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Biological Assets Accounting for Patchouli MSMEs: Enhancing Financing and Exports

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Abstract: Biological Assets Accounting for Patchouli* MSMEs*: Enhancing Financing and Exports

Purpose: *to observe the transformation of Patchouli MSMEs accounting through introduction of* PSAK 241 *and its contribution towards access to finance and export capacity upgrading.*

Method: *qualitative case study using in-depth interviews, direct observation, and documentation as sources of data.*

Results: *implementing* PSAK 241 *will enhance the quality of financial reporting because it can appropriately present Biologic Assets and increasing the trust from financing Institutions as well as business partners.*

Novelty: *deep analyze at* PSAK 241 *implementation in small business farm with biological assets like patchouli.*

Contribution: *provide practical guidance to help MSMEs comply with accounting regulations.*

Kata kunci:

Akuntansi Aset Biologis;
Ekspor;
UMKM Nilam;
PSAK 241.

Abstrak: Akuntansi Aset Biologis untuk UMKM Patchouli: Peningkatan Pembiayaan dan Ekspor

Tujuan: untuk mengamati transformasi akuntansi UMKM Patchouli melalui pengenalan PSAK 241 dan kontribusinya terhadap akses ke pembiayaan serta peningkatan kapasitas ekspor.

Metode: studi kasus kualitatif menggunakan wawancara mendalam, pengamatan langsung, dan dokumentasi sebagai sumber data.

Hasil: dengan menerapkan PSAK 241, pelaporan keuangan akan menjadi lebih berkualitas karena dapat secara tepat menyajikan Aset Biologis, yang meningkatkan kepercayaan dari lembaga pembiayaan serta mitra bisnis

Kebaruan: melakukan analisis mendalam terhadap PSAK 241 pada usaha kecil di sektor pertanian yang memiliki aset biologis seperti patchouli.

Kontribusi: memberikan panduan praktis untuk membantu UMKM mematuhi peraturan akuntansi.

1. Introduction

Biological asset accounting always becomes one of the concerning issues in developing accounting literature, especially after Indonesia employs *Pernyataan Standar Akuntansi Keuangan* (PSAK) 241 on Agriculture. The new standard that has come into force places more focus on recognition and measurements of biological assets at fair value in order to promote transparency and accountability in financial statements [1–3]. The Patchouli farmers are able to capture biological assets more precisely and are projected to suit the distinctive nature of the biological assets especially in the farming operations. These include plantation farming, hence making the financial statements more precise and pertinent. Other than this, there are also comprehensive disclosure requirements in relation to biological assets which have been appraised on the basis of market value and other economic factors that influence them. Firms will be able to build stronger confidence with their stakeholders including bankers or trading partners through transparent yet reliable financial data [4]. In addition, the application of PSAK 241 helps MSMEs in agriculture like small businesses in the patchouli plantation industry to meet international standards and make them competent to stand in the global market. This study aims to analyze the adoption of PSAK 241 on biological asset management and its implications for financing and export activities of patchouli MSMEs [5].

This is very appropriate for patchouli MSMEs since they belong to the group of essential oil producers, and oils are one of Indonesia's leading export commodities. Even though patchouli MSMEs provide large percentages of net foreign exchange earnings, fundamental obstacles lie in financing accessibility as well as the low competitiveness of exports that can be performed by this particular institution. This issue takes on greater pertinence with the fact that MSMEs constitute Indonesia's economic backbone, they generate over 60% of GDP most labor absorption, yet formal credit access constitutes less than 20% of total bank financing [6].

However, the MSMEs of patchouli always face fundamental challenges in inadequate accounting and financial management that include recording and valuing biological assets [7-8]. An inaccurate financial report does not bring out the real value of dynamic patchouli crops; there is already a discrepancy between conditions in the field and financial data [9]. Past studies have established that the application of accounting principles on biological assets such as IAS 41 leads to better financial reporting, consequently creating trust among investors and financial institutions [1,4,10,11]. Literature highlights open and uniform accounting standards as some of the significant considerations that aid financing of agribusiness industries in emerging economies [12-13]. The study of MSMEs also notes that there are structural issues in the adoption of today's accounting practices. All these issues are associated primarily with the lack of human resource capacity on various levels, starting at the top management and going down as well as the cost of implementation [14-15]. However, most studies still focus on the technical aspects of biological asset valuation. Practical dimensions and how accounting standards can be used as an instrument to increase financing and export performance of MSMEs are still relatively limited [7,16-17].

