

The Effect of Accounting Information Systems and Internal Control Systems on Employee Performance at an Automotive Company in Medan City

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Abstract

This study aims to analyze the effect of Accounting Information Systems and Internal Control Systems on Employee Performance at an automotive company in Medan, Indonesia. The novelty of this study lies in its focus on the automotive sector, which has received limited research attention regarding employee performance. This study employed a quantitative survey approach, collecting primary data through questionnaires distributed to 150 employees using a saturated sampling technique. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS software. The findings indicate that Accounting Information Systems and Internal Control Systems have positive and significant effects on employee performance. Effective accounting information systems provide accurate, relevant, and timely information, facilitating task completion, improving work efficiency, increasing productivity, and reducing errors. However, this study is limited to one automotive company in Medan, which restricts the generalizability of its findings to other industries. The results are expected to help automotive companies improve accounting information systems and internal controls to enhance employee performance and achieve organizational goals, while also providing a reference for future academic research on employee performance.

Keywords

Accounting Information Systems; Internal Control; Employee Performance



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INTRODUCTION

Employee performance is a crucial factor in determining organizational success, particularly in the automotive industry, where operational efficiency, service quality, and customer satisfaction are essential. Kotler and Keller (2016) emphasize that marketing focuses on creating and delivering customer value while building strong customer relationships. In automotive companies, achieving sales targets and maintaining customer satisfaction require competent employees, reliable information, and effective operational management. Employee performance can be

reflected in employees' ability to complete tasks efficiently, meet organizational standards, provide quality services, and contribute to company objectives. Therefore, companies need to identify factors that can support and improve employee performance.

Accounting Information Systems (AIS) are essential in supporting employees' operational activities and decision-making processes. Romney and Steinbart (2021) explain that AIS collects, records, stores, and processes transaction data to produce useful information for organizational decision-making. Reliable accounting information enables employees to access accurate, relevant, and timely data, thereby facilitating task completion, improving efficiency, and reducing errors. Hall (2018) also highlights the role of accounting information systems in processing financial and other transactions to support management planning, control, and decision-making. Consequently, effective AIS implementation is expected to contribute positively to employee performance by improving the availability and quality of information required for daily operations.

In addition to AIS, internal control systems play an important role in supporting employee performance. Mulyadi (2016) defines internal control as a coordinated structure of organizational procedures and measures designed to safeguard assets, ensure the accuracy and reliability of accounting data, promote operational efficiency, and encourage compliance with management policies. Similarly, the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013) identifies five components of internal control: the control environment, risk assessment, control activities, information and communication, and monitoring activities. Effective internal controls help ensure that employees perform their responsibilities according to established procedures, minimize operational risks, prevent errors and potential fraud, and maintain accountability. These mechanisms can create a more organized working environment and support the achievement of organizational objectives.

Although AIS and internal controls are theoretically expected to improve employee performance, their effectiveness depends on how these systems are implemented and used within an organization. Romney and Steinbart (2021) emphasize the importance of users in accounting information systems. Technology alone cannot guarantee better performance if employees lack the necessary skills to operate the system or fail to follow established procedures. Similarly, internal control policies may not produce optimal results when supervision, communication, and employee compliance are inadequate. Dessler (2020) highlights the importance of

evaluating employee performance against established work standards. These perspectives suggest that the relationship between organizational systems and employee performance needs to be examined empirically rather than assumed.

Previous studies have reported different findings regarding these relationships. Oba, Randa, and Daud (2024) and Hasliana et al. (2025) reported positive and significant effects of accounting information systems on employee performance. Regarding internal control, Purwana, Resmi, and Nurhasanah (2024) found a significant relationship with employee performance, while Ainisha and Meidawati (2022) reported a positive effect. However, Zulvia and Sababalat (2025) found that internal control did not significantly affect employee performance. These differing findings indicate a research gap that warrants further investigation. Examining these variables in a specific organizational context may provide additional empirical evidence regarding their relationships.

Medan, one of the major economic and commercial centers in North Sumatra, provides a relevant setting for examining these relationships in the automotive sector. Automotive companies manage various activities, including vehicle sales, spare-parts inventory, cash receipts and disbursements, administrative transactions, and vehicle maintenance services. These activities require reliable accounting information and effective internal controls to ensure accuracy, efficiency, and compliance with organizational procedures. Nevertheless, the specific contribution of AIS and internal control systems to employee performance in automotive companies in Medan requires further empirical examination.

