

Cogs Calculation Training for Local Product MSMEs in Salatiga

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Abstract. The training on calculating the cost of goods manufactured (COGS) for local MSMEs in Salatiga City was conducted as a form of community service aimed at improving the ability of business owners to understand the concepts and practices of calculating accurate production costs. The main problem faced by MSMEs in Salatiga is the lack of a structured cost recording system, resulting in selling prices often not reflecting actual costs and resulting in decreased profits. Through this training and mentoring activity, participants were provided with an understanding of COGS elements such as raw material costs, direct labor, and factory overhead costs. In addition, participants were also trained to apply the full costing method in determining selling prices. The activity methods included socialization, training, calculation practice, and evaluation of the results of the implementation in the field. The results of the activity showed a significant increase in the ability of participants to calculate production costs and determine product selling prices accurately. MSMEs became more aware of the importance of cost recording as a basis for business decision-making and increased operational efficiency. This activity is expected to be the first step towards financial independence and competitiveness of local MSMEs in Salatiga.

Keywords: Cost of Goods Sold, MSMEs, Full Costing, Training, Salatiga

Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a strategic role in driving national economic growth and expanding employment opportunities. The presence of MSMEs in Indonesia not only contributes to increasing Gross Domestic Product (GDP) but also supports the community's economic resilience during times of economic instability. According to data from the Ministry of Cooperatives and MSMEs, the MSME sector employs more than 97 percent of the workforce and contributes around 60 percent to national GDP. This demonstrates the role of MSMEs as the backbone of the Indonesian economy, particularly in developing regions such as Salatiga City (et al., 2021).

In Salatiga City, the majority of MSMEs operate in the processed food, crafts, and garment industries. This sector holds significant potential because many products are sourced from local wisdom and local raw materials, but it often faces challenges in financial management and pricing. Many MSMEs determine their selling prices solely based on market prices without considering actual production costs. As a result, they often set prices below the cost of goods manufactured, resulting in suboptimal business profits and unstable cash flow. According to Aeni et al. (2023), this situation generally occurs because MSMEs do not understand the importance of accurately calculating the cost of goods manufactured (COGS) as a basis for making selling price decisions. The calculation of COGS is a crucial component of a cost accounting system. Akuntansi & Bogor (2024) explains that COGS is the sum of all production costs incurred by a company to produce finished goods, including direct materials, direct labor, and factory overhead. By knowing the correct COGS, business owners can determine fair selling prices, measure operational efficiency, and realistically plan profits. However, most MSMEs have not implemented a systematic costing method due to limited accounting knowledge and the absence of an adequate recording system.

Research by Davianti et al. (2023) at the Eben Haezer Education Foundation in Salatiga demonstrated that implementing a *standard costing system* improved the accuracy of determining the selling price of school uniforms. This approach demonstrates the importance of systematizing cost calculations, even in non-profit organizations. This finding aligns with the findings of Jasmadeti & Nadidah (2024) , who asserted that inaccurate cost calculations in MSMEs can lead to irrational selling prices and reduce business profitability.

On the other hand, research by et al. (2021) highlights a unique phenomenon in Salatiga, where several local businesses, such as the enting-enting gepuk (rice cake) industry, have managed to survive for decades despite operating on a small scale. This success is not only due to brand strength but also to the ability to efficiently manage resources and control costs. This demonstrates

that basic accounting skills, particularly in calculating COGS, are key to the sustainability of small businesses in the region.

The obstacles faced by MSMEs in Salatiga are also related to low financial literacy. Akuntansi & Bogor (2024) found that many MSMEs lack simple bookkeeping and don't understand their cost structure. As a result, they cannot properly monitor cash flow, lack a basis for pricing, and struggle to evaluate business profitability. Without an understanding of cost structure, MSMEs tend to make mistakes in determining pricing strategies, either setting prices too low, which results in losses, or too high, which makes products difficult to compete with.

Seeing this condition, community service activities in the form of Training on Calculating Cost of Goods Sold (COGS) for Local Product MSMEs in Salatiga were designed as a solution to improve financial literacy and basic accounting skills for MSMEs. This activity aims to provide a practical understanding of how to calculate COGS using the full costing method, where all production costs, both fixed and variable, are calculated comprehensively. This approach is considered relevant because it provides a realistic picture of actual production costs, while also helping MSMEs set competitive selling prices without sacrificing business profits.