This phenomenon raises two important and closely linked issues [9,18]. The problem for MSMEs lies in the inadequacy of asset valuation that makes them less attractive to potential lenders and transparency that makes them competitive in export markets requiring detailed financial and production information [16]. Hence, this accounting issue is not simply a technical matter but a real constraint obstacle blocking MSME as well as national export potential growth [19].

This section of the literature opens opportunities for research to comprehensively discuss the role of PSAK 241: Agriculture in the context of Indonesian MSMEs because

most previous studies focus only on large corporate entities or plantation companies with modern governance [19]. In reality, MSMEs have different characteristics in terms of business scale, capital structure, and access to information. The case of patchouli MSMEs is highly relevant since Indonesia is the world's largest producer of patchouli oil [6,19-20]. However, such potential has not yet turned into shared prosperity due to the fact that many MSMEs are still limited by weak financial reporting systems and poor access to ethical financing. Thus, the application of PSAK 241 goes beyond technical compliance in ensuring financial transparency that fosters enterprise growth spilling over to the general community through fair value distribution, job opportunities, and sustainable rural development [21–23].

The context of patchouli MSMEs is highly relevant as a research site because Indonesia is recognized as the world's largest producer of patchouli oil. Patchouli from Indonesia is widely accepted in international markets for its superior quality, rich aroma, and high fixative content, which make it a primary raw material for global perfumery, cosmetics, and aromatherapy industries [24]. However, despite this strong market acceptance, the benefits have not been fully realized by local MSMEs, partly due to weak financial governance and limited adoption of transparent accounting practices. Therefore, the implementation of PSAK 241, agriculture can enhance MSMEs' credibility, ensuring that the economic potential of patchouli as an export commodity contributes to sustainable and inclusive value creation both domestically and internationally [19,22,25].

Other studies, meanwhile, have discussed at length the effect of international accounting standards convergence applied at large scale agricultural companies such as IAS 41 on transparency and quality of financial reporting [11,17,26-27]. Other studies have also explored the common challenges faced by MSMEs in adopting accounting standards, highlighting cost barriers and technical complexity [4,7]. A big gap still remains in research; no study has yet looked into the application of PSAK 241 on agricultural MSMEs with biological assets such as patchouli that is distinct [5,9,17,19,28]. Existing discourse focuses more on a large scale and leaves a gap in understanding how these standards can be applied and benefit micro and small enterprises [28–30]. While PSAK 241 is applicable, research found that most agricultural MSMEs, including patchouli managing MSMEs, do not systematically record or even assess their biological assets in compliance with the standard. Thus, reducing market financing opportunity and market accessibility [27]. The principal constraints are low financial literacy, inability to have technical advice, and the image of formal accounting standards being too complicated to small businesses [31]. This is just the mirror replication of the other areas of SMEs that favor cost-based approaches instead of mandated fair value measurement. Therefore falsifying value of assets and losing access to financing opportunities [32].

This study introduces a novelty by positioning PSAK 241 not only as a technical accounting standard but also as a strategic and ethical instrument to strengthen governance and enhance MSME competitiveness in an inclusive manner. Unlike previous studies that emphasize valuation or profit outcomes, this research explicitly explores how fair value accounting can align business performance with social responsibility ensuring that export growth benefits not only the MSME owners but also local farmers, workers, and communities [1]. By embedding ethical awareness in financial practices, PSAK 241 can help patchouli MSMEs achieve sustainable growth that balances profitability with public benefit [9,19].

Another novelty is the contextual case study approach to Indonesian clove SMEs, which makes this research relevant to the national agenda in supporting commodity-based industrialization and increasing the export contribution of SMEs [9,16,24]. Therefore, this article is expected to contribute academically to the literature on

SME accounting in developing countries while offering practical recommendations for regulators, banks, and business actors.

This article offers *novelty* by thoroughly analyzing the transformation of biological asset accounting in patchouli SMEs. We argue that this issue is one of the national problems that must be resolved, because accounting professionalism can open the door for SMEs to contribute more to exports Case studies of patchouli SMEs were chosen as the ideal research site because of their dynamic biological assets and crucial role in the global supply chain, making them the perfect representation for testing the hypothesis that accounting improvements can increase access to financing and export capacity [19].

