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THE INFLUENCE OF WAREHOUSE MANAGEMENT SYSTEMS, STOCK OPNAME AND HUMAN RESOURCE COMPETENCE ON INVENTORY ACCURACY AT PT DSV SOLUTIONS INDONESIA

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Abstract

This study aims to analyze the effect of the Warehouse Management System (WMS), Stock Opname, and Human Resource Competence on Inventory Accuracy at PT DSV Solutions Indonesia. This research employed a quantitative approach with an associative research design. The population consisted of 30 warehouse employees of PT DSV Solutions Indonesia. Since the population was relatively small, a saturated sampling (census) technique was applied, in which all members of the population were selected as research respondents. Data were collected through observation, interviews, documentation, and questionnaires. Data analysis was conducted using IBM SPSS, including validity testing, reliability testing, classical assumption tests, multiple linear regression analysis, partial tests (t-test), simultaneous tests (F-test), and the coefficient of determination (R^2).The results showed that, partially, the Warehouse Management System (WMS) had no significant effect on Inventory Accuracy with a significance value of 0.818, while Stock Opname also had no significant effect with a significance value of 0.553. In contrast, Human Resource Competence had a positive and significant effect on Inventory Accuracy with a significance value of 0.001. Simultaneously, the Warehouse Management System (WMS), Stock Opname, and Human Resource Competence had a significant effect on Inventory Accuracy with a significance value of 0.000. The coefficient of determination (R^2) was 0.805, indicating that 80.5% of the variation in Inventory Accuracy could be explained by the three independent variables, while the remaining 19.5% was influenced by other variables outside the scope of this study.

Keywords: Warehouse Management System, Stock Opname, Human Resource Competence, Inventory Accuracy

INTRODUCTION

Inventory accuracy is a key indicator for assessing the effectiveness of warehouse management within a company. It reflects the alignment between stock data recorded in the system and the actual physical condition of goods in the warehouse. A high level of accuracy supports smooth operations, reduces distribution errors, and enhances customer satisfaction. Conversely, low inventory accuracy can lead to shipping inaccuracies, stock surpluses or shortages, and increased operational costs. Therefore, companies operating in the logistics and warehousing sector must ensure that their inventory data remains accurate and reliable. In practice, maintaining inventory accuracy is challenging, as it encompasses various activities such as the recording, storage, and distribution of goods. The complexity of these processes necessitates an integrated management system supported by competent personnel. Inventory accuracy is closely linked to internal control systems and operational management, both of which underscore the importance of reliable information for decision-making. Effective inventory management requires a system capable of recording, processing, and updating data accurately and in a timely manner.

According to research by Kosagiama et al. (2025), discrepancies in inventory data are generally caused by human error, system limitations, as well as weak operational procedures. This indicates that inventory accuracy is influenced not only by technology but also by the quality of processes and the human resources involved. Consequently, an integrated approach—encompassing systems, procedures, and competencies—is a crucial factor in maintaining the accuracy of inventory data. PT DSV Solutions Indonesia is a company operating in the logistics and supply chain management sector, characterized by complex warehousing activities and a high volume of goods.

The company plays a vital role in ensuring the smooth distribution of goods to customers through an effective warehouse management system. Based on the company's internal data, the inventory accuracy rate at PT DSV Solutions Indonesia has fluctuated over the last two years. In 2024, the inventory accuracy rate reached 95.8%, but it declined to 93.6% in 2025. This decrease indicates a discrepancy between the system data and the actual physical stock in the warehouse, suggesting that the inventory management system is not yet operating optimally. Such data discrepancies can disrupt operational processes and increase the risk of distribution errors.