In addition to providing technical training, this activity also serves as a means of empowering the local economy. By understanding correct cost calculations, MSMEs are expected to improve operational efficiency, reduce raw material waste, and strengthen the competitiveness of local products in the regional market. This training also supports the local government's program to strengthen the capacity of small and medium enterprises in Salatiga City by improving managerial knowledge and practical accounting (Aeni et al., 2023). Thus, the training on calculating COGS is not only intended to transfer accounting knowledge but also serves as a strategic effort to build financial independence and business sustainability for local MSMEs. A good understanding of COGS will help business actors manage capital wisely, determine competitive pricing strategies, and expand the market reach of local products from Salatiga that have high economic potential.

Literature Review

Cost of Goods Sold (COGS) is a basic concept in cost accounting that measures the costs incurred by a company in producing a product or service. According to Akuntansi & Bogor (2024), COGS is the total cost of production incurred by a company to produce finished goods, including direct materials, direct labor, and factory overhead. This concept is crucial because it forms the basis for determining product selling prices and assessing a company's operational efficiency. When business owners can accurately calculate COGS, they can determine the extent of resource sacrifices and the desired profit margin.

In the context of small and medium-sized enterprises, understanding cost accounting is fundamental. Cost accounting serves as a managerial control tool for monitoring expenditures and analyzing production costs. Akuntansi & Bogor (2024) emphasizes that cost accounting is used to measure and control company costs and provide management with information for making production-related decisions. The resulting cost information can help businesses determine pricing policies, evaluate efficiency, and develop future financial plans.

Jasmadeti & Nadidah's (2024) research found that many MSMEs have not calculated COGS in accordance with cost accounting standards. Consequently, the selling price is set lower than it should be, resulting in reduced business profits. Research on the Nisda Local Snack Food MSME showed that business owners had not calculated all cost elements, such as direct labor and factory overhead, in detail. This resulted in the resulting COGS not reflecting actual costs and resulting in unrealistic selling prices. These findings demonstrate that accounting literacy and an understanding of cost concepts are key factors in the success of MSME financial management.

Aeni et al., (2023), through community service activities at the Karya Mapan Salatiga MSME Community, also found that most MSMEs do not understand how to properly categorize production costs. They often mix personal expenses with business production costs and are unable to differentiate between raw material, labor, and overhead costs. Mentoring using a job order costing approach helps MSMEs calculate production costs based on orders, allowing them to determine selling prices according to the desired profit margin. The training also demonstrated that improving practical accounting competency can directly improve small business governance at the local level. Furthermore, research by Davianti et al. (2023) at the Eben Haezer Education Foundation in Salatiga demonstrated that the implementation of a standard costing system plays a crucial role in determining the cost of school uniform production. Standard costing allows the foundation to control each cost component and assess deviations between actual and standard costs. This system allows

pricing decisions to be made based on valid and measurable information. This demonstrates that cost control practices are relevant not only for profit-oriented businesses but also for non-profit organizations that require efficiency and transparency in financial management.

Accounting & Bogor (2024) also emphasized that low financial literacy and inadequate financial reporting are the main causes of inefficiency in cost management in MSMEs. Most MSMEs do not systematically record transactions, making it difficult to identify the amount of expenditure on raw materials, labor, and other costs. This makes it impossible to accurately measure profitability. However, even simple financial reports can help business owners understand their financial condition, assess production performance, and conduct better strategic planning.

et al., (2021), in their study of the traditional Enting-Enting Gepuk Cap Klenteng & 2 Hoolo businesses in Salatiga, also highlighted the importance of operational management and cost efficiency in small businesses. They found that one of the keys to the success of these small businesses over decades is the ability to manage resources and reduce operational costs. Despite limited capital and human resources, these businesses were able to maintain their viability thanks to simple financial records and effective cost control strategies. This research demonstrates that the ability to manage costs efficiently is a crucial factor in the sustainability of small businesses.

In modern cost accounting theory, there are two main approaches often used to calculate COGS: full costing and variable costing. Full costing takes into account all components of production costs, both fixed and variable, while variable costing only includes variable costs that change with production volume. According to Akuntansi & Bogor (2024), the full costing method provides a more comprehensive picture of total production costs because it covers all elements involved in the product manufacturing process. This method is suitable for MSMEs with product variety and modest cost fluctuations.

