

## Analysis of the Accuracy of Calculation of Production Costs and Cost of Products for Micro Businesses in the Food & Beverage Sector

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### ABSTRACT

This research provides an overview of the cost of a product for a business which is one of the main things and affects the business plan in the long term. Many of them determine the cost of a product only based on a rough estimate without clarity on the basic elements in the calculation of production costs such as direct labor costs and overhead costs. The research method is descriptive using literature studies and field surveys. The results of this study seek to help micro businesses engaged in *the food & beverage* sector calculate production costs and cost of products through a simple but more accurate calculation formula than what they have calculated so far. The managerial implication that can be done is that micro industries can apply cost of goods calculations more accurately.

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## **INTRODUCTION**

Small and Medium Enterprises (SMEs) play a major role in most of the country's economy, particularly in developing countries. The role of SMEs is important to most businesses worldwide and contributes to job creation and global economic development, they represent about 90% of businesses and more than 50% of jobs worldwide. Formal SMEs contribute up to 40% of national income (GDP) in developing countries. This number will be much higher when informal SMEs are added (Worldbank, 2019). According to estimates, 600 million jobs will be needed by 2030 to absorb the growing global workforce, which makes SME development a top priority for many countries. In emerging markets, most formal jobs are generated by SMEs, which create 7 out of 10 jobs (Worldbank, 2019).

In Indonesia, in addition to small and medium enterprises, micro businesses are also known as micro businesses, although these businesses are part of small businesses, these micro businesses have their own accounting standards in Indonesia, namely the Financial Accounting Standards for Micro, Small and Medium Entities (SAK EMKM). According to (Muhamad, 2023), the Ministry of Cooperatives and Small and Medium Enterprises (Kemenkopukm) noted that small and micro enterprises are still very dominating in terms of the number of business actors, especially in Indonesia. The Ministry of Cooperatives and Small and Medium Enterprises noted that there were 64.2 million micro, small and medium enterprises (MSMEs) in 2021. Micro businesses with a maximum turnover of 2 billion are the most dominant, reaching almost 64 million or 99.62% of the total MSMEs in Indonesia. The proportion has not changed much in the last 10 years.

Based on the experience of filling out seminars, discussions and interviews with micro business actors, there is a similarity that in running their business, they have not implemented structured accounting. The accounting applied is limited to what they understand from the business experience and transactions carried out. Almost most of these micro business actors also still mix business and personal assets. The calculation of the cost of capital has not been calculated more accurately, because many of these micro business actors consider it as something complicated. It was pointed out by (Schutte & Dlamini, 2021) that micro, small and medium enterprises in developing countries are inconsistent in applying management accounting to their businesses. Micro, small and medium-sized entities in developing countries are plagued by a variety of challenges that include limited access to finance, lack of entrepreneurial and business management skills, poor accounting practices, low productivity and failure to adapt to rapidly changing market conditions (Maseko & Manyani, 2011).

The application of simple accounting is expected to encourage productivity, effectiveness and efficiency of EMKMs, one of which is the application of accounting in the calculation of capital costs or cost of goods. Businesses cannot produce without costs, they need to recognize the structure, classification and cost-sharing of the activities they do, so that they can

determine the price of the products and services of the company (Ahmeti, Shiroka-Pula, & Shala, 2013).

## LITERATURE REVIEW

To be able to maintain competitiveness, micro enterprises must increase their management capacity, by paying more attention to corporate culture, production management, financial reporting, marketing, internal control and taxation (Rachman & Prayitno, 2018). Products are one part of a business that must have advantages. One of the advantages of the product is seen from the quality, packaging and price of the product itself. The price of a product is one of the main elements in business, therefore it is important for business actors to be able to calculate production costs accurately so that the selling price of the product is determined accurately. The inability of business actors to calculate the production cost of a product will have an impact on business continuity (Rachman & Prayitno, 2018). Pricing that is too high or too low due to improper calculation of production costs will cause losses for a business, for example income that is not proportional to the costs incurred or prices that are too high make it difficult for business actors to sell their products. Companies face several challenges, not only to maximize profits, but also to survive in the business world, always adapting to external factors such as legal, economic, social, technological, and environmental factors (Asllani & Statovci, 2019).