Furthermore, a decline in accuracy can also negatively impact customer trust in the company. Consequently, it is necessary to evaluate the factors influencing inventory accuracy. One factor suspected of contributing to this situation is the implementation of the Warehouse Management System (WMS) within warehouse operations. PT DSV Solutions Indonesia has implemented a Warehouse Management System (WMS) to support warehouse operational activities, including inbound, put-away, picking, and outbound processes. This system is used to record, control, and monitor the movement of goods in real-time, with the aim of enhancing efficiency and the accuracy of inventory data. Based on internal warehouse reports from PT DSV Solutions Indonesia (2025), there are still transactions with a "pending" status within the Warehouse Management System (WMS) regarding Goods Receipt (GR) and Goods Issue (GI) processes. In July 2024, there were 2 pending GR transactions and -5,206 pending GI transactions; by August 2024, these figures rose to 22 pending GR transactions and -3,116 pending GI transactions. The most significant instance occurred in December 2024, with 86,647 pending GR transactions and -55,229 pending GI transactions. Although the number of pending transactions decreased in June 2025 and December 2025 compared to December 2024, the data indicates that unresolved transactions continue to persist within the system.

According to Zaenal and Bakri (2025), conducting a stock take in a structured manner and in accordance with established procedures can significantly improve inventory accuracy. Conversely, if the process is carried out carelessly or lacks the support of a robust system, the potential for errors remains high. Therefore, stock takes must be performed periodically and in compliance with established operational standards. Furthermore, the results of the stock take must be recorded accurately to prevent data discrepancies. In this sense, the stock take plays a crucial role in maintaining the consistency of inventory data, making it a variable that warrants analysis in this study. Based on the company's internal data, stock-taking (stock opname) processes at PT DSV Solutions Indonesia have revealed discrepancies between system records and the actual physical inventory in the warehouse. These discrepancies generally arise from transactions that have not yet been updated in the Warehouse Management System (WMS)—such as pending Goods Receipts (GR) and Goods Issues (GI). Furthermore, some stock-taking exercises have uncovered recording inaccuracies and delays in the data adjustment process, leading to gaps between physical stock levels and system data. This situation indicates that the stock-taking process is not yet fully optimized and requires improvements in both procedures and oversight.

Another factor influencing inventory accuracy is the competence of human resources. Employee competence encompasses the knowledge, skills, and abilities required to manage systems and execute warehousing procedures. According to research by Lee et al. (2025), a lack of user understanding regarding a system can lead to errors in inventory data management. Furthermore, a study by Kosagiama et al. (2025) indicates that human factors contribute significantly to inventory discrepancies. This demonstrates that the success of a system is highly dependent on the quality of the human resources operating it. Consequently, training and competency development are of critical importance. With a competent workforce, it is expected that the level of inventory accuracy can be significantly improved. Based on the results of a pre-survey, it is evident that the human resource competencies at PT DSV Solutions Indonesia still require improvement. This is indicated by the fact that the majority of respondents stated they lack sufficient understanding and skills to operate the Warehouse Management System (WMS). Furthermore, most respondents acknowledged that they have not yet received training related to warehouse systems and operations. This situation suggests that the current level of human resource competency does not yet fully support optimal inventory management.

Based on the background and phenomena observed at PT DSV Solutions Indonesia, several issues have been identified:

1. Discrepancies persist between system data and the physical condition of goods during stocktakes, indicating that inventory accuracy levels are not yet optimal.
2. Transactions—such as pending Goods Receipts (GR) and Goods Issues (GI)—remain unupdated within the Warehouse Management System (WMS), which compromises the accuracy of inventory data.
3. The implementation of the Warehouse Management System (WMS) is not functioning optimally; this is evidenced by a lack of full integration across all warehousing activities, as well as low perceived ease of use, according to the results of a pre-survey.

4. Stock opname procedures are not consistently followed, leading to ongoing discrepancies in the recording and reporting of stock results.
5. Human resource competency in inventory management requires improvement, specifically regarding the understanding of the WMS, work precision, and adherence to operational procedures.

Based on the issues identified at PT DSV Solutions Indonesia, this study focuses on the implementation of a Warehouse Management System (WMS), the execution of stocktaking (stock opname), and human resource competency in relation to inventory accuracy levels.

LITERATURE REVIEW

Warehouse Management System (WMS)

According to Ma'rifa et al. (2025), the implementation of a Warehouse Management System (WMS) can enhance operational efficiency, as every transaction is recorded in real-time, leading to more accurate inventory data. This indicates that a WMS serves not merely as a recording tool, but also as a control system that helps minimize discrepancies between system data and the physical state of goods. Furthermore, Basuki (2025) notes that the implementation of a WMS can assist companies in systematically monitoring the movement of goods and reducing the recording errors that frequently occur with manual stock management.