This article aims to analyze the application of PSAK 241 on clove SMEs as an instrument in supporting access to financing and increasing export capacity. Through this discussion, the article attempts to highlight how accounting standards can deliver real tangible benefits for business development, apart from merely fulfilling regulatory obligations. Specifically, this study is expected to enrich the literature on the linkage of accounting practices, financial access, and export performance in agricultural MSMEs [12,14,25,33]. Meanwhile, from a practical perspective, the results of this study can immediately become a reference for MSME actors, financial institutions, and policy makers in designing empowerment strategies based on accountable financial management [8,30,34]. This study does not only have theoretical value but also contains high practical relevance in supporting the national agenda to strengthen the independence of MSMEs as well as increasing Indonesia's export contribution. Literature review and conceptual framework, research methods, results and discussion, conclusion and policy implication are the sections into which this article falls.

2. Method

This study employed a qualitative approach using a grounded theory method as developed by Corbin and Strauss (2015). This method was selected to allow systematic identification, comparison, and integration of emerging concepts related to accounting transformation in Patchouli MSMEs [35]. Through iterative coding and constant comparison, the study sought to build conceptual understanding grounded in the experiences and meanings expressed by participants regarding the implementation of PSAK 241: Agriculture and its implications for financing and export practices. This approach is deemed appropriate to explore dynamic and contextual accounting phenomena.

Therefore, this study applies the grounded theory method in data analysis [35]. Grounded theory comprises three connected stages: open coding, axial coding, and selective coding. In the open coding stage, interview transcripts, observation notes, and documents are split into small pieces to obtain important concepts. Axial coding then connects related categories to display relationships among phenomena. Selective coding integrates categories with a main theoretical framework that explains how MSME actors adapt and internalize the application of PSAK 241. Throughout the analysis, constant comparison and memo writing were applied to ensure theoretical saturation and reflexivity of interpretation.

Specifically, three main stages took place on a cyclical and interrelated basis: data reduction, data presentation, conclusion drawing, and verification [36]. The analysis started with data reduction, where data from interview transcripts, observation notes, and documents were sorted and concentrated on the main themes as related to the objectives of the study. Next is the presentation of data through matrix formulation and narrative description for organization and patterning relationships between data. Finally, conclusion and verification were made through triangulation by comparing findings in the form of information obtained from interviews with results of observations and document analyses so as to ascertain the validity and reliability of the research

findings. Triangulation served to help mitigate bias and strengthen the credibility of the interpretation

In this case, Patchouli MSMEs became a rich source of information for understanding the implementation of PSAK 241. This research was conducted at the Green Commodity MSME of the Lentera O3 Forest Farmers Group (KTH), Oro Oro Ombo Village, Kartoharjo District, Madiun City. The financial figures presented in this study represent actual data obtained directly from the accounting records and transaction documents of KTH Lentera O3, covering the period 2022–2024. The valuation of biological assets was based on real fair value estimation using market price references from local cooperatives and verified through cross-checks with independent agricultural extension officers. Therefore, all numerical data in this study reflect actual recorded values rather than simulated or assumed figures. The MSME chosen really represents the region's MSME as it represents businesses in the patchouli sector that have started the journey of adaptation towards accounting standards. This makes it an information densely case in regards to the sector's experience. There were three primary methods around which the data collection techniques were based against the interpretive paradigm [37].

First, semi-structured interviews were conducted with Patchouli SME business actors, internal SME financial managers, and parties involved in the export supply chain (e.g., exporters or association representatives) as informants, as presented in Table 1. These interviews aimed to explore their perceptions, experiences, challenges, and adaptations related to biological asset accounting and the impact of PSAK 241. The interviews were conducted over approximately four months of observation from April to July 2025. Second, through participatory observation, conducted in the operational environment of Patchouli MSMEs, including the process of cultivating patchouli plants, harvesting, and initial processing. This observation aimed at directly comprehending the life cycle of biological assets and how these operational processes are or should be recorded in the accounting system. Observations were carried out periodically within the data collection period. Third, document analysis relevant documents were gathered and analyzed consisting of MSME financial reports both before and after the implementation of PSAK 241, internal records related to biological asset management, export transaction documents, and regulations or guidelines related to agricultural accounting.

To provide a technical perspective on this issue, the views of one professional accountant engaged in agricultural accounting and familiar with PSAK 241 were also solicited. This informant provided expert validation on the process of recognition, measurement, and disclosure (presentation) of biological assets (plants) thus assisting in maintaining rigor within the analysis as well as conformity to contemporary accounting standards.

The purpose of this document analysis was to verify the information obtained from interviews and observations, as well as to obtain historical and contextual data.

