

## Exploration of Product Cost Literature In Indonesia: A Bibliometric Study and Systematic Review

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**Abstract:** This study aims to examine the trend of product cost research in Indonesia through a Systematic Literature Review (SLR) approach and bibliometric analysis. Data was obtained from the Scopus database with the keyword "product cost" in the Indonesian region in the range of 2015-2025, resulting in 174 documents. The analysis showed a significant increase in publications since 2020, with a peak in 2023. Institut Teknologi Sepuluh Nopember is the most productive and influential institution in the publication of this topic. The bibliometric visualization shows the existence of connected and unconnected authorship collaborations, as well as seven main keyword clusters that include supply chain, cost, and sustainability. Further analysis indicates that the integration of variable costing and absorption costing methods in the context of job order costing remains under-researched, despite its important implications in making more accurate cost decisions. This research provides a comprehensive overview of the development of product cost research in Indonesia and identifies research gaps that can be used as a basis for further studies.

### Introduction

Accounting can generally be defined as an information system designed to produce quantitative data about the financial position, operational performance, and cash flow of an economic entity (Utami, 2024). The main objective of this system is to provide relevant and reliable information for stakeholders in supporting rational economic decision making (Lestari et al., 2023). The accounting process includes the activities of identifying, measuring, recording, and reporting financial transactions in a certain period, all of which aim to describe the overall financial condition of the organization (Mokognita et al., 2017).

One of the important branches in the accounting discipline is managerial accounting, which is oriented towards the information needs of internal management to support planning, control, and decision making (Putri et al., 2021). Among the key elements in managerial accounting is product costing, which is the process of identifying and allocating production costs to the goods or services produced (Arifin et al., 2023; Sanjaya et al., 2023). Cost components that are generally taken into account include direct raw materials, direct

labor, and factory overhead (Harahap, 2023). Accuracy in determining the cost of goods is crucial in determining selling prices, evaluating profitability, and improving business efficiency and competitiveness (Handayani, 2023).

In practice, various approaches have been developed to calculate product costs, such as variable costing and absorption costing. Variable costing only includes variable production costs in the cost of goods, while absorption costing allocates all production costs, both fixed and variable, to the product (Harun et al., 2023; AUFAR & AMMAR, 2025). These two approaches have different implications for profit analysis, managerial decision-making, and financial reporting.

In addition, the job order costing method is often used in the context of order-based production, where costs are traced specifically to each project or order. This method is particularly relevant in industries such as specialized manufacturing, printing, and professional services, which demand precise and flexible costing (Hidayat & Priani, 2022; Diana & Setyowati, 2023).

Although these topics have been the focus of practice and research, there is still a lack of literature that systematically maps the development and trends of product cost research in Indonesia. Existing studies tend to be scattered and do not provide a comprehensive picture of the scientific contributions, thematic focus, and direction of scientific development in this field.

Based on this background, this study aims to explore the literature on product cost in Indonesia through a bibliometric and systematic literature review (SLR) approach. This study will identify publication trends, keyword distribution, collaboration between authors and institutions, and the intellectual map formed from related scientific publications. In addition, this study also aims to reveal the dominant research focus, research gaps that still exist, and the potential direction of scientific development in the future. The results of this study are expected to be a strategic reference for academics and practitioners in designing a product costing system that is more contextual and adaptive to business dynamics in Indonesia.

## **Research Method**

This research uses the Systematic Literature Review (SLR) approach and bibliometric analysis to thoroughly and critically review the literature that addresses the topic of product cost in Indonesia. The SLR approach was chosen because it provides a systematic, transparent, and replicative framework in reviewing previous studies, and is able to identify research patterns, thematic trends, literature gaps, and scholarly contributions from various publication sources (Kitchenham & Charters, 2007). Through SLR, this research is directed to produce a theoretical and practical synthesis of the development of strategic issues in cost accounting, including aspects such as job order costing methods, as well as variable costing and absorption costing approaches as part of product costing practices.

In addition to SLR, this study also applied bibliometric analysis to map the knowledge structure and development of scientific studies on product cost in Indonesia. The analysis was conducted using VOSviewer software, which allows visualization of co-authorship, co-occurrence of main keywords, and intellectual maps of relevant fields of study. In general, this research was conducted through three main stages:

The first stage is harvesting data. At this stage, researchers harvested data by collecting articles and proceedings seminar papers that have been published and indexed by Scopus indexing institutions. To collect publications from Scopus indexing institutions, researchers go directly to the Scopus database through the UM website.

