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## **The Influence of the Finished Goods Inventory Accounting Information System on Internal Control of Finished Goods Inventory (Study Of One of The Companies Providing Explosives and Mining Blasting Services in Indonesia)**

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### **ABSTRACT**

*This study aims to assess and analyze the impact of the Finished Goods Inventory Accounting Information System on the internal control of finished goods inventory at a company offering explosives and mining blasting services in Indonesia. Implementing an appropriate Finished Goods Inventory Accounting Information System and its practical utilization is anticipated to enhance the internal control of finished goods inventory inside the organization. The employed research method is descriptive verification, with data analyzed through simple linear regression to elucidate the relationship or influence between the two variables concerning a company that offers explosives and mining blasting services in Indonesia. To support this research, the author gathered secondary data using questionnaires from 35 employees at the company. The study's findings yield the linear regression equation  $Y = 10.891 + 0.777X$ , which indicates a significant favorable impact on Y. The Finished Goods Inventory Accounting Information System accounts for 65.7% of the Internal Control of Finished Goods Inventory in a company offering explosives and mining blasting services in Indonesia. In comparison, the remaining 34.3% is attributed to other unexamined variables.*

**Keywords:** *Finished Goods Inventory Accounting Information System, Internal Control of Finished Goods Inventory*

## INTRODUCTION

The competitive landscape of the chemical sector, particularly within the explosives industry in developing nations like Indonesia, is becoming increasingly sophisticated and aggressive, especially amid globalization and modernization, significantly influencing the advancement of the Indonesian economy. Consequently, internal control within a firm is crucial for controlling all interconnected activities, particularly concerning the inventory of finished items held by the company. This condition compels corporate entities to enhance the quality of their organizations through product innovation. This approach enables commercial entities to enhance their operations and attain high competitiveness, facilitating the practical realization of corporate objectives. (Napitupulu, Munthe & Sufiawan, 2023; Putra, Komara, Sidharta, Roslina & Megawati, 2023; Shan, Xiao, Dong, Zhang, Wen & Ali, 2022)

In the age of globalization and swift advancements in information technology, a dependable information system in corporate operations is becoming increasingly vital. Managing finished goods inventory is crucial in a company's operating activities, particularly within the manufacturing and mining services industries. Finished goods inventory is an important asset with high economic value and plays a direct role in operational continuity and achieving company targets. Consequently, effective inventory

management is essential to guarantee product availability, cost efficiency, quality, and reliability in client delivery. (Fang & Chen, 2022; Rosadi & Rinawati, 2019; Purwanto, Fitria, Juhara & Ramdani, 2024)

The management of finished goods inventory presents a significant difficulty for enterprises supplying explosives and mine blasting services in Indonesia. Such companies encounter not only financial and logistical challenges but also significant security dangers. The stored products possess significant risk potential, necessitating a meticulous management system and stringent monitoring protocols. Consequently, the internal control of finished goods inventory must be executed meticulously and underpinned by an information system capable of delivering precise, real-time, and dependable information. (Sidharta & Rahmahwati, 2023; Halimuzzaman & Sharma, 2022; Yanuar, Suzanto, Coenraad, Titi & Jannah, 2022)

Accounting Information Systems (AIS) are segments of a management information system that facilitate accounting and financial operations inside an organization. Regarding inventory, AIS plays a role in recording, processing, and presenting information on inventory movements and values accurately and systematically. Implementing AIS in completed goods inventory management will enable organizations to accurately document and audit all actions associated with the procurement, storage, and

distribution of finished goods. Consequently, decision-making about the procurement, utilization, and management of inventories may be executed effectively and efficiently. (Sidharta & Rahmahwati, 2024; Putri, Mialasmaya, Kumalasari & Prawiranegara, 2024; Ria, 2023)

