e-ISSN: 2745-9535
No. 105/E/KPT/2022
Jurnal Pengabdian Masyarakat
Member of: A/JEBI
Editorial Office: Jl. Soekarno-Hatta, Rembuksari No. 1A, Malang, East Java, Indonesia, 65113
Contact: Phone: +62 (341) 478494 e-mail: jpm@asia.ac.id
The journal is published by Institut Teknologi dan Bisnis Asia Malang
Website: https://jurnal.stie.asia.ac.id/index.php/jpm
Indexed in: Google Crossref neliti GARUDA Journal Dimensions

Smart Costing Education Using Activity-Based Costing for Fish-Processing MSMEs

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Volume
7
Issue
2
Edition
November
Page
728-734
Year
2026

Article History

Submission: 01-11-2026
Review: 06-11-2026
Accepted: 22-11-2026

Keyword

Smart Costing;
Activity-Based Costing;
MSMEs;
Production Cost;
Financial Records;

How to cite

Tambunan, R., Fauzi, M. R., Sofa, I., Muamanah, & Nurjanah, S. (2026). Smart Costing Education Using Activity-Based Costing For Fish-Processing MSMEs. Jurnal Pengabdian Masyarakat, 7(2), 728–734. https://doi.org/10.32815/jpm.v7i2.3170

Abstract

Purpose: This community engagement activity aimed to introduce Smart Costing based on Activity-Based Costing (ABC) to the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency, and to improve participants' understanding of financial recordkeeping and production cost calculation.

Method: The activity took place on 22 October 2026 and included educational sessions and practical exercises on calculating production costs. Evaluation was qualitative, based on the implementation information provided by the community engagement team. Numerical pre-test and post-test scores and the exact number of individual participants were not available.

Practical Applications: The activity introduced participants to more structured production-cost calculation. Follow-up collaboration is planned to support more orderly financial records, consistent production-cost calculations, and business development.

Conclusion: The activity was reported to have run smoothly, with a reported change in participants' understanding before and after the education. Since detailed evaluation records were unavailable, the magnitude of the change cannot be quantified. Continued mentoring is proposed to support application of the learning in daily business practices.

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Introduction

Micro, small, and medium-sized enterprises (MSMEs) contribute to local economic activity, employment, and household income. For small food-processing businesses, business continuity depends not only on product quality and sales but also on effective cost management and reliable financial records. However, limited financial recordkeeping can make it difficult for business owners to determine actual production costs, establish appropriate selling prices, and evaluate operating performance. One key challenge is calculating production costs. Some MSME owners still rely on experience, intuition, or rough estimates, often focusing primarily on direct costs such as raw materials and direct labor. Meanwhile, indirect costs, including electricity and water, supporting materials, equipment depreciation, transportation, and the owner's production time, may not be fully considered. Consequently, calculated production costs may not accurately reflect the resources consumed during production.

Incomplete production cost information can create two major risks: under-costing and over-costing. Under-costing occurs when the calculated production cost is lower than the actual cost because certain cost components, particularly indirect costs, are omitted. This may cause business owners to set selling prices that fail to cover the full cost of production, potentially reducing actual profit margins. Conversely, over-costing occurs when costs are excessively allocated to particular products, resulting in selling prices that may be less competitive in the market. These conditions highlight the importance of a systematic, practical costing approach that enables MSME owners to identify production costs more comprehensively and make better-informed pricing decisions.

Activity-Based Costing (ABC) offers a structured approach to calculating production costs by identifying the activities that consume resources and allocating indirect costs based on relevant cost drivers. Its fundamental principle is that products consume activities, while activities consume resources. Unlike traditional costing approaches that commonly allocate overhead using broad allocation bases, ABC provides a more detailed process for tracing indirect costs according to the activities associated with production. For MSMEs, this approach can improve cost visibility and help business owners understand how operational activities contribute to total production expenditure. Sari et al. (2025) highlight the application of ABC in improving product pricing accuracy among MSMEs, while Abizar et al. (2025) demonstrate the relevance of comparing ABC with conventional costing methods in determining production costs. These studies provide a basis for introducing ABC as a practical approach to strengthening production cost calculation among small-scale businesses.