The second stage, data screening, researchers conducted a publication search with several steps, first using the keyword “product cost”, with the Indonesian country area, publication time range 2015-2025, and document types including research articles, review articles, and proceedings / conference articles. Second, selecting the language used, namely English and Indonesian, selecting the research area in the fields of Business, Management and Accounting and Economics, Econometrics and Finance. Finally, researchers only select articles that can be accessed or open access.

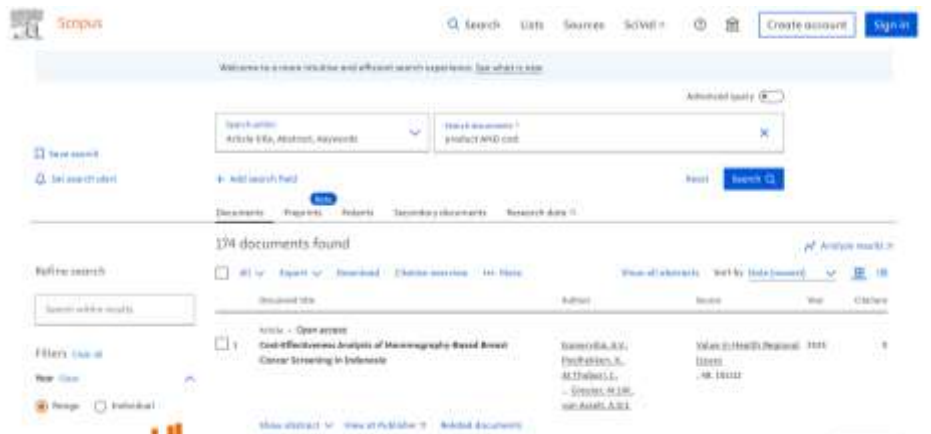


Figure 1. Data Collection Using Scopus

Source: processed by researcher, 2025

Based on the results of data harvesting, 174 article publications were obtained. Furthermore, researchers downloaded all selected scientific articles in the form of RIS or Research Information Systems Citation File and determined the information obtained from the RIS file in the form of citations, bibliographies, and abstracts & keywords.

The third stage, data analysis and visualization, researchers conducted data analysis using data that had been obtained from the results of data harvesting and data filtering in Scopus. On the Scopus website page there are tools that can be used for data analysis, researchers use these tools to see the results of direct analysis. Then the researchers visualized the data using VOSviewer to see the co-authorship and co-occurrence network. Researchers also conducted overlay and density visualizations to see an overview of the most dominant product cost research topics and other topic trends that are still related to product cost.

## Result and Discussion

Based on the results of data harvesting from the Scopus database with the keyword “product cost” in the Indonesian region in the 2015-2025 period, 174 scientific publication documents were obtained that met the inclusion criteria. All publications consist of research articles, review articles, and conference proceedings, which are divided into two main languages: Indonesian and English.

The distribution of documents per year shows an increasing trend in the number of publications, especially since 2020. This reflects the increasing academic attention to the topic of product costing in the context of business and industry in Indonesia.