The general analysis was guided by the need to comprehend the lived experiences of the participants and their meaning creation on the implementation of PSAK 241, as opposed to a hypothesis being tested. This process is highly adaptable and recursive and fits the philosophy of the grounded theory that underlines the development of theory out of data. Its applicability to the research problem is inexplicably great because accounting, when it comes to implementing new standards, like PSAK 241, is not a technical procedure but also an interpretation, adjustment, and comprehension of MSME actors on the fair value of their biological assets. The paradigm enables the researchers to comprehend how Patchouli MSME players interpret the shifts in accounting, how they problematize the issues arising out of accounting, and how this alters their

Table 1. Research Informant Profiles

Informant Code	Position	Institution	Interview Duration (Estimated)	Respondent Category
PM-L3	Owner/ Manager	MSMEs KTH Lentera O3	± 60 minutes	Internal
PK-L3	Financial Manager/ Staff	MSMEs KTH Lentera O3	± 60 minutes	Internal
PME-AB	Export Partner Representative	Atsiri's Business Association	± 50 minutes	External
AP-AK	Professional Accountant	KJA Budiono	± 50 minutes	External
MK-BX	Credit Manager	Bank X	± 52 minutes	External
TI-L3	IT Consultant/Staff (Accounting Digitalization Assistant)	Association/Cooperative Office or MSME Advisor	± 40 minutes	External

operational and strategic choices with a strong focus on exports [19,37].

3. Results and Discussion

The integration of biological asset accounting using PSAK 241 in Patchouli MSMEs is expected to enhance the quality of financial reporting, improve financing options, boost export potential, and ascertain the challenges in the process. PSAK 241 is likely to increase the Patchouli biological asset valuation Patchouli balances more accurately. Valuation using fair value accounting is likely to capture the economic value of Patchouli plantations more than value-approaches [20], considering growth stage, demand in the market, and crop yields [38]. This is likely to mitigate the misstatement of assets, which was the norm in the previous accounting system, and adjust financial statements to market reality [2]. Such precision is vital for planning operations and for allocating resources in Patchouli MSMEs [6,19].

Accounting transformation of biological assets through introduction of PSAK 241. Under PSAK 241: Agriculture, biological assets such as patchouli plants are recognized and measured according to their stage of growth from acquisition, cultivation, and biological transformation to harvest. According to PSAK 241 paragraph 12–17, recognition occurs when the entity controls the asset, the future economic benefits are probable, and the fair value or cost can be reliably measured. The measurement of patchouli crops is conducted at fair value less costs to sell, as stipulated in paragraph 30–35, which requires MSMEs to estimate market-based valuation reflecting the plant's maturity, productivity, and market demand [3].

In addition, PSAK 241 paragraph 42–46 requires entities to disclose changes in the fair value of biological assets in the profit or loss statement, including the reconciliation of opening and closing balances. This disclosure enhances the transparency and credibility of MSME financial reports, allowing stakeholders to understand the sources of gain or loss arising from biological transformation. For example, unrealized gains at the growing stage or losses due to pest risk and weather variability must be transparently reported, ensuring a faithful representation of agricultural activities.

Furthermore, paragraph 48–52 emphasizes that MSMEs should disclose information regarding methods and assumptions used in determining fair value, including risk factors that might affect valuation outcomes. In the context of patchouli MSMEs, these risks include uncertain market prices, crop failure, and production volatility. Hence, the application of PSAK 241 not only improves reporting quality but also promotes responsible and transparent risk communication to financiers and export partners [18].

Beyond recognition and measurement, PSAK 241 requires entities to communicate both opportunities and risks inherent in agricultural operations. Patchouli cultivation presents strong export prospects due to its high demand in the fragrance and cosmetic

industries; however, it also exposes MSMEs to biological and market risks. Paragraph 49–52 of PSAK 241 highlight the need for disclosure regarding environmental factors, biological degradation, and market price fluctuations. Such information is crucial not only for accurate valuation but also for improving investors' and creditors' confidence. Transparent disclosure of both potential gains and losses ensures that financial statements present a balanced view of MSMEs' economic reality.

In accordance with PSAK 241 paragraph 42–46, disclosures of fair value changes and valuation assumptions provide transparency regarding the financial impact of biological transformation, enabling MSMEs to present more reliable and comparable financial information to lenders and export partners. Although the manager recognizes the benefits of PSAK 241, the company has not yet applied it consistently in financial reports due to technical and resource constraints.

