the total costs incurred are Rp. 27,469,144. Based on the calculation results, it can be concluded that MSMEs of the 2D Burnt Rice Cracker is declared profitable and worth pursuing. This can be seen from the comparison of total revenue with total costs which is greater than one, namely having the number 2.32 > 1 meaning every Rp. 100,- costs incurred, the 2D Burnt Rice Cracker entrepreneur earns an income of Rp. 232. The results of the analysis can be seen in Table 1.

Table 1. R/C value for MSMEs of the 2D Burnt Rice Cracker

No	Description	Total
1	Total Receipts	64.000.000
2	Total of cost production	27.469.144
3	R/C	2,32

Source: Primer data (2023)

Based on this, it is in line with research by Asnidar and Asrida (2017) showing that based on business feasibility calculations for the cracker home industry business in Paloh Meunasah Dayah village, Muara Satu sub-district, North Regency, R/C was obtained at 1.42 > 1. In other words, the R/C value C of 1.42 means, for every Rp. 100 costs incurred, the opaque home industry craftsmen in Paloh Village earn an income of Rp. 142. Based on the description above, it can be concluded that the cracker home industry business is declared profitable and worth pursuing. This can be seen from the comparison of total income with total costs which is greater than one.

#### b. Benefit Cost Ratio (B/C Ratio)

The total income of MSMEs of the 2D Burnt Rice Cracker is Rp. 36,530,856 and the total costs incurred were Rp. 27,469,144. Based on the calculation results, it can be concluded that MSMEs of the 2D Burnt Rice Cracker is profitable and worthy of development. This can be seen from the comparison of total income with total costs which is greater than zero, namely having the number 1.32> 0, meaning that each production cost incurred is Rp.100,- then you will get a profit of Rp.132. The results of the analysis can be seen in

Table 2. B/C Value for MSMEs of the 2D Burnt Rice Cracker

No	Description	Total
1	Total Receipts	36.530.856
2	Total of cost production	27.469.144
3	R/C	1,32

Source: Primer data (2023)

This is in line with research by Sajari et al., (2017) showing that based on feasibility calculations in the UD chips business. Roses in Gampong Bate, i.e. Samalanga District, Bireun Regency, obtained a B/C of 0.57 > 0. This means that each production cost incurred is Rp.100,- then you will get a profit of Rp. 57 which shows that the Mawar Chips Agroindustry can be said to be feasible (profitable) to cultivate. This can be seen from the comparison of total revenue with total production costs which are greater than zero.

#### c. Return on Investment

Return on Investment (ROI) in financial analysis has a very important meaning as a comprehensive financial analysis technique (Maulita & Arifin, 2018). The calculation to determine the ROI on MSMEs of the 2D Burnt Rice Cracker is as follows:

$$ROI = \frac{36.530.856}{27.469.144} \times 100\% = 133 \%$$

From the ROI calculation above, it can be seen that the ROI value obtained is 133%. This percentage shows that the 2D Burnt Rice Cracker business obtained 133% profit from the amount of capital spent in one year. These figures show that the 2D Burnt Rice Cracker business makes a profit of IDR 133 for every IDR. 100 invested costs.

This is in line with research by Asnidar and Asrida (2017) showing that the opak cracker home industry business in Paloh Meunasah Dayah village, Muara Satu sub-district, North Regency obtained 42.3% profit from the amount of income obtained amounting to Rp. 13,099,252 divided by the capital issued for one year of Rp. 31,000,748 and multiplied by 100%. These figures show that this opaque cracker home industry business makes a profit of Rp. 42.3 for every Rp. 100 invested costs.

## d. Break Event Point (BEP)

#### 1) BEP Breakeven Point on production

The total cost for MSMEs of the 2D Burnt Rice Cracker is Rp.27,469,144 with a product selling price of Rp. 20,000 then produces 1,3773 boxes. Meanwhile, for BEP the price with a total cost of Rp. 27,469,144 and the number of products is 3200, the BEP price is obtained at Rp. 8,584. Based on the calculation results above, the average production value in the 2D Burnt Rice Cracker business is 343 boxes/month, meaning that the Cracker product makes a profit because the production BEP is more than the product achieved by the 2D Burnt Rice Cracker business

with a selling price of Rp. 20,000/pack. The results of the analysis can be seen in Table 3.