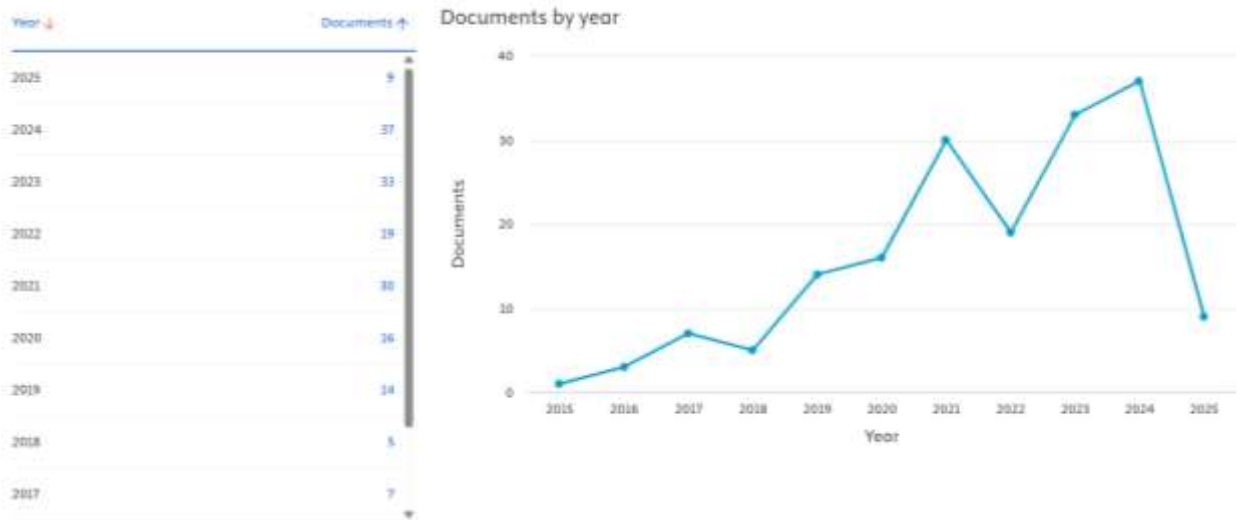


Figure 2. Scopus Data Publication Development 2015-2025  
 Source: Scopus, 2025

The highest development was seen in 2021 and 2023 which published 30 and 33 articles. Meanwhile, the years before and after experienced fluctuations. As in 2015 only published 1 article, then in 2016 it increased with 2 articles, in 2017 it increased by publishing 7 articles, in 2018 it decreased by publishing 5 articles, in 2019 it increased by publishing 14 articles, in 2020 it published 16 articles, and so on as shown in Figure 2.

Author affiliation analysis was conducted to identify higher education institutions and research organizations that were most active in publishing studies related to product cost in Indonesia in the 2015-2025 period. Based on the frequency of publication, institutions that are productive in publishing articles related to product cost are.

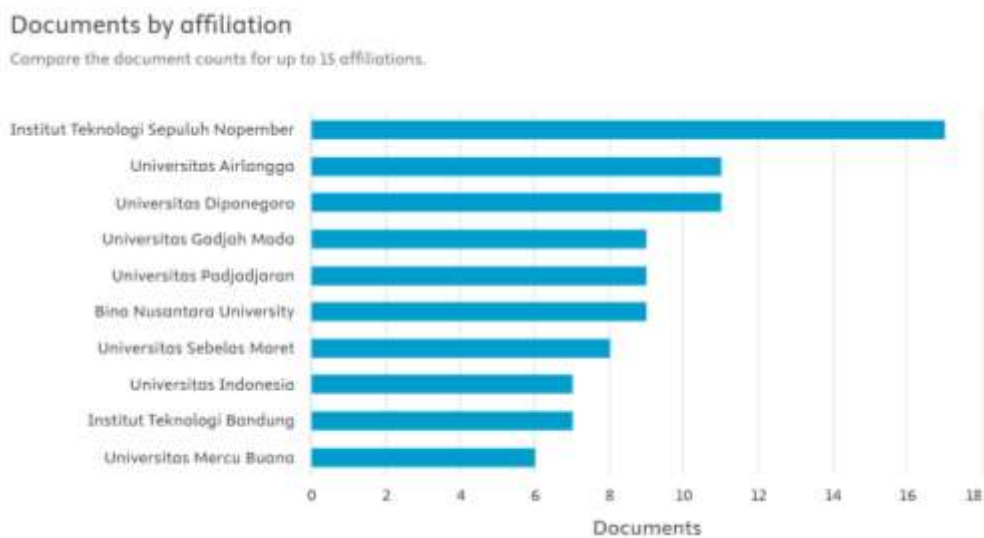


Figure 3. Productive Institutions in Publishing Articles related to Product Cost Based on Scopus Data 2015-2025  
 Source: Scopus, 2025

Based on the results of affiliation analysis, there are ten institutions that are consistent in contributing to publishing cost accounting studies, especially in the context of product costs

in the manufacturing, MSME, and service sectors. The most publications with 17 articles were made by Institut Teknologi Sepuluh Nopember.

In addition to the quantity of publications, the level of scientific influence of an institution can also be measured through the number of citations received from the works they produce. In this context, an analysis was conducted on the total citations obtained by publications discussing the topic of product cost in Indonesia during the period 2015-2025. Of the 174 documents analyzed, the following are the institutions with the highest number of citations.