Stock Opname

According to Bragg (2021), a physical inventory count (stocktake) is generally an integral part of a company's internal control system, specifically regarding inventory oversight. Through this activity, a company can identify discrepancies in stock—whether in the form of surpluses or shortages—which may arise from recording errors, loss of goods, damage, or delays in updating the system. According to Zaenal and Bakri (2025), a physical inventory count is a process of physically examining inventory, conducted periodically to ensure data accuracy and enhance the effectiveness of warehouse management.

Human Resource Competence

According to Hasibuan (2021), human resources represent the science and art of managing the relationships and roles of the workforce to ensure they are effective and efficient in helping to achieve company goals. Meanwhile, Lee et al. (2025) explain that human resource competence has a significant influence on the effectiveness of system usage and the level of data accuracy in inventory management. In the context of warehouse operations, human resource competency plays a crucial role in ensuring that all activities are carried out according to procedures and that the systems used are optimally utilized. Highly competent employees will be able to operate the WMS system effectively.

Inventory Accuracy

According to Heizer et al. (2020), effective inventory management requires accurate and continuously updated data, as data inaccuracies can disrupt operational processes and reduce efficiency within the supply chain. This highlights that inventory accuracy is a crucial element in ensuring the smooth distribution of goods. Furthermore, effective inventory control necessitates an integrated system, periodic physical verification, and a competent workforce to maintain the accuracy of inventory data (Stevenson, 2021). Accurate inventory data will lead to more precise decision-making, both in planning for product requirements and in controlling operational costs.

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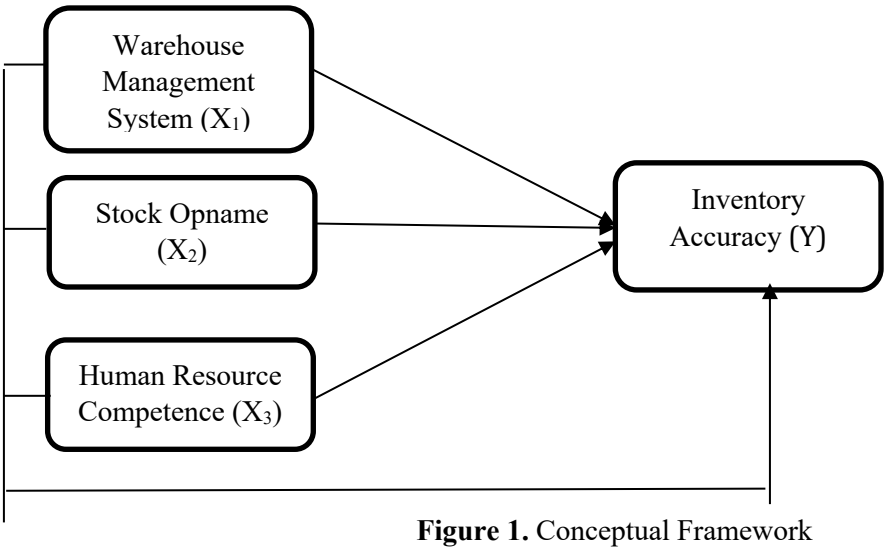


Figure 1. Conceptual Framework
Source: Researcher (2026)

The research hypotheses are:

1. H1: Warehouse management system (WMS) has a significant effect on inventory accuracy at PT DSV Solutions Indonesia.
2. H2: Stock opname has a significant effect on inventory accuracy at PT DSV Solutions Indonesia.
3. H3: Human resource competence has a significant effect on inventory accuracy at PT DSV Solutions Indonesia.
4. H4: Warehouse management system (WMS), stock opname, and human resource competence, when considered simultaneously, have a significant effect on inventory accuracy at PT DSV Solutions Indonesia.