Within this context, Smart Costing Education Using Activity-Based Costing is introduced as an educational approach to improving MSME owners' understanding of production cost calculation. The approach emphasizes identifying production activities, recognizing consumed resources, and understanding the role of cost drivers in allocating production overhead. It also distinguishes between value-added activities, which contribute to product value from the customer's perspective, and non-value-added activities, which consume resources without directly increasing product value. With this understanding, MSME owners can better understand production costs and identify opportunities to improve operational efficiency without compromising product quality.

Based on these considerations, a community engagement activity entitled Smart Costing Education Using Activity-Based Costing was conducted on 22 October 2026 with the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency. The activity was designed to address the challenges of production cost calculation through educational sessions and practical exercises in determining production cost calculation. Its immediate objective was to improve participants' understanding of the components and processes involved in production cost calculation using the ABC approach. Furthermore, the activity is expected to lay the foundation for improved financial recordkeeping and support business development through planned follow-up mentoring.

Method

The community engagement activity took place on 22 October 2026 with the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency, Indonesia. The group was chosen because small fish-processing businesses handle many cost items at once, such as raw materials, packaging, fuel, and labor, and these are often tracked informally. This makes the group a suitable audience for an introduction to structured production costing. The exact number of individual participants was not available, so it is not stated here.

The confirmed activities consisted of two parts: educational delivery and practical exercises in calculating production costs. Both focused on the Smart Costing and Activity-Based Costing (ABC) approach. The education part introduced why production costs need to be identified and organized, and how different cost components relate to the products being made. The practical part gave participants a chance to work through the calculations rather than just listen to an explanation.

Pairing explanation with practice was deliberate. Costing ideas can stay abstract when presented only as a lecture, and exercises help participants connect those ideas to the costs they already deal with in daily production. The available information does not include the specific examples or materials used during the exercises, so these are not described in this article.

The implementation was described as having run smoothly. No detailed records of session length or session flow were provided, and the article does not add them. The description of implementation is therefore limited to the date, location, target group, and two confirmed activity types.

The evaluation was qualitative. It was based on information reported by the engagement team about participants' understanding before and after the activity. The available information indicates that the team observed or reported a change in understanding.

The evidence base has clear limits. The following were not available: detailed observation notes, participant quotations, individual response records, numerical pre-test and post-test scores, and the exact number of participants. Without these, it is not possible to determine the magnitude of the change, how many participants showed it, or whether it varied between individuals. For this reason, the evaluation is reported descriptively, and no numerical increase is calculated. This keeps the findings at the level the records can support.

The reporting process separates confirmed implementation information from planned follow-up. Mentoring is planned as a later stage of collaboration and is not described as an activity that has already been completed. This separation prevents planned work from being read as finished work.

The article also does not claim measurable reductions in production costs, higher profits, or improved sales. Follow-up outcome data are not yet available, and any such claim would go beyond the evidence. Whether the activity changes business performance is a question for the planned mentoring stage and later evaluation, and this article leaves it open.

Result

The Smart Costing education activity was carried out on 22 October 2026 with the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency. The team confirmed that the activity consisted of education and practical exercises in production cost calculation. The main aim was to help participants see why identifying every cost component in their production process matters, and to give them a more orderly way to put those costs together.

For small fish-processing businesses, this is not a minor skill. Costs often come from many places at once: raw fish, packaging, fuel, labor, transport, and the time owners spend on production itself. When these are tracked loosely or only from memory, it is easy to miss some of them. That in turn makes it hard to set a selling price with confidence. The activity was designed around this problem, so that participants could start looking at their own costs

in a more structured way.

The activity was reported to have run smoothly. The implementation information available to us does not specify the number of individual participants, the length of the session, or the detailed examples used during the exercises. These details are therefore not inferred in this article, and the discussion below stays within what the team could actually confirm.

Photo 1. Community Service Program



Source: Private Documentation, 2026.

According to the implementation information provided by the engagement team, participants' understanding changed between the period before and after the educational activity. This is reported as a qualitative outcome rather than a quantified effect. The activity introduced production cost calculation through both education and practice, giving participants a chance to use a more structured approach to understanding business costs rather than only hearing about them.

The combination of explanation and practice is worth noting. Costing concepts can feel abstract when they are only presented in a lecture format. Working through exercises lets participants connect the idea of a "cost component" with what they already handle every day in their own production. The reported change in understanding is consistent with this kind of learning, although it should be read as the team's observation rather than measured proof. Table 1. summarizes the evidence available for reporting. It separates confirmed information from details that have not been documented, to avoid overstating the results.