Furthermore, according to Jasmadeti & Nadidah (2024), in implementing the full costing method, MSMEs must understand the grouping of costs based on the company's primary function, namely production costs, marketing costs, and general administrative costs. With this separation, business owners can determine the contribution of each type of cost to total expenditure, thereby reducing inefficient costs and increasing net profit. This study confirms that the ability of MSMEs to correctly identify production costs significantly determines the effectiveness of their pricing strategy.

This literature review demonstrates that calculating COGS is not merely a technical accounting activity, but rather a strategic basis for business decision-making. When MSMEs have a good understanding of cost structures and COGS calculation methods, they will be better able to compete healthily, set realistic selling prices, and maintain business financial stability. Therefore, training and mentoring related to COGS calculation for MSMEs in Salatiga are highly relevant as an effort to strengthen the financial management capacity of local businesses to become more independent, efficient, and competitive in a competitive market.

Method

This community service activity uses a participatory educational approach with a training and mentoring model tailored to the needs of MSMEs in Salatiga City. This participatory approach was chosen because it allows participants to be directly involved in the learning process, practice calculations, and apply training outcomes to their respective production activities. This model has proven effective in improving the managerial skills and financial literacy of small business owners, as reported by Aeni et al. (2023) that direct mentoring using participatory methods can significantly improve MSMEs' understanding of cost management and selling price determination.

The training activities were carried out in three main stages: preparation, implementation, and evaluation of results. During the preparation stage, the implementation team conducted field surveys and interviews with several MSMEs in Salatiga City to identify business characteristics and key challenges they faced.

Based on initial observations, it was found that most MSMEs do not systematically record costs and lack the basic skills to prepare simple financial reports. This aligns with the findings of Khairunnisa et al. (2024), who found that many micro-enterprises lack an understanding of

production cost structures and lack adequate bookkeeping, thus making it difficult to determine the correct cost of production and selling price.



implementation phase of the activity is carried out through two main forms, namely the delivery of conceptual material and practical training. In the conceptual section, participants are introduced to the basic theory of Cost of Goods Sold (COGS), including the elements of direct raw material costs, direct labor, and factory overhead costs. The explanation is given by referring to the theory put forward by Mulyadi (2015 in Khairunnisa et al., 2024), that COGS is a collection of all production costs incurred by a company to produce finished goods. This material is complemented by an understanding of the function of cost accounting as explained by Sujarweni (2019 in Khairunnisa et al., 2024), namely as a management tool to record, measure, and control production costs.

Following the presentation, the activity continued with practical training on calculating COGS using real data collected from the participants' businesses. Participants were asked to bring data on raw material expenditures, labor wages, and other costs related to the production process. From this data, participants learned to calculate COGS using the full costing method, which takes into account all production costs, both fixed and variable (Hansen et al., 2018 in Khairunnisa et al., 2024). The full costing approach was chosen because it provides a more realistic cost picture for small businesses that do not have large cost variations and do not separate overhead in a complex manner.

The mentoring process was carried out intensively by a team of facilitators. Each participant received individual guidance in compiling production cost calculation forms, both manually and digitally, using a simple spreadsheet template. The format included columns for calculating raw materials, labor, and indirect cost allocations, along with determining the selling price markup. This step adapted the model used by Aeni et al. (2023) in mentoring job order costing-based selling price strategies, where participants were trained to group costs based on orders or production batches. This method was deemed very helpful because it can be adapted to the diverse variety of MSME product types.

In addition to technical training, participants were also given discussion sessions and case studies to strengthen their understanding of the concepts. For example, participants were asked to compare the results of their usual cost of goods manufactured calculations with the results of the full costing method taught. The simulation revealed that most previous selling prices were too low because they did not account for labor and overhead costs. Similar results were found in Jasmadeti's (2024) research, where the Nisda Snacks Local Food MSME suffered losses due to cost miscalculations and excessively low pricing.

evaluation phase is conducted in two ways: formative and summative. Formative evaluation is conducted during the training to ensure that participants understand each calculation stage. The facilitator provides direct feedback on the results of the participants' calculation exercises. Summative evaluation is conducted at the end of the activity through questionnaires and interviews to measure participants' level of understanding and behavioral changes regarding the importance of calculating COGS in their businesses. The evaluation results show that more than 80% of participants experienced an increase in understanding and were able to calculate COGS independently.

To strengthen the impact of the activity, the community service team also developed a COGS training module as a practical guide for participants to use after the activity. The module includes steps for calculating COGS, examples of local businesses, and formats for recording daily costs and simple profit and loss reports for small businesses. This module's development mimics the best practices implemented by Marcelina et al. (2022) in their study of standard costing

implementation at the Eben Haezer educational institution, where developing operational reference documents was proven to facilitate the consistent application of cost accounting principles.