Internal control is a process established by management and all employees to ensure the achievement of organizational objectives. It encompasses operational effectiveness and efficiency, the reliability of financial reporting, and adherence to relevant laws and regulations. Within inventory management, internal control seeks to avert fraud, theft, loss, or recording inaccuracies that could adversely affect the organization. This control includes the segregation of roles, transaction authorization, sufficient documentation, and physical oversight of inventory. (Anggraeni, Yusup, Rahman & Rusjiana, 2024; Wahana & Selly, 2015; Regine, Ningsih, Juhara & Purana, 2022)

Companies frequently encounter issues with inadequate internal control from an accounting information system suboptimal or misaligned with operational requirements. Inaccurate recording, late reporting, and lack of integration between production, warehouse, and accounting are the main factors that cause ineffective control of finished goods inventory. As a result, companies risk experiencing overstock or stock-out, which can disrupt operations, increase storage costs, and reduce customer satisfaction.

Internal control refers to a system comprising organizational structure, methodologies, and measures designed to protect organizational assets, verify the correctness and reliability of accounting information, promote efficiency, and ensure adherence to management objectives.

Finished goods are products manufactured by a firm prepared for sale and consumption by consumers or the public. The corporation must adequately evaluate the inventory of finished items. An accumulation of completed products inventory may result in substantial operating costs, whilst a deficiency in finished goods inventory will interrupt the company's operational activities.

Effective internal control of finished goods inventory ensures that company management can oversee inventory accurately, facilitating decision-making to achieve organizational objectives efficiently and effectively.

The company has a demonstrated history exceeding 20 years in producing Ammonium Nitrate (AN) and has lately augmented its production capacity to 150,000 tonnes annually. MNK is a dominant entity in Indonesia, possessing robust affiliations with the most prominent stakeholders in the Indonesian mining sector. An effective inventory information system is essential to facilitate the company's operational activities and assist production.

The company offering explosives and mine blasting services in Indonesia has identified

deficiencies, particularly in the internal management of finished goods inventory, where the control environment is suboptimal, resulting in several issues. This issue should be a significant priority for the company to prevent escalating damage annually. To address this issue, the company must do a stock opname to ensure the accuracy of the completed goods inventory by documenting the inventory in the system and verifying whether the quantities match or differ. Additional emerging issues about the internal control processes of finished goods inventory include inadequacies in stock availability, oversight of damaged items, production disruptions resulting from employee inaccuracies in data entry, insufficient inventory management capabilities, and inefficiencies in production operations.

The internal control of completed goods inventory at a company offering explosives and mine blasting services in Indonesia has not been executed adequately. To mitigate potential risks, the company must enhance its internal inventory management and completed goods accounting information system, ensuring that finished goods inventory data serves as a foundation for evaluating the company's interests. (Ahmad, Atta, Alawawdeh, Aljundi, Morshed, Dahbour & Alqaraleh, 2023; Plant, van Hillegersberg & Aldea, 2022)

Business entities typically utilize an accounting information system for completed

goods inventory, as this inventory is prone to deterioration. In this instance, a company offering explosives and mining blasting services in Indonesia possesses a suboptimal Accounting Information System, resulting in an issue within the human dimension (brainwave); employees lack diligence in data entry and managing finished goods, hindering their job performance. The suboptimal information and communication network regarding finished goods inventory hampers the acquisition of data on damaged items, resulting in inaccurate inventory information and inappropriate stock levels of finished goods. Implementing this completed goods inventory accounting information system enables the company to establish effective internal control by generating high-quality finished goods inventory data.

The aforementioned explanation indicates that the Accounting Information System can significantly impact internal control. A well-designed accounting information system will ensure control objectives are met through its intrinsic control mechanisms.