Table 1. Articles with the Most Citations

No	Title	Authors	Publisher	Years	Total citations
1	Pricing decision for new and remanufactured product in a closed-loop supply chain with separate sales-channel	Gan, S.-S., Pujawan, I.N., Suparno, Widodo, B.	International Journal of Production Economics, 190, pp. 120-132	2017	189
2	Rethinking Indonesia's Informal Sector	Rothenberg, A.D, Gaduh, A., Burger, N.E., ..., Sutera, C., Weiland, S.	World Development, 80, pp. 96-113	2016	121
3	A sustainable inventory with controllable carbon emissions in green-Warehouse farms	Md Mashud, A.H., Pervin, M., Mishra, U., ...Tseng, M.-L., Lim, M.K.	Journal of Cleaner Production, 298, 126777	2021	103
4	Circular economy e-business model portofolio development for e-business applications: Impacts on ESG and sustainability performance	Fatimah, Y.A., Kannan, D., Govindan, K., Hasibuan, Z.A.	Journal of Cleaner Production, 415, 137528	2023	69
5	A refined framework of information sharing in perishable product supply chains	Luisiantoro, L., Yates, N., Mena, C., Varga, L.	International Journal of Physical Distribution and Logistics Management, 48(3), pp. 254-283	2018	57
6	The emergence of value chain thinking	Simatupang, T.M, Piboonrunroj, P., Williams, S.J.	International Journal of Value Chain Management, 8(1), pp. 40-57	2017	50
7	Sustainable inventory management for a closed-loop supply chain with energy usage, imperfect production, and green investment	Ahmad Jauhari, W.	Cleaner Logistics and Supply Chain, 4, 100055	2022	44

8	A methodological approach for assesin g cross-site landscape change: Understanding socio-ecological systems	Sunderland, T., Abdoulaye, R., Ahammad, R., ...Gergel, S., Van Vianen, J.	Forest Policy and Economics, 84, pp. 83-91	2017	42
9	Low-Carbon Supply Chain Model under a Vendor-Managed Inventory Partnership and Carbon Cap-and-Trade Policy	Astanti R.D., Daryanto, Y., Dewa, P.K.	Journal of Open Innovation: Technology, Market, and Complexity, 8(1), 30	2022	40
10	A systematic literature review of total quality management (TQM) implementation in the organization	Permana, A., Purba, H.H., Rizkiyah, N.D.	Intrnational Journal of Production Management and Engineering. 9(1), pp. 25-36	2021	40

Source: processed by researcher, 2025

Next, we visualized the data from Scopus using VOSviewer. First, we looked at the visualization of collaboration networks between authors or co-authorship, which was done to understand the collaborative structure among researchers researching product cost topics in Indonesia. The mapping results using VOSviewer show that there are two main characters in the collaboration pattern, namely connected co-authorship and unconnected co-authorship.

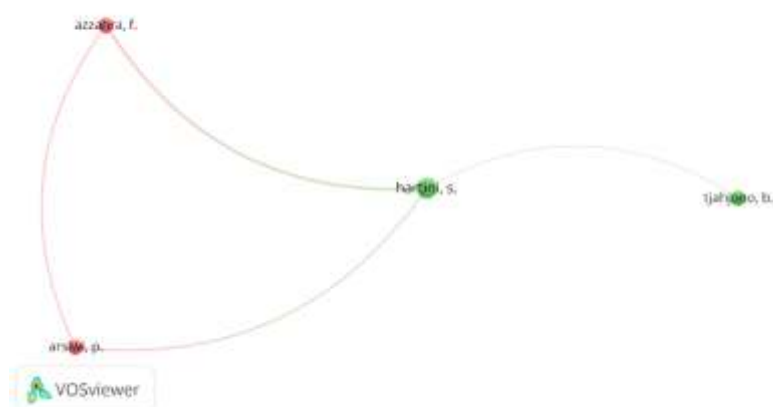


Figure 4. Connected Co-Authorship

Source: Data Processed by Researchers, 2025

Connected authors form groups or clusters that indicate direct or indirect collaboration in scientific publications. This pattern indicates that there is an active research community or scientific network in this area. These collaborations generally occur within the framework of institutional projects, graduate study programs, or cross-university research supported by funding and academic policies that encourage synergy between researchers. The existence of such clusters strengthens the diffusion of knowledge, the exchange of ideas, and the quality of scientific publications. The results of the connected authorship analysis can be seen in Figure 4, there are four authors of articles with two interconnected clusters, the first cluster is Azzahra and Arsiwi, the second cluster is Hartini and Tjahjono. Hartini is the key author who connects the collaboration of the first cluster and the second cluster.