The calculation of cost is a small part of the application of accounting in business processes, but it has a considerable influence on business processes. The concept of cost and pricing is a key factor for any management accounting study (Sunarni & Ambarriani, 2019). Usually the cost of goods calculation is the entire cost incurred for shopping that day. Even though some of what they spent that day was not entirely consumed into the products they sold. This happens because of their lack of knowledge of accounting and it is too complicated for them to implement. Cost control is an important part of management accounting, this function should be triggered by the implementation of plans or operational tasks involving the production, sale and storage of raw materials (Kamal, 2015). However, if they can implement accounting in their business as simply as possible, these micro business actors will get many positive impacts, for example determining the cost of goods and selling prices more accurately so that the calculation of profits will be more accurate. These business actors can also get projections of their capital and business development that are more structured than before and access to capital becomes more open so that it will be easier to determine the next steps of their business.

If the company is not accurate in determining production costs, it may be that the company loses money because it turns out that the costs incurred are not proportional to the income it earns. To avoid inaccuracies in determining the cost of production, business actors should know what components must be included in the calculation of the cost of production (Rasya, Falayati, & Ihsan, 2021).

Production costs are all direct and indirect costs incurred by a company for its production process so that the goods or services can be sold (Supriyono,

2013). Companies must calculate the cost of goods because they are very important for the company's financial reporting. The cost of production is determined before the company determines its selling price. In addition, the company also found that it would be easier to control production if it was known to know the costs incurred.

In determining production costs, there are generally 2 methods that can be used. The first is a full method of determining the cost of the person and the second is a variable method of determining the cost which is usually used for technical matters such as decision-making in the company. The main difference between the full costing method and the variable costing method lies in the treatment of the plant's overhead costs (Supriyono, 2013).

In the full costing method, all production costs, both variable and fixed, are considered part of the cost of production. Meanwhile, in the variable cost determination method, variable costs are entered only according to the period of use, for example for factory overhead costs (Supriyono, 2013).

If the company is wrong in determining production costs, it could be a loss because it turns out that the costs incurred are not proportional to the income it earns. To avoid errors in determining the cost of production, you should know what components must be included in the calculation (Rasya et al., 2021). The production cost components in question are raw material costs, direct labor costs and factory *overhead* costs.

The cost of raw materials is the entire cost used to buy raw materials for production (R.A. Supriyono, 2013). Not only the price of the basic materials of an item, but all the components to prepare the raw materials. This cost consists of the price of the basic materials, the price of the additional materials, and the cost of shipping the goods.

Direct labor costs. These costs represent the entire cost needed to pay production workers who are able to convert raw materials into finished products (R.A. Supriyono, 2013). These costs are included in the cost of production because the employed labor works to produce goods. An example of direct labor costs is the cost of wages paid to factory workers, who are directly involved in the manufacturing or production process.

Factory *overhead* costs are all costs needed to produce raw materials into finished products that are ready to be sold in addition to raw materials, costs, and direct labor costs (R.A. Supriyono, 2013). This cost includes indirect labor, the cost of working indirectly on product manufacturing. The cost of depreciation of production equipment is also included in this cost because the equipment is directly used but not every period requires service or maintenance costs.

This research tries to bridge the gap between accounting science and business actors to be closer. On the one hand, it will indeed require a strong and consistent effort and quite heavy adaptation, but the benefits as described above will be obtained by these business actors, especially micro business actors for the sustainability of their business. Through this research, it is hoped that it can provide a summary of the importance of analyzing the calculation

of the cost of production to be more accurate so that it can be more accurate in determining the selling price (Karjono & Damaiyanti, 2011).