An empirical study is required to assess the extent to which implementing the Finished Goods Inventory Accounting Information System impacts the efficacy of Internal Control over Finished Goods Inventory, given the significance of accounting information systems in bolstering internal control. This study examines a company in Indonesia that offers explosives and mining

blasting services, characterized by distinctive and intricate inventory management of finished goods. This object's selection is predicated on the operational complexity and elevated risk encountered by the organization, necessitating a cohesive and dependable system. (Septiani, Yusup, Suzanto & Komara, 2021; Hidayat, Perwito & Kusumadiarti, 2023; Solikin & Darmawan, 2023)

This study aims to assess and examine the impact of the Finished Goods Inventory Accounting Information System on the Internal Control of Finished Goods Inventory. By employing an appropriate system and optimal execution, the organization anticipates enhancing the efficacy of its internal control, mitigating the risk of mistakes and fraud, and reinforcing accountability in inventory reporting. Furthermore, the findings of this study are anticipated to enhance the formulation of corporate policies concerning information systems and internal control while also serving as a benchmark for analogous firms in advancing inventory governance.

This study academically enriches the literature and empirical evidence concerning the relationship between implementing accounting information systems and internal inventory control within the mining industry. This topic has been infrequently examined in detail. A quantitative methodology was employed for data collecting, utilizing survey techniques and inferential

statistical analysis to evaluate the proposed hypotheses. The study instrument was developed using proven indicators from prior literature on accounting information systems and internal control, ensuring the validity and dependability of the results. This study aims to elucidate the significance of the synergy between accounting information systems and internal control in managing finished product inventory. In high-risk sectors like explosives supply, the precision of information and strict oversight are essential for maintaining safe, efficient, and sustainable operations. Organizations may mitigate loss risk, enhance operational efficiency, and uphold stakeholder trust by implementing a robust information system and stringent internal controls.

The author intends to conduct research titled *The Influence of the Finished Goods Inventory Accounting Information System on Internal Control of Finished Goods Inventory at a company that offers explosives and mining blasting services in Indonesia*.

## **METHOD**

The selection of research methodologies is essential in the study process. Research methods are systematic approaches to acquiring data for defined objectives and applications. The author employs a quantitative research strategy characterized by descriptive verification.

The descriptive approach is a study designed to delineate independent variables, either singularly or in multiple instances, without engaging in comparisons with other variables. The verification procedure is a study designed to evaluate the proposed hypothesis.

Both methods seek to ascertain the veracity of existing facts and elucidate the link between the researched variables through data collection, processing, analysis, and interpretation in statistical hypothesis testing.

The research population is a generalized region comprising things or persons with specific numbers and qualities, which researchers utilize for investigation and subsequent conclusions.

Based on the aforementioned information, it can be inferred that a population is an entity within a specific area and fulfills particular criteria about issues. This study utilizes a sample of 35 respondents from a company that offers explosives and mining blasting services in Indonesia.

A sample represents a subset of the population's numerical and characteristic attributes. A sample is a subset of the population chosen as an observational unit. Considering the potentially substantial population size, the author must do sampling by selecting a population segment.

In sample selection, a sampling technique is employed to ascertain the sample utilized in the investigation. A sampling strategy is a method for

selecting a subset from a population, which can be categorized into two groups: random sampling (probability sampling) and non-random sampling (non-probability).

In selecting population members as samples through non-probability sampling approaches, it is essential to consider qualities such as knowledge, experience, and trust.

Purposive sampling is a data collection method predicated on specific criteria. To ensure that the data in purposive sampling is more representative, the research method should involve respondents with expertise in their respective domains.

In this study, the questionnaire must be both valid and reliable. The validity and reliability tests are essential for assessing this.

The validity test is a legitimate instrument, indicating that the measuring tool employed to get the data is valid. This condition indicates that the equipment is capable of measuring the intended parameters. To demonstrate the strength of the relationship among the indicators that elucidate the variables they constitute. The employed analysis is the product-moment correlation analysis between each item in variable X and the overall score of that variable (Y).

The reliability test measures the consistency of findings obtained from the same object. It is conducted simultaneously on all questions. This study used the internal consistency method for reliability calculation, utilizing the Cronbach alpha

coefficient to assess the consistency of items in the research instrument.