This study, therefore, does not claim that PSAK 241 has been fully implemented but rather explores the readiness and awareness of MSMEs to adopt the standard, as well as the institutional and resource challenges that hinder its practical application.

PSAK 241 has introduced considerable reforms in recording and valuation of the biological assets in KTH Lentera O3 Green Commodity MSMEs. Before the establishment of this standard, biological assets, especially patchouli plants, would be recorded using historical costs of acquisition or even mere records which were not showing the economic value of these assets [39]. When PSAK 241 was adopted, MSMEs measured patchouli crops based on fair value less costs to sell [30]. This involves a new understanding of the crop life cycle, crop cultivation costs, and product prices in the market [6]. This section reports the research results obtained through in-depth interviews, observations, and document analysis, and explains them in the context of the research problem and current literature. It will discuss the way the change of the accounting of the biological assets by the implementation of PSAK 241 in Patchouli MSMEs leads to the enhancement of financial report quality, access to financing, and the export capability with the identification of the challenges. This transformation is not only technical in nature, but also changes the perspective of MSME actors towards their assets. They have begun to see patchouli plants not only as a production cost, but as a biological asset that has the potential to increase in value over time [22-23,40-41]. This was authentically expressed by one MSME owner:

> *"In the past, we only recorded how many seeds were planted and the cost of fertilizer. That was it. Now, we have to calculate the value of the plants each period, according to their growth. At first, it was confusing but now it has become clearer what the actual value of our garden is. It is like seeing the value of our investment growing on paper."* (Interview, Owner of Green Commodity MSME KTH Lentera O3, May 12, 2025).

The values in Table 2 are actual accounting figures taken from the financial statements of KTH Lentera O3. These are real fair value adjustments applied after the adoption of PSAK 241. The difference between historical cost and fair value genuinely represents the biological transformation of patchouli plants, validated by physical observation and production reports. It presents a comparison between the biological asset valuation before and after PSAK 241 with results showing very significant differences in the values recorded that may affect perceptions of MSME performance. Table 2 also proves how more relevant financial information can be generated under fair value accounting than historical cost accounting, as required by PSAK 241. At the beginning of planting (T0), both methods show the same asset value, namely IDR 25.000.000. Big differences start appearing at T1 and T2, when patchouli plants have substantial biological growth. Asset

value by historical cost accounting registers a mild increase in all additional production costs while fair value accounting allows registering a more realistic increase in economic potential based on plant growth and estimated patchouli market prices. The difference in fair value between the historical cost and that under the fair value approach-IDR 45.000.000 at T1 and IDR 75.000.000 at T2-has shown the constraint by the historical method in describing the value of biological assets; therefore this could be classified as conservative accounting that does not take into account future economic values.

However, the fair value, namely IDR 45.000.000 at T1 and IDR 75.000.000 at T2, demonstrates the limitations of the historical approach in describing the value of biological assets. The historical cost approach is conservative and it fails to consider the future economic value approach as the PSAK 241 authorizes market forces to be evident in the accounting data that are clear, pertinent and dependable to the users or stakeholders. The results will have practical implications for MSMEs such as Patchouli MSMEs who can enhance the validity of their financial statements to lending institutions by applying and disclosing biological assets at fair value [30]. Reports that reflect the actual economic values give more confidence to banks as a basis to provide credit to MSMEs hence increasing the possibility of MSMEs getting financing [30,39]. Increased transparency will attract more investors and export partners which eventually increases the export capacity of patchouli oil in international markets [19].

Academically, these results underline the urgency of applying PSAK 241 for agriculture and plantation companies, particularly MSMEs that always complain about their difficulties in accessing financing[13]. What is new about this paper is focused on the fact that biological asset accounting is not merely an instrument of reporting, but also a strategy of enhancing the competitiveness of MSME in safeguarding the progress of the national economies. This paper, therefore, provides practical and theoretical contributions in connecting accounting standards with efforts aimed at enhancing the economic performance of MSMEs.