Therefore, this study aims to analyze the effects of Accounting Information Systems and Internal Control Systems on Employee Performance at an automotive company in Medan, Indonesia. It examines the individual effects of both independent variables and their combined contribution to employee performance. The study is expected to contribute empirical evidence to the accounting and organizational management literature while providing practical insights for automotive companies seeking to improve operational efficiency, strengthen internal controls, and enhance employee performance.

METHODS

This study employed a quantitative research approach using a survey method to examine the effects of Accounting Information Systems (AIS) and Internal Control Systems on Employee Performance at an automotive company in Medan, Indonesia. A quantitative approach was selected because it enables researchers to measure relationships among variables using numerical data and statistical analysis.

According to Creswell and Creswell (2018), quantitative research involves testing objective theories by examining relationships among variables through statistical procedures. The survey method was used to collect information from employees regarding their perceptions of accounting information systems, internal control practices, and their performance.

The population consisted of all employees working at the selected automotive company in Medan. A saturated sampling technique was employed, in which all members of the population were included as research respondents. According to Sugiyono (2019), saturated sampling involves using the entire population as the sample when all population members are included in the study. The sample comprised 115 employees. This technique was selected because the entire population was accessible to the researchers, allowing data to be collected from all eligible employees rather than selecting only a portion of the population.

The study used primary data collected directly from respondents through questionnaires distributed to all 115 employees. The questionnaire was designed to measure three research variables: Accounting Information Systems as the first independent variable (X1), Internal Control Systems as the second independent variable (X2), and Employee Performance as the dependent variable (Y). Respondents assessed each questionnaire statement using a five-point Likert scale, ranging from 1 to 5, where 1 represented strongly disagree, 2 represented disagree, 3 represented neutral, 4 represented agree, and 5 represented strongly agree. According to Sugiyono (2019), Likert scales can be used to measure individuals' attitudes, perceptions, and opinions regarding particular phenomena.

Accounting Information Systems were operationalized through five indicators: information quality, information timeliness, information accuracy, system ease of use, and system-use efficiency. These indicators reflect the extent to which the system supports employees in obtaining and processing information required for their work. Internal Control Systems were measured using five indicators based on the framework of the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013): control environment, risk assessment, control activities, information and communication, and monitoring. Employee Performance was assessed through five indicators: work quality, work quantity, timeliness, effectiveness, and independence or responsibility. These indicators were used to evaluate employees' perceived performance in carrying out their assigned duties and responsibilities.

The collected data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS software. Hair et al. (2022) explain that PLS-SEM is appropriate for examining relationships between latent constructs and their indicators, particularly when the research focuses on explaining or predicting target constructs. The analysis consisted of two main stages: outer model evaluation and inner model evaluation. The outer model was assessed to examine the measurement quality of the constructs, including indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The inner model was evaluated to examine the relationships between the independent and dependent variables through path coefficients, coefficients of determination (R^2), and bootstrapping-based significance tests. The proposed hypotheses were assessed using the estimated relationships and their statistical significance. Specifically, the analysis tested whether Accounting Information Systems and Internal Control Systems had significant effects on Employee Performance. These procedures provided an empirical basis for evaluating the proposed relationships among the three research variables.

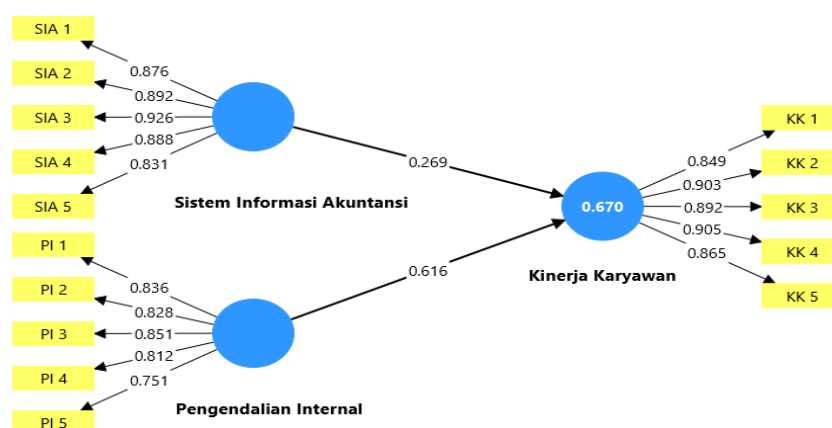
FINDINGS AND DISCUSSION

Research result

Outer Model Evaluation

ModelMeasurement is evaluated by assessing indicators of reliability, internal consistency, convergent validity and discriminant validity.