Table 3. Product BEP Values and Prices for MSMEs of the 2D Burnt Rice
Cracker

No	Description	Total
1	Total Cost Production	27.469.144
2	Price of Product	20.000
3	Number of products	3.200
4	BEP Product	1.373 boxes
5	BEP Price	Rp. 8.584

## e. Payback Period (PP)

The payback period is the time period required for a company to return its investment capital from cash flow. The sooner investment funds can be recovered, the smaller the risk borne by the Company. Based on research results, investment in MSMEs of the 2D Burnt Rice Cracker takes 6 months to return the initial investment value. Based on this, with the assumption that the business project period is 3 years, MSMEs of the 2D Burnt Rice Cracker is said to be feasible because it can return an investment value of less than the business project period. The payback period calculation for MSMEs of the 2D Burnt Rice Cracker is as follows:

$$Payback \ Period = \frac{214.292.000}{36.530.856} \ x \ 1 \ tahun$$
$$= 6$$

# **Business Feasibility from Non-Financial Aspects**

According to Suliyanto (2010), to obtain a strong conclusion regarding whether or not a business idea will be implemented, the aspects that need to be carried out include legal aspects, environmental aspects, market and marketing aspects, technical and technological aspects, management and human resources aspects and financial aspects. Based on this, this research divides several non-financial feasibility aspects into MSMEs of the 2D Burnt Rice Cracker.

## a. Market and marketing aspects

Based on the analysis carried out, the production of the 2D Burnt Rice Cracker is always sold. This is a sign of the availability of market share for the 2D Burnt Rice Cracker, especially markets in the Kuningan Regency, Cirebon Regency and Indramayu Regency. The characteristic of this cracker product is that it is prepared by grilling, while other cracker products are prepared by frying. Furthermore, for the selling price of the 2D Burnt Rice Cracker in 2021-2023, the selling price of the 2D Burnt Rice Cracker tends to be stable at a price of IDR. 20,000/box. The selling price of the 2D Burnt Rice Cracker tends to be stable because there is often an increase in demand for grilled Cracker to be used as a regional specialty food.

The promotions carried out by the 2D Burnt Rice Cracker business are not only through retail, but through social media such as market places, then building relationships in every city such as Cirebon, Indramayu, Majalengka, Jakarta and Bandung to become resellers of the 2D Burnt Rice Cracker. Apart from that, the 2D Burnt Rice Cracker is also one of the suppliers to every souvenir shop in Region III Cirebon. Apart from that, the distribution of the 2D Burnt Rice Cracker to souvenir shop centers in several regions III Cirebon is carried out directly by the owner of the 2D Burnt Rice Cracker with a total of 100-300 boxes/shop per week depending on demand at each souvenir shop.

This is in line with research by Makmur (2019) that the marketing aspect shows that the efforts carried out by independent tofu and tempe businesses are quite feasible to develop by looking at the development of sales from small to large.

# b. Technical and technological aspects

The sticky rice and coconut which are used as raw materials for the 2D Burnt Rice Cracker are supplied by 2 farmers who have been working together with MSMEs of the 2D Burnt Rice Cracker for more than 5 years because the coconut and sticky rice supplied by them are of very high quality so that the availability of raw materials is for the long term. the mastermind is more secure. The average monthly production scale of MSMEs of the 2D Burnt Rice Cracker is 200 Kg/month with a production output of 2,400 packs of grilled Opak.