Improved financial reporting quality, transparency of biological assets, and implications for export market access. The application of PSAK 241 directly correlates with an improvement in the quality of Patchouli's MSME financial statements. With the measurement of fair value, financial statements become more relevant and representative of the economic condition of biological assets. This increases transparency and stakeholder confidence, both internal and external [39]. MSMEs financial managers stated:

> *Our financial statements are now more trusted by banks. In the past, they often asked why the value of our plantation assets was so small on the balance sheet, even though they were already large in the field. With PSAK 241, the fair value appears, so they are more confident in our potential. This is very helpful when we apply for loans."* (Interview, Financial Manager of Green Commodity MSME KTH Lentera O3, May 20, 2025)

The financial manager of KTH Lentera O3 stated that the enterprise understands the main principles of PSAK 241 in assessing and recording biological assets, particularly patchouli crops, to ensure more transparent financial reporting. However, the implementation has not yet been carried out regularly in the company's financial reports. At this stage, the enterprise only refers to PSAK 241 conceptually while maintaining manual bookkeeping practices. The lack of specific valuation guidance for plantation-based assets and limited access to professional accounting support have prevented consistent application of the standard.

> *"We already know that PSAK 241 should be used to record patchouli plants as biological assets, but we have not applied it in full. We still use manual bookkeeping because we do not have an*

Table 2. Comparison of Biological Asset Valuation (Patchouli Plants) Before and After the Implementation of PSAK 241

Period	Valuation Method Before PSAK 241 (Historical Cost)	Valuation Method After PSAK 241 (Fair Value - Selling Cost)	Difference in Value
T0 (beginning of planting)	25.000.000	25.000.000	0
T1 (6 months)	40.000.000	85.000.000	45.000.000
T2 (12 months)	75.000.000	150.000.000	75.000.000

accountant who can calculate the fair value regularly." (Interview, Finance Staff, May 20, 2025)

Although the financial manager of KTH Lentera O3 acknowledged that PSAK 241 offers advantages in presenting fair value and improving the transparency of biological asset reporting, the standard has not yet been formally applied. Mainly because there is very little technical guidance available on agricultural commodities like patchouli since examples in PSAK 241 relate more to livestock than to plantation-based crops. In the absence of specific valuation models and illustrative cases for perennial plants, uncertainty creeps into the determination of fair value, particularly at the level of small-scale MSMEs with no professional accountant support. Moreover, while the manager has a conceptual understanding of PSAK 241, the practical implementation requires professional judgment from certified accountants. Interviews revealed that MSMEs often rely on internal bookkeeping or external assistance from cooperatives rather than registered public accountants. Consequently, PSAK 241 has not been implemented not due to lack of awareness, but due to resource limitations and the absence of professional support capable of translating the standard into applicable accounting practice for biological assets in the form of plants.

"Most MSMEs in the agricultural sector actually understand the importance of fair value. However, PSAK 241 still does not provide detailed examples for plantation crops such as patchouli. In determining fair value, market data observation is required. This commodity is rarely available. Without involving professionals, it will be difficult for small businesses to measure and disclose biological assets consistently," (Interview, Professional Accountant KJA Budiono, June 12, 2025).

The above statement proves that the complexity is not in the willingness of MSMEs but in the complexity of valuation and disclosure mechanisms. Thus, it becomes a necessity to collaborate with professional accountants to ensure reliability and compliances of biological asset accounting in accordance with PSAK 241.

Findings from interviews with representatives of export partners confirm that the application of fair value-based biological asset accounting has a direct impact on access to export markets. Informants stated that:

"Importers from abroad are now more critical. They want to know not only the planting costs, but also the economic value of patchouli at each stage. If the report only includes historical costs, they find it difficult to believe in production capacity. With a fair value, buyers are more confident that patchouli MSMEs can fulfill long-term contracts." (Interview, Export Partner Representative, June 8, 2025)

This is based on literature emphasizing the role of financial disclosure in enabling MSME competitiveness within the global market [15,22]. From the perspective of export partners, financial statements prepared under the historical cost system include only accumulated costs and do not reflect the

actual economic value hence deemed inadequate by them. Informants added that:

> *"The fact that fair value is more persuasive on the international buyers, as it demonstrates the possible selling price of patchouli that can be calculated in the contract. The reports based on PSAK 241 are frequently used by us as evidence that the partner farmers possess clear economic capacity."* (Interview, Export Partner Representative, June 8, 2025)

Therefore, the application of PSAK 241 becomes a strategic diplomatic trade tool that enhances the credibility of clove SMEs before international buyers besides being viewed as a reporting instrument. This transparency is also important within export supply chains [42]. International business partners or buyers mostly want visibility into the production capacity and financial health of their supplier companies. More accurate financial reporting enabled by PSAK 241 forms a stronger basis for Patchouli MSMEs to seek trusting engagements with export partners [40]. Figure 1 flow path diagram post implementation on how better accounting information flows to external stakeholders includes among others [20,24,29,41].