Reliability Indicator



Source: SmartPLS Data Processing (2026)

Figure 1. Reliability Indicator

All indicators show that the outer loading value is above the recommended threshold of 0.70. Specifically, the loading value for the Accounting Information System construct is around 0.831 to 0.926, the Internal Control construct is around 0.751 to 0.851 and for the Employee Performance construct is around 0.849 to 0.905. The results above indicate that all indicators provide a significant contribution to their respective latent constructs, so we can conclude that the indicator reliability has been met well.

Internal Consistency

Table 1. Construct Reliability and Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Employee Performance (Y)	0.929	0.931	0.947	0.780
Accounting Information System (X1)	0.929	0.932	0.946	0.780
Internal Control (X2)	0.875	0.880	0.909	0.666

Source: SmartPLS Data Processing (2026)

Internal consistency reliability was evaluated using Cronbach's alpha, rho_A, and Composite Reliability (CR). A value of 0.70 or higher is generally considered acceptable for establishing internal consistency reliability. The results indicate that Employee Performance achieved a Cronbach's alpha value of 0.929 and a Composite Reliability value of 0.947. The Accounting Information System construct obtained values of 0.929 for Cronbach's alpha and 0.946 for Composite Reliability, while Internal Control recorded values of 0.875 and 0.909, respectively. All reported values exceeded the recommended threshold of 0.70, indicating that the indicators within each construct demonstrated satisfactory internal consistency reliability. However, the rho_A values should also be examined to provide a complete assessment of construct reliability.

Convergent Validity

Convergent validity was assessed using the Average Variance Extracted (AVE), with a minimum recommended threshold of 0.50. The results show that Employee Performance obtained an AVE value of 0.780, while Accounting Information System also recorded an AVE value of 0.780. Meanwhile, Internal Control achieved an AVE value of 0.666. All three constructs exceeded the recommended threshold of 0.50,

indicating that each construct explained more than 50% of the variance in its respective indicators. These findings demonstrate that the measurement model satisfies the criterion for convergent validity, suggesting that the indicators adequately represent their corresponding constructs.

Discriminant Validity

Table 2. Fornell-Larcker Criterion

	Employee Performance (Y)	Accounting Information System (X1)	Internal Control (X2)
Employee Performance (Y)	0.883		
Accounting Information System (X1)	0.674	0.883	
Internal Control (X2)	0.793	0.657	0.816

Source: SmartPLS Data Processing (2026)

Discriminant validity was assessed using the Fornell-Larcker Criterion. The square root of the AVE value for each construct is greater than its correlation value with other constructs. As shown in the example above, the square root of the AVE for the Employee Performance construct (0.883) is higher than its correlation with Accounting Information Systems (0.674) and Internal Control (0.793). Likewise, the square root of the AVE for Accounting Information Systems (0.883) and Internal Control (0.816) is also greater than the correlation between each construct.

Coefficient of Determination (R^2)

Table 3. Coefficient of Determination (R^2)

	R-square	R-square adjusted
Employee performance	0.670	0.663

Source: SmartPLS Data Processing (2026)

The structural model was assessed using the coefficient of determination. The results above show that the R^2 for Employee Performance (Y) of 0.670 (Adjusted $R^2 = 0.663$), which means that Internal Control (X2) and Accounting Information Systems (X1) together are able to explain 67.00% of the variance in Employee Performance.

Hypothesis Testing

Table 4. Path Coefficient

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (O/STDEV)	P values
Accounting Information System (X1) -> Employee Performance	0.269	0.261	0.111	2,422	0.015
Internal Control -> Employee Performance	0.616	0.626	0.103	5,993	0.000

Source: SmartPLS Data Processing (2026)

Hypothesized significant relationships can be tested using the bootstrapping method. The analysis results show that all direct relationships are positive and statistically significant ($p < 0.001$).

1. Accounting Information System > Employee Performance ($\beta = 0.269$; $t = 2.422$; $p < 0.015$). Accounting Information System rates have a positive and significant direct effect on Employee Performance.
2. Internal Control > Employee Performance ($\beta = 0.616$; $t = 5.993$; $p < 0.001$).
3. Internal Control has a positive and significant direct influence on Employee Performance.

Discussion Results

The Influence of Accounting Information Systems on Employee Performance

The results of this study show that Accounting Information Systems have a positive and significant impact on improving employee performance. This finding suggests that the higher the level of knowledge and use of Accounting Information Systems by employees in completing their work, the higher the level of employee performance within the company. Therefore, the first hypothesis (H1) is accepted.