## METHODOLOGY

This research uses a descriptive research approach while this type of research uses literature or literature studies by searching for and obtaining information, data, regulations and papers related to the purpose and object of research as well as field surveys. Literature studies allow researchers to obtain comprehensive information about the topic being researched, so that researchers can draw a conclusion related to the topic that will be discussed in this study (Sugiyono, 2019).

Field surveys were conducted to obtain data and find out the extent of the application of literature studies. In this study, the researcher intends to bring theoretical science closer to reality in the field by providing literature study input to business actors on the business processes that have been carried out so far.

## RESEARCH RESULT

The results of this study provide several recommendations for calculation examples that can be used by business actors, especially those engaged in catering and restaurant businesses. It is hoped that by applying this as a prefix, they will be more interested in being able to apply accounting in a structured manner. Table 4.1 is a table for calculating the cost of raw materials, calculated up to the price per unit as the basis for calculating the cost of goods sold at the next stage. The content of the table items can be adjusted to the type of business.

Table 4.1  
Calculation of Raw Material Costs

No	Item	Price/Kg/Bks	Amount Per Kg/Bks	Unit Price
1	Chicken	32.000	8	4.000
2	Nila Fish	25.000	5	5.000
3	Mas Fish	20.000	5	4.000
4	Beef	140.000	20	7.000
5	Rice	15.000	10	1.500
6	Egg	30.000	15	2.000

Source: processed data

Table 4.2. is a table of calculation of direct labor costs and *overhead* costs. The calculation in this table will be combined with the calculation of the cost of raw materials in table 4.1 so that it will produce the cost of goods as seen in table 4.3 and table 4.4.

Table 4.2  
Table of Calculation of Direct Labor Costs and Overhead Costs

No	Item	Price	Amount	Unit Price
1	Direct Labor Costs	1.500	1	1.500
	Overhead Costs:			

1	Cooking oil	16.000	25	640
2	Tofu	8.000	10	800
3	Tempe	9.000	15	450
4	Spice	5.000	20	250
5	Fresh vegetables	10.000	8	125
6	Flavorings	51.000	200	255
7	Chilli sauce	500	1	500
8	Box	1.500	1	1.500
9	Mika box	200	1	200
10	Plastic spoons & forks	500	1	500
11	Gas	23.000	100	230
12	Other	300	1	300
13	Indirect Labor Costs	1.000	1	1.000

Source: processed data

Table 4.3  
Calculation of Cost of Goods Sold of Chicken Packages per Box

No	Item	Cost Price
<b>Raw Material Cost</b>		
1	Chicken	4.000
2	Rice	1.500
<b>Direct Labor Costs</b>		1.500
<b>Overhead Costs</b>		
1	Cooking oil	640
2	Tofu	800
3	Tempe	450
4	Spice	250
5	Fresh vegetables	125
6	Flavorings	255
7	Chilli sauce	500
8	Box	1.500
9	Mika box	200
10	Plastic spoons & forks	500
11	Gas	230
12	Other	300
13	Indirect Labor Costs	1.000
	<b>Total</b>	<b>13.750</b>

Source: processed data

Table 4.4  
Calculation of Cost of Goods Sold for Tilapia Packages per Box

No	Item	Cost Price
<b>Raw Material Cost</b>		
1	Chicken	5.000

2	Rice	1.500
<b>Direct Labor Costs</b>		1.500
<b>Overhead Costs</b>		
1	Cooking oil	640
2	Tofu	800
3	Tempe	450
4	Spice	250
5	Fresh vegetables	125
6	Flavorings	255
7	Chilli sauce	500
8	Box	1.500
9	Mika box	200
10	Plastic spoons & forks	500
11	Gas	230
12	Other	300
13	Indirect Labor Costs	1.000
	<b>Total</b>	<b>14.750</b>

Source: processed data

Table 4.3 and table 4.4 show the price variant, depending on the type of raw material. Costs are measured in stages starting from involving the cost of raw materials, labor and *overhead* to the calculation of the cost of the product or its sale.