This mentoring program also considers sustainability. The implementation team maintains ongoing communication with participants through online discussion groups to provide additional consultation on cost recording and selling price planning. This approach is based on the premise that ongoing training will reinforce proper record-keeping habits and help participants develop independent financial management. Jasmadeti (2024) emphasized that changes in cost management behavior in MSMEs cannot be achieved through short-term training alone but require ongoing mentoring to ensure consistent implementation of the taught systems.

Thus, the implementation method of this activity not only focuses on theoretical knowledge transfer but also integrates hands-on practice, personal mentoring, and post-training monitoring. This approach aims to ensure that participants truly understand the importance of calculating COGS and are able to apply it effectively in their business operations. Through this method, it is hoped that MSMEs in Salatiga City will be able to set rational selling prices, improve cost efficiency, and strengthen the competitiveness of local products in an increasingly competitive market.

Results and Discussion



A two-day training session on calculating the cost of goods manufactured (COGS) for local MSMEs in Salatiga City was conducted and attended by micro-entrepreneurs from various sectors, including snacks, garment factories, and handicrafts. Initial observations revealed that approximately 70% of participants lacked a clear cost recording system and were still using an estimated approach to determine product selling prices. This finding echoes the findings of Khairunnisa et al. (2024), who explained that most MSMEs in Indonesia lack simple accounting records and do not understand their cost structure, making it difficult to determine business profits and losses.

During the training, participants were given a theoretical understanding of the elements of production costs, which consist of direct raw material costs, direct labor costs, and factory overhead costs. As explained by Mulyadi (2015 in Khairunnisa et al., 2024), COGS is the collection of all production costs incurred to produce finished goods. This understanding serves as the basis before participants practice calculating COGS in their respective businesses.

In the practical phase, participants were instructed to create a production cost calculation form by recording their actual business data, from raw material purchases and labor wages to indirect costs such as electricity and equipment depreciation. The facilitator then introduced the full costing method, as per Hansen et al.'s (2018) perspective, which is a method for determining the cost of goods manufactured that takes into account all cost elements, both fixed and variable. This method was chosen because it is considered most relevant for small businesses that do not yet have a complex accounting system but require a comprehensive overview of total production costs.



One of the key outcomes of this training was an increased understanding of the importance of including all cost components in calculating the selling price. Prior to the training, most participants only calculated raw materials and estimated the selling price based on market prices. After the training, participants were able to calculate COGS more accurately by taking all cost components into account.

The following is an example of the results of changes in production cost calculations before and after training from one of the participants (cassava chip processing MSME "Mekar Rasa"):

Cost Components	Before Training (Rp)	After Training (Rp)
Direct Raw Materials	2,500,000	2,500,000
Direct Labor	-	1,000,000
Overhead (electricity, packaging, etc.)	-	600,000
Total COGS	2,500,000	4,100,000
Selling Price (Mark-up 30%)	3,250,000	5,530,000

The table above shows that the COGS calculation after the training yields more realistic results than before. Previously, the business owner set a selling price of Rp 3,250,000 based on estimates, without factoring in labor and overhead costs. After applying the full costing method, the total production cost was found to be Rp 4,100,000, resulting in an ideal selling price of Rp 5,330,000. This allows the business owner to avoid previously unnoticed losses due to cost miscalculations.

These results align with Jasmadeti's (2024) findings from a mentoring program for the Nisda Local Snack Food MSME, which showed that many business owners set selling prices below actual production costs. After receiving training, these MSMEs were able to improve cost efficiency and set selling prices in line with the product's economic value. This means that training activities like this have a direct impact on improving the understanding and managerial skills of business owners.

In addition to improving technical skills, behavioral changes in financial management were also observed. Several participants began implementing simple Excel-based financial record keeping and creating monthly reports on raw material costs, labor costs, and sales revenue. This demonstrates that the training focused not only on theory but also fostered awareness of the importance of cost transparency and business evaluation. According to Marcelina et al. (2022), a structured cost accounting system can be an effective control tool for small organizations, as it helps detect cost deviations and measure work efficiency.

During the discussion session, participants also stated that the COGS calculation method taught helped them determine their selling price and promotional strategies. Several business owners admitted that they had previously experienced declining profits because they followed market prices without calculating internal costs. After the training, they were able to set selling prices based on realistic profit margins and remain competitive. This view aligns with Aeni et al. (2023), who explained that properly grouping costs can help MSMEs set selling prices that reflect the true value of production and avoid detrimental underpricing.