The results of this study are also in line with research conducted by Yuliana Dewi Claudia Oba, Fransiskus Randa, and Maiercherinra Daud (2024), as it can be concluded that the implementation of Accounting Information Systems has a positive and significant effect on employee performance. This indicates that the better the implementation of Accounting Information Systems in an organization, the better employee performance. Accounting Information Systems can help employees obtain and process the information needed to carry out their work more effectively and

efficiently. The study also shows that internal control and work motivation have a positive and significant effect on employee performance. Together, the implementation of Accounting Information Systems, internal control, and work motivation can explain 68.3% of the variation in employee performance.

The results of this study are also in line with research conducted by Izam (2024) regarding the influence of Accounting Information Systems and human resource quality on employee performance at financial institutions using PT. USSI Mandalika Digital software in NTB. The results of the study indicate that Accounting Information Systems have a significant effect on employee performance. This is evidenced by the calculated t-value of 2.899, greater than the t-table of 1.980, with a significance value of $0.005 < 0.05$. Thus, the hypothesis stating that Accounting Information Systems have an effect on employee performance can be accepted. These results indicate that the implementation of Accounting Information Systems used by employees can support work implementation and contribute to improving employee performance.

The Influence of Internal Control on Employee Performance

The results of the study show that Internal control has a positive and significant effect on employee performance. Therefore, the second hypothesis (H2) is accepted. These results indicate that the better respondents perceive the implementation of internal control within an organization, the better employee performance. Effective internal control can help ensure that work is carried out according to procedures, reduce errors and deviations, and increase employee effectiveness and efficiency.

The results of this study align with research conducted by Krisdanu Purwana, Rita Yunita Resmi, and Lia Nurhasanah (2024) on internal control systems. The results showed that internal control significantly impacts employee performance. This suggests that implementing good internal control can improve employee performance in carrying out their duties and responsibilities. Effective internal control can provide clarity on work procedures, improve oversight, prevent errors and irregularities, and ensure that operational activities are carried out in accordance with established regulations. Therefore, the better the internal control system implemented in an organization, the better the employee performance.

However, the results of this study are inconsistent with research conducted by Dewi Zulvia and Riva Sababalat (2025), which showed that the internal control system did not significantly influence employee performance. This result is evidenced by the calculated t-value of -0.869, smaller than the t-table of 2.037, and a

significance value of $0.391 > 0.05$. Thus, this study indicates that the implementation of the internal control system has not been proven to have a significant impact on employee performance.

CONCLUSION

This study shows that Accounting Information Systems have a positive and significant impact on employee performance. This means that the better the implementation of Accounting Information Systems in a company, the higher the employee performance. The implementation of Accounting Information Systems that provide accurate, relevant, and timely information can help employees complete their work more effectively and efficiently. Therefore, Accounting Information Systems are a crucial factor in improving employee performance. Internal control also has a positive and significant impact on employee performance. This shows that the better the implementation of internal controls within a company, the better employee performance. Effective internal controls can provide clarity regarding tasks and responsibilities, improve oversight, reduce errors and irregularities, and ensure work is carried out in accordance with established procedures. Therefore, internal controls are a crucial factor in supporting improved employee performance.

Overall, an Accounting Information System and internal controls are crucial factors in improving employee performance. Optimal implementation of these two variables can help companies create more effective, efficient, focused, and accountable work processes. With a sound Accounting Information System and effective internal controls, employees can more effectively carry out their duties and responsibilities. This research provides theoretical implications by strengthening the study of factors influencing employee performance, particularly through the implementation of Accounting Information Systems and internal control. Empirically, this study provides evidence that improving the quality of Accounting Information Systems and the effectiveness of internal control can support improved employee performance. Therefore, companies need to improve the quality of the information systems they use and strengthen the implementation of internal control to continuously improve employee performance.

Based on the research findings, several suggestions can be proposed. First, PT Otomotif is expected to continuously improve the implementation of its Accounting Information System by ensuring that the information generated is accurate, relevant, timely, and easily understood by employees. Regular system maintenance and updates are also necessary to support operational needs and enhance employee effectiveness and efficiency. Second, employees are encouraged to improve their

discipline, accuracy, responsibility, and ability to operate the Accounting Information System, while consistently complying with established internal control procedures to ensure that tasks are performed effectively and accountably. Finally, future researchers are encouraged to expand this study by incorporating other variables that may influence employee performance, such as competence, work motivation, work discipline, work environment, organizational culture, and job satisfaction. Further studies could also involve larger samples and additional companies across different industries to provide more comprehensive insights into the factors affecting employee performance and improve the generalizability of the findings.

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