The technology used in MSMEs of the 2D Burnt Rice Cracker is using a simple burning tool and utilizing sunlight during the drying process. Work safety equipment for the 2D Burnt Rice Cracker employees consists of head coverings, masks, gloves and aprons. Even though it is still relatively simple and easy to obtain, there are still many other business places that do not use this work safety equipment. This is in line with research results (Makmur, 2019) showing that the technical and technological aspects are said to be feasible due to the selection of the right technology, guaranteed availability of raw materials, and strategic business location.

# c. Management and HR aspects

The finance and marketing department is carried out directly by the MSMEs owner, while the production department is carried out by 5 workers. MSMEs of the 2D Burnt Rice Cracker has 5 workers who are arranged according to the division of production activity processes. In this MSMEs there are several parts, namely selecting raw materials, milling, drying and packing. The workforce at MSMEs of the 2D Burnt Rice Cracker are local residents who are empowered to be part of the operations of the 2D Burnt Rice Cracker.

This is in line with research results (Putra, 2017) showing that the management and human resource aspects are said to be feasible because of the existence of a simple and clear business organizational structure, division of tasks and division of authority.

# d. Legal aspects

MSMEs of the 2D Burnt Rice Cracker has company legality which includes business entities and permits including SIUP (trading business license), TDI (industry registration certificate), and has NPWP (taxpayer identification number). The 2D Burnt Rice Cracker industrial activity does not cause air and noise pollution because the manufacturing process is carried out using traditional tools so that disturbance permit (HO) certification is not required and this MSME does not yet have an industrial registration certificate (TDI). According to Sulistyo (2010), legal aspects are analyzed to determine the ability of business actors to fulfill legal and licensing requirements related to the business they are running.

### e. Environmental aspects

The business of making cracker carried out by MSMEs of the 2D Burnt Rice Cracker can be said to be feasible because it helps the economy of the surrounding community, this is reflected in the use of workers who come from the environment around the business. Apart from that, the waste produced from the remaining production of burnt cracker does not have a negative impact on the environment, because most of the raw materials are used up. This is in line with research by Putra (2017) which states that the development of a pottery business is worth developing from an environmental aspect, the business is worth running because it does not have a negative impact on the environment.

#### **CONCLUSION**

Based on the results of the research and discussion in chapter IV, the following conclusions can be drawn: 1. Judging from the financial aspect, the 2D Burnt Rice Cracker business is profitable and worth pursuing because it has an R/C value of 2.32, the production BEP is 1,373 boxes/month while the total real production reaches 3,200 boxes/month, then the BEP price is 1,373 boxes/month. Rp. 8,584 while the real price is Rp. 20,000, ROI value of 133% and payback period of 6 months. 2. Judging from the non-financial aspect, the 2D Burnt Rice Cracker business is also feasible, the market and marketing aspects are said to be feasible because the availability of market share and sales of the 2D Burnt Rice Cracker are increasing, the selling price of the 2D Burnt Rice Cracker is stable, the product has distinctive characteristics, namely grilling, promotion of the product was very effective, distribution was also carried out smoothly. In the technical and technological aspects, it is said to be feasible because of the availability of raw materials that are easy to obtain, the strategic location of the business because it is close to access to public facilities such as markets, as well as other government institutions, the average production scale of the 2D Burnt Rice Cracker per month is 400 kg/month with production around 3,200 boxes of burnt cracker, the choice of technology used for burning cracker was also appropriate. The management and human resource aspects are said to be feasible because there is a clear organizational structure, simple division of tasks and division of authority. The legal aspect is said to be feasible because the 2D Burnt Rice Cracker business already has corporate legality which includes the business entity and its permits.

Based on the research results, researchers provide the following suggestions:

1. In the results of the financial analysis, it is said that the business is feasible and profitable, so it is hoped that the owner of the 2D Burnt Rice Cracker business can further expand marketing by opening branches in big cities, then the owner of the 2D Burnt Rice Cracker is expected to be able to improve the quality and innovations regarding the product the 2D Burnt Rice Cracker. 2. It is hoped that the 2D Burnt Rice Cracker business owners can pay attention to documents that have a validity period so that it is not too late to renew.

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