## RESULTS and DISCUSSION

The validity testing approach uses the product-moment correlation formula. Subsequently, the responses derived from the questionnaire are analyzed to determine the significance of each item. If the estimated  $r$  value exceeds the critical  $r$  value of 0.3, it indicates a positive correlation among the items in the variable, validating the items on the tool.

Utilizing the calculation table for the validity test correlation between the variable (X) Finished Goods Inventory Accounting Information System and the variable (Y) Internal Control of Finished Goods Inventory, the researcher employed the SPSS ver.23 software for Windows. The correlation value for each statement is presented in the subsequent table. Additionally, the Reliability Test is conducted to assess the consistency of the measuring instrument, determining its dependability and suitability for future applications. This study employs Cronbach's alpha coefficient to assess the reliability of the results. An instrument is dependable if it has a Cronbach's alpha coefficient of 0.7 or above. The outcomes of the data dependability assessment are presented in the subsequent table:

**Table 1. Outcomes of Validity and Reliability Assessments**

No	Accounting Information System for Finished	Internal Control of Finished

	Goods Inventory	Goods Inventory
1	0,597	0,537
2	0,548	0,549
3	0,562	0,686
4	0,562	0,717
5	0,461	0,429
6	0,539	0,473
7	0,648	0,674
8	0,702	0,620
9	0,614	0,689
10	0,678	0,446
11	0,581	0,703
12	0,626	0,432
13	0,594	0,494
14	0,613	0,525
15	0,478	0,537
Cronbach's Alpha	0,901	0,895

The research instrument was developed based on theoretical indicators validated in prior studies, aiming to represent the variables under investigation accurately: the Finished Goods Inventory Accounting Information System and Internal Control of Finished Goods Inventory. The research tool, a questionnaire, comprised 15 statement questions that encapsulated all indicators of the two variables. Each statement item was crafted to elicit the respondents' thoughts and experiences regarding the deployment of the information system and the efficacy of internal control within the firm.

After the data collection technique, the next phase involved assessing the validity of all statement items within the instrument. The validity assessment was conducted by item-total correlation analysis,

evaluating each item's link with the total score of the pertinent variable. According to the test results, all items exhibited a correlation value exceeding 0.300, the statistically required minimum threshold for validity. Consequently, all 15 items in this research instrument can be deemed valid, as they effectively assess the target construct with precision and accuracy.

A reliability test was also undertaken to assess how the research instrument demonstrated data consistency throughout repeated measurements. The reliability assessment was performed via Cronbach's Alpha coefficient, which signifies the degree of internal consistency of each variable. The test results indicated that all variables in this study had a Cronbach's Alpha value exceeding 0.700, signifying their reliability. This result indicates that all employed instruments are genuinely capable of being stable, consistent, and trustworthy measurement devices within the scope of this investigation. Upon confirming the instrument's validity and reliability, the subsequent phase in the analysis involves examining the relationship between variables through a basic linear regression statistical model. This model aims to ascertain the substantial impact of the independent variable, the Finished Goods Inventory Accounting Information System, on the dependent variable, Internal Control of Finished Goods Inventory. Applying simple linear regression is deemed suitable for this study as the link under examination is direct between a single independent variable and a single dependent variable.

$$Y = 10,891 + 0,777X$$

The results demonstrate a favorable and significant correlation between the completed goods

inventory accounting system and the internal control of finished goods inventory.

The regression equation can be interpreted as follows. The fixed value of 10.891 signifies that in the absence of the completed goods inventory system ( $X = 0$ ), the internal control value of finished goods inventory ( $Y$ ) persists at 10.891. This result indicates that despite the absence of an implemented accounting information system, other factors still influence the internal control of completed goods inventory within the organization. Nonetheless, the comparatively elevated value of this constant signifies that internal control remains operational, albeit suboptimally, in the absence of the accounting information system's help.