METHOD

The research approach used an associative approach, with a quantitative method. This research was conducted at PT DSV Solutions Indonesia, located at Jalan Pulau Saparua II No. 10 A-B, Tangkahan, Medan Labuhan, Medan City, North Sumatra 20251. This location was selected due to observed issues concerning inventory accuracy, the implementation of a Warehouse Management System (WMS), and human resource competencies—all of which are relevant to this study. The research was carried out over a period of six months, from March 2026 to August 2026. The population for this study consists of all 30 warehouse employees at PT DSV Solutions Indonesia. A "saturated sampling" (total sampling) technique was employed, wherein the entire population is included as the research sample. Saturated sampling is used when the population size is relatively small, allowing every member of the population to serve as a respondent (Sugiyono, 2022). Consequently, the sample size for this study is 30 individuals, comprising all warehouse employees at PT DSV Solutions Indonesia. Analysis tool using SPSS version 25

RESULTS AND DISCUSSION

Results

Validity and Reliability Test

Table 1. Validity Test Results Warehouse Management System, Stock Opname, Human Resource Competence, Inventory Accuracy

Statement Items	r-count	r-table	Description
WMS1	0,759	0,361	Valid
WMS2	0,820	0,361	Valid
WMS3	0,735	0,361	Valid
WMS4	0,706	0,361	Valid
WMS5	0,718	0,361	Valid
SO1	0,705	0,361	Valid

Statement Items	r-count	r-table	Description
SO2	0,811	0,361	Valid
SO3	0,798	0,361	Valid
SO4	0,758	0,361	Valid
SO5	0,723	0,361	Valid
HRC1	0,776	0,361	Valid
HRC2	0,783	0,361	Valid
HRC3	0,764	0,361	Valid
HRC4	0,729	0,361	Valid
HRC5	0,693	0,361	Valid
IA1	0,758	0,361	Valid
IA2	0,809	0,361	Valid
IA3	0,770	0,361	Valid
IA4	0,842	0,361	Valid
IA5	0,841	0,361	Valid

Sources: SPSS versi 25 (2026)

Based on Table 1, the results of the validity test above show that all statement items are > r table 0.361, so they are hereby declared valid/legitimate.

Table 2. Reliability Test Results Warehouse Management System, Stock Opname, Human Resource Competence, Inventory Accuracy

Variable	Cronbach Alpha	Provision	Description
Warehouse Management System	0,801	0,60	Reliable
Stock Opname	0,815	0,60	Reliable
Human Resource Competence	0,801	0,60	Reliable
Inventory Accuracy	0,861	0,60	Reliable

Sources: SPSS versi 25 (2026)

It is known that the Cronbach's alpha value for all research variables of warehouse managaement system, stock opname, human resource competence and inventory accuracy is > 0.60, so it can be said that the results of the reliability test for all variables are reliable.

Table 3. Results of the One Sample Kolmogorov Normality Test

Description	Value
N	30
Mean	0.0000000
Std. Deviation	2.22032341
Absolute	0.109
Positive	0.109
Negative	-0.085
Test Statistic	0.109
Asymp. Sig. (2-tailed)	0.200

Sources: SPSS versi 25 (2026)

It is known that the asymp. sig. (2-tailed) value is 0.200 > 0.05 significance value so it can be concluded that the data tested is normally distributed.

Table 4. Gletsjer Test Results

Variable	B	Std. Error	Beta	**t**	**Sig.**
(Constant)	1.013	.738		1.372	.182
Warehouse Management System	-.064	.100	-.226	-.642	.527
Stock Opname	.142	.098	.543	1.442	.161
Human Resource Competence	-.025	.135	-.086	-.187	.853

Sources: SPSS versi 25 (2026)

Based on Table 4, the significance values for the variables are 0.527 for Warehouse Management System (X1), 0.161 for Stock Opname (X2), and 0.853 for Human Resource Competence (X3). Since all these significance values are greater than 0.05, it can be concluded that there is no heteroscedasticity in the regression model. Consequently, the regression model satisfies one of the classical assumptions and is suitable for further analysis.