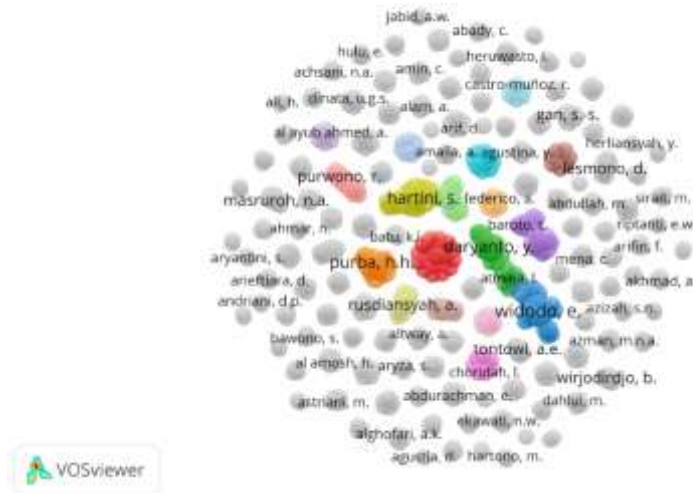


Figure 5. Unconnected Co-Authorship  
Source: Data Processed by Researchers, 2025

Conversely, the visualization also shows a number of authors who are not connected to larger collaborative networks. They tend to write independently or work within a narrow scope of collaboration limited to a particular institution. This disconnection could be due to limited access to research networks, specific research approaches, or the authors' newness to the field. The results of the unconnected authorship analysis can be seen in Figure 5, it is known that all authors have different clusters and are not connected to each other. Thus, the results of the co-authorship analysis not only provide an overview of the intensity of collaboration, but also reveal the potential for strengthening synergies between researchers in deepening the study of product costing systems in Indonesia.

Then, we examined the trend of product cost research in Indonesia with co-occurrence, which displays the bibliometric network between keywords in a visual form. The results of the co-occurrence visualization can be seen in the following figure:

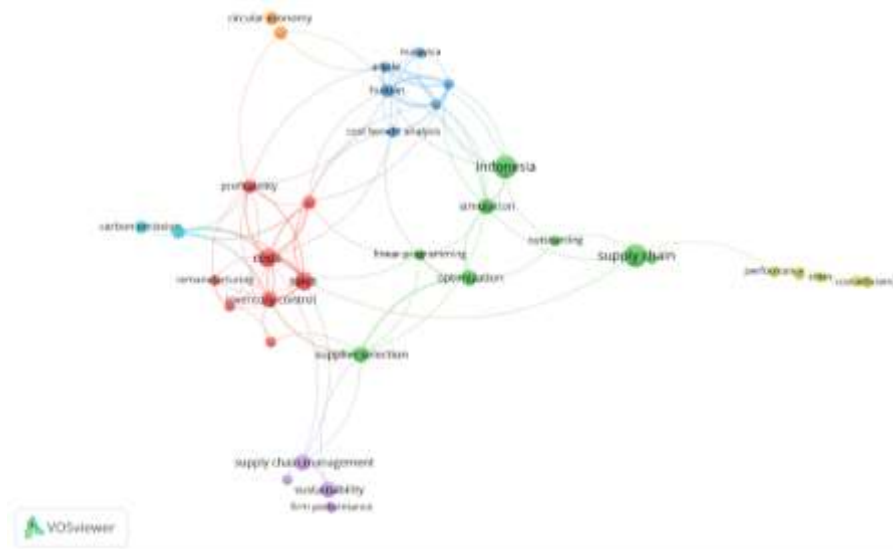


Figure 6. Network Visualization  
Source: Data Processed by Researchers, 2025

Based on the network visualization results, it can be seen that there are seven different color groups for each keyword. Each color displayed describes a different cluster. The first cluster is green, in this cluster there are seven keywords including supply chain, Indonesia, simulation, optimization, supplier selection, linear programming, and outsourcing that are interconnected. In this cluster, supply chain and Indonesia have the largest circle among others. This means that supply chain and Indonesia are keywords that are often used and connected to other keywords.

The second cluster has a red color with five interconnected keywords, including cost, sales, profitability, inventory control, and remanufacturing. In this cluster, the keywords cost and sales have the largest circle among others. This means that these two keywords are frequently used and connected to other keywords. The third cluster has a blue color with four interconnected keywords, including cost benefit analysis, human, article, and Malaysia. In this cluster, each keyword has the same circle as the others. This means that all keywords in this cluster are frequently used and connected to other keywords.