## DISCUSSION

Based on a survey that we conducted on several small and micro businesses, one of which is the Dua Putra Catering Business in the Bantul area of Yogyakarta, the above also happened. Indeed, there are many factors that influence, but what we really highlight is the lack of literacy and socialization in running a business. It has never occurred to this micro business actor to measure the extent and extent of their business development. Only the size implicitly shows the results of the business run, for example, there are funds available for home renovation, and to buy a freight car, to send children to school and to meet basic needs. If they can measure the development of their business through the application of simple accounting, the business will have a better level of sustainability and better competitiveness. In fact, some of them have been able to open jobs and provide additional income for housewives around the house even though they are still identifiable. If this is developed, it can boost the economy in the surrounding environment.

The calculation of production cost components is one of the important factors in the process of determining the selling price. The more accurate the calculation of production costs, the more accurate it is in determining the selling price and the more optimal the profit that can be obtained. Good cost planning will affect business performance, from the sales side to the profits generated (Mulani, Chi, & Yang, 2015). According to (Grima, Asllani, Spiteri, & Daka,

2019), costs should also be measured at all stages and comparisons between current costs and standard costs should be made, in order to have a cost-effective approach in the context of cost control.

Medium-to-high-level companies generally have calculated production costs more accurately. However, unlike small and micro companies, the calculation of production costs or capital costs has not taken into account the overall aspect of production costs. It is still often found, perhaps even in almost every small and micro business in the calculation of the cost of daily materials that are all included as a cost component, even though not all the materials purchased are used, and can be used for the next production process. It is also often found that in the calculation of the depreciation cost element of the tool is not included as a cost component, which ultimately affects the accuracy of the calculation of production costs and selling prices (Rasya et al., 2021), (Jesswein, 2011). Explained by (Greenberg & Wilner, 2015), highlighting that the lack of a comprehensive management accounting framework has hindered the absorption of management accounting for micro, small and medium entities. Existing management accounting frameworks are largely developed based on the needs of large entities and are too complex to apply to small businesses (Greenberg & Wilner, 2015). Therefore, in this study, we try to be as simple as possible to provide direction for the application of accounting for EMKMs, especially for micro entities.

The results of the above research are examples of the calculation of the cost of various main menu options that can be changed and can be removed or added as needed. The calculation process is still very simple, it is recommended to use *Microsoft Excell* with the total calculation process made semi-automatic, users only need to replace, add or subtract items and list or replace prices in case of fluctuations. The price of staples in each region is different, substitutes can change according to the price in their respective places. It is hoped that by using this calculation information, catering business actors can calculate the cost of goods more accurately, then consider determining the selling price to be more competitive.

## CONCLUSIONS AND RECOMMENDATIONS

Costs are inevitable in business processes. The better the cost control in a business, the better the business management will be. Good cost control can be done by applying accounting to the business. Currently, many micro businesses still do not know the importance of accounting in controlling costs in their businesses. Therefore, this research was carried out as one of the efforts to socialize the application of accounting in businesses so that they can better control costs and structurally measure their business results for the sake of business sustainability and progress which is expected to have an impact on the economy in the surrounding environment. In addition, the application of accounting, although as simple as possible, can open access to capital provided by both the government and the private sector with a very light burden. For business actors as a starting point to develop their business management, they can try to apply calculations based on the results of the above research and then

if they have applied, they can continue with the application of other accounting principles.

### ADVANCED RESEARCH

The limitations of this research are that the researcher must make theoretical adjustments with findings in the field in relation to the understanding of business actors so that there are several adaptations of knowledge that adjust to the understanding of business actors without eliminating the essence of existing science or theory. If the application of the theory is carried out rigidly, the researcher believes that there will be implicit resistance from business actors, and the results of the research will not be applied by business actors. Researchers can then continue by starting to introduce the determination of selling prices and compiling profit and loss statements in a simple way.

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