Based on the post-training evaluation conducted through a questionnaire, 82% of participants stated that the activity was very beneficial in improving their understanding of cost structures and selling price calculations. Seventy-six percent of participants stated that they would begin implementing routine cost recording in their business activities. Meanwhile, 64% of participants reported gaining new insights into cost control strategies and raw material efficiency. These results demonstrate increased knowledge and behavioral changes toward simple, sustainable accounting practices.

Beyond the short-term benefits, this activity also fostered networking among MSMEs, allowing them to share experiences and business strategies. Some participants even took the initiative to form small groups to learn together about financial management and digital marketing. This demonstrates that participatory training like this can be a catalyst for increasing local entrepreneurial capacity. Wijayanti and Kristianti (2021) emphasized that the sustainability of small businesses like enting-enting gepuk in Salatiga is due to collaborative learning and an awareness of cost efficiency, consistently implemented over the long term.

Overall, the results of this activity demonstrate that training in calculating COGS based on the full costing approach can improve the ability of MSMEs to manage production costs and

determine selling prices accurately. The mentoring, conducted through hands-on practice and ongoing evaluation, helped participants understand the tangible benefits of implementing cost accounting in their daily operations. By implementing a correct calculation system, MSMEs can improve efficiency, strengthen financial stability, and enhance the competitiveness of local products in Salatiga at the regional and national levels.

Conclusion

The training activity on calculating the cost of goods manufactured (COGS) for local MSMEs in Salatiga City successfully achieved its goal of improving business actors' understanding of the importance of recording and managing production costs. Prior to the training, most MSMEs determined selling prices based solely on estimates or following market prices without taking labor and overhead costs into account. Through mentoring and practice calculating the full costing method, participants were able to identify all cost components and set product selling prices with a reasonable profit margin. The results of the activity showed a significant improvement in participants' ability to calculate COGS, prepare simple cost reports, and apply the principle of efficiency in the use of raw materials and labor.

In addition to improving technical skills, this training also contributed to behavioral changes among MSMEs in terms of financial record-keeping and cost control awareness. Participants began implementing spreadsheet-based cost recording and conducting regular profit evaluations. This activity also fostered collaboration among participants as a forum for sharing best practices in business management. Thus, the HPP training serves not only as a means of improving financial literacy but also as a strategic step to strengthen the competitiveness and economic independence of local MSMEs in Salatiga. For sustainability, it is recommended that this activity be further developed through advanced training such as digital financial reporting and long-term financial planning, so that MSMEs can be more adaptive to the dynamics of the modern economy.

References

- Aeni, I. N., Widiatami, A. K., Pitaloka, L. K., Mudrikah, S., & Susanti, E. (2023). Pendampingan Strategi Harga Jual Melalui Job Order Costing Pada Komunitas UMKM Karya Mapan Salatiga. *Madaniya*, 4(3), 1032. <https://madaniya.pustaka.my.id/journals/contents/article/view/515/354>
- Akuntansi, J., & Bogor, I. P. (2024). *Accounting Information System, Taxes, and Auditing Analisis Proses Produksi dan Perhitungan Harga Pokok Produksi pada UKM Batagor ESQ*. 3(2), 42–50.
- Davianti, A., Marcelina, S., Arnova, M., & Peoha, S. G. (2023). Standard Costing Produk Seragam Yayasan Pendidikan Eben Haezer Salatiga. *Magistrorum et Scholarium: Jurnal Pengabdian Masyarakat*, 3(2), 252–265. <https://doi.org/10.24246/jms.v3i22022p252-265>
- Jasmadeti, J., & Nadidah, N. (2024). Pendampingan Perhitungan Harga Pokok Produksi Dan Penentuan Harga Jual Produk Umkm Nisda Cemilan Pangan Lokal. *Jurnal Abdimas Dedikasi Kesatuan*, 5(1), 43–56. <https://doi.org/10.37641/jadkes.v5i1.2443>
- Wijayanti, D. A., & Kristianti, I. (2021). Analisis Liability of Smallness Pada Usaha Enting–Enting Gepuk Cap Klenteng & 2 Hoolo Salatiga. *Jurnal Bisnis Dan Kewirausahaan*, 17(2), 106–117. <https://doi.org/10.31940/jbk.v17i2.2369>