The fourth cluster has a purple color with the keywords supply chain management, sustainability, firm performance and the fifth cluster has a yellow color with the keywords performance, smes, cost efficiency. The sixth cluster has a light blue color with the keyword carbon emission and the seventh cluster has an orange color with the keyword circular economy. The keywords in these four clusters have the same circle as the others. This means that the occurrence of keywords in this cluster is used equally and connected to other keywords.

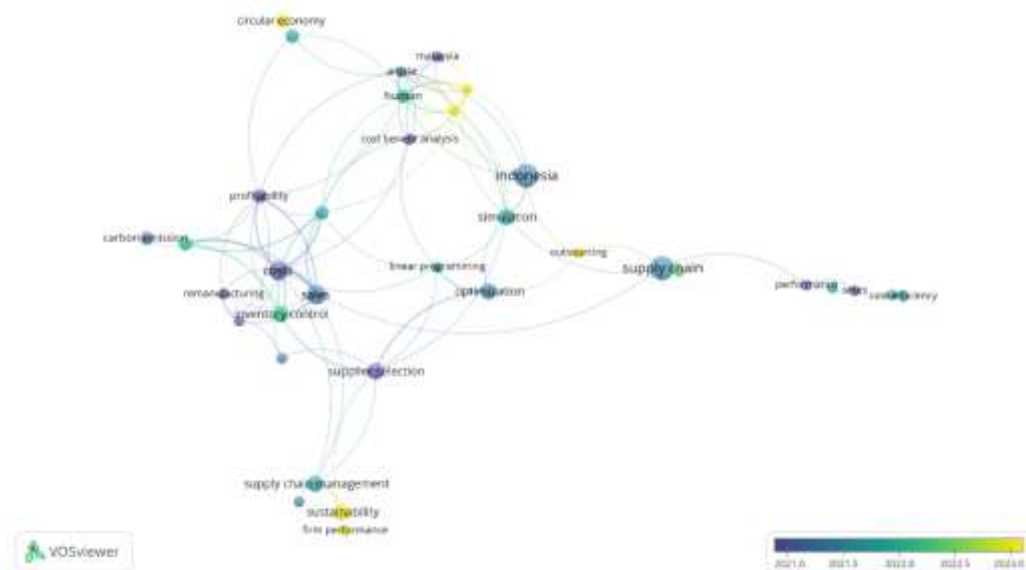


Figure 7. Visualization of Novelty  
Source: Data Processed by Researchers, 2025

Based on the visualization analysis of the renewal of the article publication year in Figure 7, it can be seen that the most articles were published in the 2021-2023 range. Dark to light color indicators indicate that the year of publication of the article is from oldest to newest. The keyword that is often used from the oldest research is cost with a dark colored circle. Then the keywords that are often used from the latest research are sustainability, firm performance, circular economy, and outsourcing. The results of this novelty visualization can be used as a reference in identifying the state of the art of research on topics related to product cost in Indonesia.



Thus, the main contribution of this study is to emphasize the importance of the integration of costing approaches (variable and absorption) in job order costing systems, which is still lacking in the Indonesian literature. This research not only fills the literature gap, but also offers a new direction for cost accounting research in Indonesia that is more contextual and applicable to the dynamics of the national industry, especially MSMEs and order manufacturing.

### **Conclusions**

This study examines the development of literature related to product cost in Indonesia during the period 2015-2025 with a Systematic Literature Review and bibliometric approach using the Scopus database. The analysis shows a significant increase in the number of publications since 2020, with dominant themes including supply chain, cost efficiency, and sustainability. However, the integration of variable costing and absorption costing methods in job order costing systems has rarely been studied in depth.

This finding indicates a substantial research gap, especially in the context of MSMEs and the order-based manufacturing sector. Combining the two costing approaches in the job order costing system is believed to provide a more holistic understanding of cost accounting, both for internal decision-making purposes and external reporting. This is the basis of the novelty of this research and at the same time opens up opportunities for further research that is more contextual.

Future research is recommended to develop empirical studies that explore in more detail the application of variable costing and absorption costing in the job order costing system, especially in the MSME sector and industries that produce based on orders. The use of a case study or mixed-method approach can be a relevant methodological strategy to capture the real dynamics of implementation. In addition, it is important for academics and practitioners to be more active in building cross-institutional research collaborations in order to create a solid scientific community in the field of cost accounting. The government and higher education institutions also need to support the development of research that integrates costing approaches in an applicable costing system, so that the results can contribute to the operational efficiency and competitive advantage of businesses in Indonesia..

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