This observation reinforces the argument that transparency by biological asset accounting may be used to guarantee credibility in the global chain of supply [28]. This has enhanced financial reporting which makes MSMEs sign more stable export agreements and receive competitive selling prices thereby enhancing the chances of Indonesia as a patchouli oil supplier in the international market [19]. This discussion shows that accounting innovation not only has implications for increasing domestic financing, but also for the sustainability trade advantage for agricultural MSMEs [27].

Impact on access to financing. One of the main objectives of implementing PSAK 241 is to support access to financing and increase export capacity. Research findings indicate that improving the quality of financial reports through the assessment of relevant biological assets will make it easier for Patchouli MSMEs to obtain financing.

Banks and financial institutions become more confident in providing loans because the collateral value or potential income from biological assets can be clearly seen.

A representative of a local bank that frequently interacts with KTH Lentera O3 Green Commodity MSMEs explained:

> *"We see positive changes. MSMEs that have started implementing PSAK 241, although still simple, have financial reports that are more 'informative'. We can see the potential growth of their assets, not just the costs that have been incurred. This reduces risk in our eyes and makes the credit application process smoother."* (Interview, Credit Manager of Bank X, May 28, 2025)

For banks, the primary considerations remain the borrower's business prospects, collateral quality, and the credibility of audited financial statements. When MSME financial reports are already audited by a Public Accounting Firm (KAP/KJA) and by adequate guarantees, the bank assumes that the reports comply with existing financial reporting standards. Consequently, the

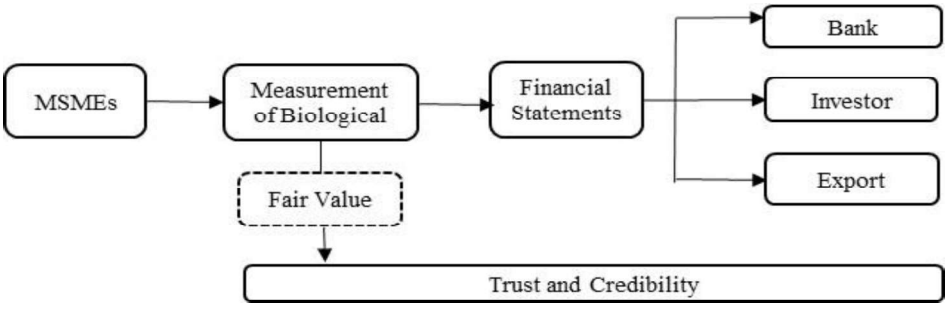

Figure 1. Flow of Increased Financial Information Transparency After Implementation of PSAK 241

existence of a PSAK 241 is said to be valid but not always a conclusive point in lending [43].

However, MSMEs using PSAK 241 can gain indirectly since the standard improves transparency, consistency, and comparability of the elements of biological assets reporting which would increase the auditor assurance and augment the perceived reliability of financial statements [3]. Therefore, although banks might not explicitly verify compliance with PSAK, they acknowledge such contribution to audit procedures and its possible role of raising the long-term credibility of MSMEs in formal financial systems [44].

An improved access to financing allows Patchouli MSMEs to invest in growing their plantations, advancing distillation technology or higher quality export requirements which consequently raises their capacity to export. This is contrary to earlier research, which found the quality of accounting information to have a positive relationship with the availability of financing to MSMEs [29,39,45]. This not only boosts the capacity of single MSMEs, but also enhances the ability of Indonesia to have a stronger grip in the essential oil market around the world [19,39].

Challenges in Implementing and Adapting Digital Accounting Technology. Despite obvious advantages, PSAK 241 faces several challenges in its application, particularly among resource-constrained MSMEs [4]. One major challenge lies in the complexity of determining fair values for dynamic biological assets. A financial manager at MSME KTH Lentera O3 stated,

> *"It is very difficult to determine the market price of patchouli, especially before harvesting. Sometimes we even get confused about how to calculate it and also realize that we need further training and perhaps a simpler application for MSMEs like ours."* (Interview, Financial Manager of KTH Lentera O3, May 20, 2025)

Another key challenge in the application of digital accounting technology for biological asset reporting is in differences or gaps between regulatory standards among big companies and MSMEs. By January 2025, the PSAK 241 (Agriculture) adoption that actually parallels IAS 41 will be made applicable only to large entities in Indonesia. MSMEs are, on the other hand, governed by *SAK Entitas Privat* (SAK EP), local adaptation of IFRS for SMEs (2015). Therefore, an MSME such as KTH Lentera O3 shall not be formally required to apply PSAK 241 except may selectively and voluntarily adopt certain principles particularly fair value measurement to enhance transparency and credibility for financing.