The regression coefficient of 0.777 signifies that each unit increase in the completed goods inventory accounting system will enhance the internal control of the finished goods inventory by 0.777 units. The positive coefficient indicates that improved implementation of the completed goods inventory accounting information system enhances the company's internal control.

This study concludes that accounting information systems play a crucial role in enhancing the efficacy of internal control over finished goods inventory in a company that provides explosives and mine blasting services in Indonesia. An appropriate accounting information system enables organizations to accurately record, regulate, and manage inventory, minimizing the likelihood of errors or discrepancies in the inventory documentation. The finished goods inventory accounting system enables organizations to document the volume of income and leaving inventory in real-time. This solution enables organizations to



guarantee that all inventory transactions are documented precisely and in compliance with relevant accounting requirements. Moreover, the accounting information system aids organizations in mitigating the risk of loss or fraud in inventory management. Thoroughly documented data facilitates the execution of internal and external audits with enhanced efficiency and transparency.

Moreover, the efficacy of accounting information systems in enhancing internal control of finished goods inventory is linked to the system's capacity to deliver precise and pertinent information to management. Enhanced information enables management to make more educated decisions regarding inventory management, such as ascertaining optimal reorder timings or recognizing potential surplus inventory that may incur elevated storage costs.

Deploying completed goods inventory accounting information systems can enhance companies' operational efficiency. Automation using accounting information systems helps mitigate processes that are once executed manually and are susceptible to human error. This condition will alleviate the burden on staff regarding documentation and reporting, enabling them to concentrate on other strategic responsibilities.

The study's results indicated a robust positive correlation between accounting information systems and internal control; nonetheless, organizations may encounter several problems in efficiently adopting this system. A primary difficulty is the considerable investment required to acquire and maintain an advanced accounting information system. Furthermore, organizations must guarantee that the personnel tasked with operating the system possess

sufficient abilities and comprehension of the application of information technology in accounting.

Employee training and education are crucial for successfully adopting accounting information systems. Employees with a comprehensive grasp can optimize the system to enhance internal control and mitigate the risk of errors in the inventory documentation. Moreover, organizations must prioritize data security considerations inside accounting information systems to avert unauthorized access or data manipulation by negligent entities.

## CONCLUSION

The research findings indicate that the accounting information system plays a crucial and significant role in enhancing the effectiveness of internal control over finished goods inventory in companies offering explosives and mining blasting services in Indonesia. The deployment of a suitable and cohesive accounting information system enables organizations to contemporaneously and adequately record inventory, thereby minimizing errors, mitigating the risk of loss or fraud, and enhancing transparency and accountability in stock management.

The findings of this study indicate that the accounting information system serves not only as an administrative instrument but also as a strategic component that enhances operational efficiency. The system's capabilities, including transaction tracking, automatic data updates, and interdepartmental connection, enable organizations to systematically and effortlessly manage inventory flow. The enhanced efficacy of internal control directly influences the company's logistical performance,

particularly regarding production planning, distribution, and cost management.

This paper identifies many problems that may emerge during the deployment of an accounting information system, in addition to its benefits. One requirement is a substantial initial investment in hardware and software acquisition, personnel training, and the necessity to safeguard the system against potential cyber threats. Consequently, management's participation is essential in guaranteeing the proper implementation of this system through meticulous planning, continuous support, and regular system assessments to ensure alignment with operational dynamics and advancements in information technology. Consequently, the results of this study offer a substantial contribution to organizations' evaluation of the significance of accounting information systems within internal control frameworks. The adoption of this system has demonstrated its capability to enhance the efficiency and efficacy of finished goods inventory management while contributing additional value to the company's continuity and competitiveness. Consequently, organizations are urged not only to sustain but also enhance and refine their accounting information systems to effectively address future business issues and uphold the overall integrity of resource management.

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