Table 5. Multicollinearity Test Results

Variable	B	Std. Error	Beta	t	Sig.	**Tolerance**	**VIF**
(Constant)	-.156	1.250		-.125	.902		
Warehouse Management System	.039	.169	.039	.233	.818	.274	3.649
Stock Opname	.100	.167	.107	.602	.553	.240	4.175
Human Resource Competence	.815	.228	.770	3.572	.001	.162	6.176

Sources: SPSS versi 25 (2026)

It is known that the results of the multicollinearity test for the warehouse managaement system, stock opname, human resource competence variables have a tolerance value of > 0.10 and VIF < 10, so this study is declared free from multicollinearity problems.

Table 6. Multiple Linear Tegression Test Results

Variable	**B**	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	-.156	1.250		-.125	.902		
Warehouse Management System	.039	.169	.039	.233	.818	.274	3.649
Stock Opname	.100	.167	.107	.602	.553	.240	4.175
Human Resource Competence	.815	.228	.770	3.572	.001	.162	6.176

Sources: SPSS versi 25 (2026)

Based on the results of the multiple linear regression analysis presented in the table above, the following regression equation is obtained:

$$\mathbf{Y = -0.156 + 0.039X_1 + 0.100X_2 + 0.815X_3}$$

This equation indicates that the Warehouse Management System (WMS) (X_1), Stock Opname (X_2), and Human Resource Competence (X_3) all have positive regression coefficients. This means that an increase in any of these independent variables tends to lead to an improvement in Inventory Accuracy (Y). Among the three variables, Human Resource Competence (X_3) has the largest regression coefficient—0.815—thereby exerting the greatest influence on the improvement of Inventory Accuracy.

Table 7. Partial Test Results (t-Test)

Variable	B	Std. Error	Beta	**t**	**Sig.**	Tolerance	VIF
(Constant)	-.156	1.250		-.125	.902		
Warehouse Management System	.039	.169	.039	.233	.818	.274	3.649
Stock Opname	.100	.167	.107	.602	.553	.240	4.175
Human Resource Competence	.815	.228	.770	3.572	.001	.162	6.176

Sources: SPSS versi 25 (2026)

Based on the table above, the results of the partial test (t-test) can be explained as follows:

1. The Warehouse Management System (WMS) variable has a calculated t-value of 0.233, while the t-table value is 1.999. Since the calculated t-value is less than the t-table value (0.233 < 1.999) and the significance level is 0.818 (> 0.05), H_0 is accepted and H_1 is rejected. Consequently, the Warehouse Management System (WMS) does not have a significant partial effect on Inventory Accuracy at PT DSV Solutions Indonesia.
2. The Stock Opname (physical inventory count) variable has a calculated t-value of 0.602, while the t-table value is 1.999. Since the calculated t-value is less than the t-table value (0.602 < 1.999) and the significance level is 0.553 (> 0.05), H_0 is accepted and H_2 is rejected. Consequently, Stock Opname does not have a significant partial effect on Inventory Accuracy at PT DSV Solutions Indonesia.
3. The Human Resource (HR) Competency variable has a calculated t-value of 3.572, while the t-table value is 1.999. Since the calculated t-value is greater than the t-table value (3.572 > 1.999) and the significance level is 0.001 (< 0.05), H_0 is rejected and H_3 is accepted. This indicates that HR Competency has a positive and significant partial effect on Inventory Accuracy at PT DSV Solutions Indonesia. A regression coefficient of 0.815 indicates that for every one-unit increase in HR Competency, Inventory Accuracy will increase by 0.815 units, assuming all other variables remain constant.

Table 8. Simultaneous Test Results (F Test)

Model	Sum of Squares	df	Mean Square	**F**	**Sig.**
Regression	588.501	3	196.167	35.675	.000[b]
Residual	142.965	26	5.499		
Total	731.467	29			

Sources: SPSS versi 25 (2026)

Based on the above, the calculated F-value (F-statistic) is 35.675, while the F-table value is 2.975, at a 5% significance level ($\alpha = 0.05$) with df1 = 3 and df2 = 26. Since the calculated F-value (35.675) is greater than the F-table value (2.975) and the significance level is 0.000 (which is less than 0.05), the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted. This indicates that the Warehouse Management System (WMS), stocktaking (stock opname), and human resource competence have a significant simultaneous effect on inventory accuracy. Consequently, the regression model employed in this study is suitable for explaining the influence of these three independent variables on inventory accuracy.