The practical barriers are in the limited digital accounting tools available to be customized toward SAK EP and fair value complexity integration of PSAK 241. Misalignment between applicable standards and available digital systems is a reason MSMEs continue using manual bookkeeping or simplified software that cannot fully accommodate the fair value model.

Another challenge is in adapting digital accounting technology. Many MSMEs are still using manual recording or simple software that does not fully support fair value measurement features in compliance with PSAK 241. This situation underlines the urgency for more affordable [46], easy-to-operate, and MSME-capacity-relevant digital solutions to enhance the quality of their financial reporting. Although the implementation of PSAK 241 and the recording of biological assets based on fair value increase transparency, MSMEs also face challenges in implementing digital accounting technology [47]. This is related to limited human resource capacity, system adoption costs, and the need for ongoing technical assistance [48]. As stated by IT staff as accounting digitization assistants from the Cooperative and MSME Office as follows:

> *"Many small business owners still find it difficult to use digital accounting applications, especially when recording the value of biological assets. The main obstacles are technological literacy and data input consistency. Without regular*

assistance, the application becomes a mere formality and does not really help with management. So we usually have to assist them until they get used to it, while also adjusting the application to the needs of the business." (Interview, consultant and IT staff assisting with MSME accounting digitization, June 18, 2025)

While this study discusses the principles of PSAK 241 (aligned with IAS 41) to analyze biological asset accounting practices, it does not suggest that Indonesian MSMEs are required to adopt this standard. The Indonesian Institute of Accountants (IAI) has officially introduced *SAK Entitas Privat (SAK EP)* the local adaptation of the IFRS for SMEs (2015) as the applicable financial reporting framework for MSMEs. Because this research was conducted in the first semester of 2025, it captures the transitional period when MSMEs were beginning to adopt SAK EP while still referencing certain PSAK 241 principles to improve transparency, valuation, and access to financing.

The internal documents analyzed also show that some MSMEs still have difficulty in presenting comprehensive disclosures related to biological assets in accordance with PSAK 241 requirements, such as reconciliation of changes in fair value or details of assumptions used in valuation [10,18,38]. This means that it requires technical support and creation of a more flexible accounting system among MSMEs.

4. Conclusion

This study successfully analyzed the transformation of the accounting system at Patchouli MSMEs through the application of PSAK 69, with a focus on biological asset management to support export enhancement efforts. The findings show that the implementation of PSAK 69 significantly improves the accuracy of biological asset valuation, which was previously less representative. This change not only improved the quality of SME financial reports to be more relevant and transparent, but also directly correlated positively with increased stakeholder confidence, including financial institutions and export partners. Thus, the application of PSAK 69 has proven to support better access to financing for Patchouli SMEs, which in turn enables them to expand their production capacity and increase their competitiveness in the global market.

The contribution of this research is highly relevant to both the development of accounting science and practice and policy. Academically, this research provides a deep contextual understanding of the implementation of the Indonesian Accounting Standards based on fair value (PSAK 241) in agricultural MSMEs with unique biological assets, namely patchouli plants. This fills a gap in the existing literature, particularly regarding the challenges of adaptation and the need for digital accounting solutions that are appropriate for the scale of the business. In practical terms, there are concrete indications for Patchouli MSMEs to perform professional accounting treatments on their records to increase financial credibility. For the policymakers, urgency is underlined in this research to implement education, assistance, and affordable accounting technology facilities in helping MSMEs apply relevant accounting standards as a national effort in strengthening the MSME sector and encouraging non-oil and gas exports. The novelty of this research lies in linking financing access and export opportunities found through PSAK 241 application on patchouli commodities that emphasize the role of accounting as more than just a reporting tool but also an economic empowerment instrument.

There are, therefore, several limitations to this study. The primary limitation arises from the fact that this study was conducted on a single Patchouli SME case and thus restricts the generalization of findings to similar contexts. Another limitation lies in short-term observation on impacts accounting standard applications have performed on exports and access financing in government intervention programs targeted by MSMEs in Indonesia's eastern region where most biological asset-based agriculture is located. Future studies can compare other regions' Patchouli MSMEs

or compare MSMEs with other agricultural MSMEs having biological assets as well as develop simplified customized digital accounting models/applications for MSMEs managing biological assets per PSAK 241.

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