Photo 2. Closing Process of Community Service



Source: Private Documentation, 2026.

Table 1. Summary of Available Qualitative Evidence

Aspect	Available evidence	Reporting limitation
Implementation	The activity was reported to have run smoothly on 22 October 2026.	No detailed attendance or session records were provided.
Change in understanding	The engagement team reported a change in participants' understanding before and after the activity.	No numerical pre-test/post-test scores or individual observation records were available.
Learning activity	Education and practical exercises in production cost calculation were conducted.	Independent mastery of ABC or HPP calculation has not been established.

Source: Author's Work, 2026.

Discussion

The reported change in participants' understanding suggests that a practical educational activity can serve as an initial step toward strengthening financial management among MSMEs. Production cost information is important because it supports decisions about selling prices, product margins, and the use of business resources. For fish-processing enterprises, a structured review of cost components can help owners see that production costs may extend beyond purchasing raw materials.

ABC provides a useful conceptual framework for connecting business activities with the resources they consume. In a simplified application, business owners can begin by identifying major production activities, recording the costs associated with those activities, selecting reasonable cost drivers, and allocating costs to products. A simple spreadsheet or written record may support this process, provided the information is recorded consistently and reviewed periodically. This practical approach is consistent with prior studies showing that ABC can make overhead allocation more traceable and improve the relevance of cost information for small businesses (Alam, 2020; Handayani et al., 2023; Nasution et al., 2021). Research on MSMEs has also applied ABC to production cost calculation in different product settings, including catering, tofu, fish crackers, and other small-scale businesses (Agustina & Hidayah, 2025; Lestari et al., 2026; Sari et al., 2025). These studies provide a rationale for introducing activity identification and cost-driver thinking in the Domas Village activity, but their numerical findings should not be treated as outcomes of the present community engagement program.

The use of education followed by practical exercises is also aligned with community-engagement reports that emphasize hands-on assistance in cost classification, production-cost calculation, and financial recordkeeping for MSMEs (Musviyanti & Pattisahusiwa, 2025; Salsabila et al., 2025; Widiyanti et al., 2025). Related studies on financial-recordkeeping support further suggest that continued guidance can help small-business owners establish more regular bookkeeping practices (Khodijah & Sitha, 2025; Widyastuti & Pabulo, 2024). In the present activity, however, follow-up mentoring remains planned; therefore, these studies are contextual support rather than evidence that the same outcomes have already occurred among the participating fish-processing MSMEs.

The immediate outcome reported in this activity is a qualitative change in understanding, not a demonstrated improvement in financial performance. Since numerical test results, detailed observation records, and post-activity business data were not available, it is not possible to determine the size of the learning effect or to conclude that production costs have decreased. This limitation should be considered when interpreting the activity's impact.

The planned follow-up collaboration is therefore important. Mentoring can help participants translate initial understanding into routine practice, starting with separating personal and business cash, regularly recording income and expenses, retaining transaction evidence, classifying production costs, and periodically calculating production costs by product. Further mentoring may also help business owners use cost information when reviewing selling prices and business decisions.

Future evaluation could document whether participants maintain financial records, calculate production costs for selected products, and use cost information in pricing decisions. A simple monitoring sheet, periodic record reviews, and participant feedback could provide stronger evidence of application over time. Such data would allow a subsequent report to assess implementation more directly without assuming outcomes in advance.

Conclusion

Smart Costing education based on Activity-Based Costing was conducted on 22 October 2026 with the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency. The activity consisted of education and practical exercises in production cost calculation and was reported to have run smoothly. The engagement team reported a

qualitative change in participants' understanding before and after the activity. Because numerical pre-test and post-test scores and detailed individual records were unavailable, the magnitude of this change cannot be quantified. Follow-up collaboration is planned to support more orderly financial recordkeeping, consistent production cost calculation, and business development. Future mentoring and monitoring will be needed to assess whether the learning is applied in daily business practices.

Acknowledgements

The authors thank the Fish-Processing MSME Group in Domas Village, Pontang District, Serang Regency, for participating in the community engagement activity. The authors also acknowledge the institutional support provided for implementing this activity.

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