Table 9. Results of the Coefficient of Determination test

Model	R	R Square	**Adjusted R Square**	Std. Error of the Estimate
1	.897[a]	.805	.782	2.34492

Sources: SPSS versi 25 (2026)

Based on the results of the coefficient of determination test shown in Table 9, The Adjusted R-squared value is 0.782, or 78.2%. This indicates that the variables Warehouse Management System (WMS) (X1), Stock Opname (X2), and Human Resource (HR) Competency (X3) collectively explain or influence the Inventory Accuracy variable (Y) by 78.2% at PT DSV Solutions Indonesia. The remaining 21.8% is influenced by factors outside of those examined in this study; therefore, the regression model can be considered to have a strong capacity for explaining the dependent variable.

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Discussion

The Influence of Warehouse Management System on Inventory Accuracy

Based on the partial test (t-test) results, the Warehouse Management System (WMS) variable yielded a t-statistic of 0.233 with a significance value of 0.818. Since this significance value exceeds the 0.05 threshold, it can be concluded that the Warehouse Management System (WMS) does not have a significant effect on inventory accuracy at PT DSV Solutions Indonesia. A Warehouse Management System is an information technology-based system designed to manage all warehousing activities—ranging from receiving, storage, and internal movement to the dispatch of goods—in an integrated manner. According to Basuki (2025), an optimally implemented WMS should be capable of recording every movement of goods in real-time, thereby minimizing recording errors and enhancing the reliability of inventory data. However, in the context of this company, the implemented system has not been utilized to its full potential; consequently, its contribution to improving inventory accuracy is not yet clearly evident. Furthermore, these findings differ from the research of Wijayanti & Yun (2025), which suggests that a WMS has a significant impact on inventory accuracy. This discrepancy may stem from differences in user readiness levels and the completeness of the procedures supporting the system across the respective research subjects. At PT DSV Solutions Indonesia, there remains a gap between the expected benefits of the system and the reality of its implementation in the field, preventing the full realization of the technology's potential benefits.

The Influence of Stock Opname on Inventory Accuracy

Based on the partial test (t-test) results, the "Stock Opname" (physical inventory count) variable yielded a t-statistic of 0.602 with a significance value of 0.553. Since the significance value of 0.553 is greater than 0.05, the null hypothesis (H_0) is accepted, and the alternative hypothesis (H_a) is rejected. Consequently, the physical inventory count does not have a significant effect on inventory accuracy at PT DSV Solutions Indonesia. A physical inventory count involves the direct inspection and counting of items available in a warehouse, which are then reconciled against the records held within the system. According to Zaenal & Bakri (2025), "Conducting physical inventory counts regularly and meticulously, followed by timely data adjustments, is highly effective in maintaining the integrity of inventory information." However, in practice at this company, the process has not yet fully met expectations; thus, its contribution to improving inventory accuracy is not statistically evident. While a physical inventory count serves as a control mechanism to ensure data accuracy, the findings of this study indicate that this function is not yet operating optimally. This contrasts with the research by Zaenal & Bakri (2025), which suggests that a structured physical inventory count process can significantly enhance inventory accuracy. This discrepancy in results is most likely due to differences in the comprehensiveness of the follow-up procedures implemented after the count is completed.

The Influence of Human Resource Competence on Inventory Accuracy

Based on the partial test (t-test) results, the Human Resource Competence variable yielded a t-statistic of 3.572 with a significance value of 0.001. Since this significance value is less than 0.05, it can be concluded that Human Resource Competence has a positive and significant effect on Inventory Accuracy at PT DSV Solutions Indonesia. Human resource competence encompasses knowledge of assigned tasks, skills in performing work, and a diligent, responsible work attitude. According to Lee et al. (2025), “The human factor is the most crucial element in inventory management, because no matter how well-designed a system or procedure may be, its execution ultimately depends on the quality of the human resources carrying it out.” In the warehouse operational environment of PT DSV Solutions Indonesia, the ability of employees to operate systems, understand workflows, and work with precision is a key determinant of the accuracy of the data produced. These findings are also consistent with previous research by Kosagiama et al. (2025), which asserts that most discrepancies in inventory data are closely linked to human factors. Consequently, improving the quality of human resources should be a top priority, pursued in tandem with the refinement of existing systems and procedures.

The Influence of Warehouse Management System, Stock Opname and Human Resource Competence on Inventory Accuracy

Based on the F-test results obtained from the regression output, the calculated F-value is 35.675, with a significance level of 0.000. This significance value is lower than the established threshold of $\alpha = 0.05$, indicating that the regression model—incorporating the variables of Warehouse Management System (WMS), stocktaking (stock opname), and human resource competence—has a significant simultaneous effect on inventory accuracy at PT DSV Solutions Indonesia. Consequently, the null hypothesis (H0), which posits that there is no significant joint

effect of the three independent variables on inventory accuracy, is rejected, while the alternative hypothesis (H1) is accepted. This confirms that the implementation of an appropriate system, the execution of regular stock checks, and high-quality human resources complement one another, collectively contributing to maintaining and improving inventory accuracy levels. These findings are further supported by the research of Ma'rifa et al. (2025), which indicates that the implementation of a warehousing system yields optimal results when backed by competent human resources and well-structured procedures. Although the WMS and stocktaking variables may not show a significant effect when analyzed individually (partially), they nonetheless play a crucial supporting role, strengthening the impact of human resource competence when managed in an integrated manner.

CONCLUSION

Research on the influence of price perception, word of mouth, and customer experience on consumer satisfaction can yield the following conclusions:

1. Warehouse Management System (WMS) does not have a significant effect on Inventory Accuracy (t-calculated 0.233 < t-table 1.999; Sig 0.818 > 0.05).
2. Stock Opname does not have a significant effect on Inventory Accuracy (t-calculated 0.602 < t-table 1.999; Sig 0.553 > 0.05).
3. Human Resource Competence has a positive and significant effect on Inventory Accuracy (t-calculated 3.572 > t-table 1.999; Sig 0.001 < 0.05).
4. Warehouse Management System (WMS), Stock Opname and Human Resource Competence, when considered simultaneously, have a significant effect on Inventory Accuracy (F-calculated 35.675 > F-table 2.975; Sig 0.000 < 0.05).

Based on the discussion and conclusions of this study, the following recommendations are provided:

1. Optimizing the Implementation of an Integrated Warehouse Management System (WMS): Given that the WMS has not yet shown a statistically significant impact, management should conduct a comprehensive evaluation of its usage. The company is advised to refine data input workflows, regularly monitor and resolve pending transactions (Goods Receipt and Goods Issue), and ensure that data updates occur in real-time. Furthermore, it is essential to conduct outreach and tailor system features to operational workflows, ensuring that the information generated is both reliable and well-aligned with actual requirements.
2. Refining the Mechanism for Systematic Stock-Taking (Stock Opname): As current stock-taking practices lack consistency and have yet to yield a tangible impact, the company should establish a fixed, stable schedule, form a trained team, and strictly enforce adherence to existing Standard Operating Procedures (SOPs). Crucially, any discrepancies discovered during stock-taking must be immediately addressed through reconciliation and system adjustments; this prevents the accumulation of discrepancies and allows for the prompt identification of their root causes.
3. Strengthening Human Resource Competencies Continuously: Since human resource competence is the most influential factor, the company should prioritize targeted training programs—specifically regarding WMS operation, an understanding of warehouse workflows, and the cultivation of greater precision and discipline in record-keeping. Regular coaching and direct supervision of task execution should also be strengthened to ensure employees become more skilled, knowledgeable, and accountable for the accuracy of the data they record.
4. Integrating All Three Aspects: Although two of the variables may not show a significant impact when viewed in isolation, they are mutually complementary. Management should avoid focusing on only one area; instead, it should integrate system optimization, disciplined stock-taking, and the enhancement of employee capabilities into a cohesive, comprehensive, and sustainable inventory management policy.

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