
Literature Review: Analyzing the Effectiveness of Payroll Accounting Information Systems in an Effort to Improve the Company's Internal Control

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Received: April, 2025; Accepted: April, 2025; Published: June, 2025

Permalink/DOI:

Abstract

This study aims to analyze the effectiveness of the payroll accounting information system in improving the company's internal control. The main focus is how the system can minimize errors, improve payroll accuracy, and prevent fraud in the wage payment process. The method used is a literature study with a qualitative approach. Data were obtained from 10 scientific articles for the period 2017-2023 that discuss the implementation of payroll accounting information systems in various companies in Indonesia. The study results show that most companies have implemented payroll accounting information systems effectively, especially those that have utilized digital technology and implemented structured procedures. However, there are still some companies that face obstacles such as the lack of digitization, duplication of functions, and the absence of integration between the attendance and payroll systems. These findings confirm the importance of system integration, separation of functions, and digitalization in supporting the effectiveness of payroll systems and strengthening the company's internal control.

Keywords: *Accounting Information Systems, Payroll Accounting, Internal Control*

INTRODUCTION

Accounting information systems (AIS) in a company or business entity play an important role in supporting business processes, including in managing employee payroll. The purpose of the information system is to provide accurate and relevant information to users in a timely manner to assist management in making effective and efficient decisions, (Kustiwi, 2024). According to (Romney & Steinbart, 2014), a good information system must be able to provide accurate and reliable data to support managerial decisions and ensure compliance with company

policies and regulations. Therefore, at least the accounting information system has an important role in the entity, namely to collect and store transaction data, process the transaction data, as well as control assets and the basis for strategy formulation by management, (Agatha & Mulyadi, 2018).

(Prisna & Kusmilawaty, 2022) revealed that the payroll accounting system covers various aspects related to employee salary management, including the classification of the system. Its implementation helps minimize errors and abuse that can harm the company, whether intentional or not. In addition, this system plays a role in maintaining the smooth operation of the company by increasing financial control and preventing fraud. (Ekawati & August Goenawan, 2022) emphasize that if the payroll accounting system is not managed properly and does not follow established procedures, the salary calculation can be inaccurate. This can lead to employee dissatisfaction, which in turn negatively affects their productivity and potentially costs the company.

An effective payroll accounting information system can not only improve operational efficiency, but also strengthen the company's internal control in preventing errors and fraud related to salary payments. Internal control is one of the most crucial aspects in maintaining an organization's financial transparency and accountability. Internal control will not be effective without a control environment (Ratnawati et al., 2023). The control environment in an organization serves as the foundation for the payroll accounting information system, by ensuring that every payroll process is carried out transparently, safely, and according to regulations. An effective payroll accounting information system can reduce the risk of recording errors, data manipulation, and fraud or fraud that often occurs in the wage payment process. (Hall, 2007) explains that strong internal control can increase stakeholder confidence in the company's financial integrity. This includes the payroll system. Therefore, an in-depth analysis is needed regarding the effectiveness of the payroll accounting information system in order to minimize risk and increase company accountability.

By referring to relevant theories and empirical evidence from previous studies, this study was conducted with the aim of knowing how an accounting information system, especially in the employee payroll process, can improve the internal control of a company. In this context, the study was conducted by collecting and analyzing data from 10 articles from research journals for the period 2017 to 2023. Through the literature study used, this research also aims to find out the important components in the employee payroll accounting information system and evaluate how the implemented system can improve the company's internal control. This research contributes, namely increasing the literature related to the relationship between the employee payroll accounting information system and the internal control of a company. Not only that, this research provides several references and evaluations to companies in implementing their payroll accounting information systems.

Payroll Accounting Information System

Payroll Accounting Information System is part of an accounting information system that functions to manage the entire payroll process from

recording attendance, calculating salaries, to reporting and paying employees (Romney & Steinbart, 2014). Payroll AIS aims to ensure that the payroll process runs accurately, efficiently, and in accordance with company policies and applicable laws and regulations. With a good Payroll AIS implementation, companies can reduce the risk of errors and fraud that can occur during the payroll process.

According to (Mulyadi, 2023), this system consists of procedures, including: Procedures for recording time attendance, procedures for making payroll, procedures for distributing salary costs, procedures for making proof of cash out, and procedures for paying salaries. Meanwhile, the functions involved in Payroll AIS include: staffing function, time recording function, accounting function, and finance function. These functions must be differentiated between departments, there should be no duplication of functions or tasks in the company's operational processes.

Information System Effectiveness

Information system effectiveness is a measure of the extent to which the system is able to achieve predetermined goals by optimally utilizing existing resources (Laudon & Laudon, 2020). In the context of Payroll AIS, effectiveness is measured by the system's ability to produce accurate, timely, and reliable payroll data that supports decision making and operational control.

Internal Control

According to (COSO, 2013), internal control is a process by which the board of directors, management, and other personnel provide reasonable assurance regarding the achievement of organizational objectives in terms of financial reporting reliability, regulatory compliance, and operating effectiveness. Internal control includes five main components: control environment, risk assessment, control activities, information and communication, and monitoring.

Relationship between Payroll AIS and Internal Control

An effective payroll accounting information system can strengthen a company's internal controls by providing accurate and timely information, minimizing errors and fraud, and facilitating clear segregation of duties and authorizations (Hall, 2007). For example, the use of electronic attendance systems and payment of salaries by bank transfer can reduce the risk of data manipulation and misuse of funds.

Factors Affecting the Effectiveness of Payroll AIS

Some factors that affect the effectiveness of payroll accounting information systems include:

- a. Technology used: Systems based on modern information technology tend to be more effective in processing payroll data (O'Brien & Marakas, 2010);
- b. Human resources: The competence and training of staff who manage the system determine the success of the Payroll AIS implementation (Romney & Steinbart, 2014);
- c. Procedures and policies: The existence of clear procedures and strict internal control policies will support the effectiveness of the system (COSO, 2013); and

- d. Internal monitoring and audit: Regular monitoring and evaluation help identify weaknesses and improve the system, (Hall, 2007).

METHOD

This research uses a qualitative method with a literature study approach. Qualitative methods emphasize an in-depth understanding of a phenomenon through non-numerical data analysis. Meanwhile, the literature study was conducted by collecting data and information from various written sources such as scientific articles and books relevant to the research topic. The data in this study were obtained from journal articles that discuss similar topics, with a focus on companies in Indonesia as a sample. The data sources were 10 journal articles. The data analysis technique used is to analyze how the effectiveness of accounting information systems, especially in the payroll system, can improve the internal control of each company.

RESULTS AND DISCUSSION

Results

In the results section of this literature review analysis, the findings obtained from analyzing 10 scientific articles related to the effectiveness of payroll accounting information systems in various business entities in improving company internal control are presented.

Table 1. Literature Review Analysis Results

No.	Title	Year	Researcher	Results
1.	Analysis of the Effectiveness of Payroll Accounting Information System Employees at PT Golden Rooster Indonesia	2017	Meila Sari	The employee payroll Accounting Information System implemented by PT Golden Rooster Indonesia matches the existing payroll system theory. The procedures have been implemented properly and the company also makes the records needed for the system, namely in the form of journals to ledgers. Payroll documents have also met the payroll accounting system standards. The current accounting system function of PT Golden Rooster Indonesia works well and makes the payroll system more efficient and effective because it has been computerized.
2.	Analysis of the Accounting Information System for Payroll and Wages at PT Batik Arjuna Cemerlang	2018	Christina Kurnia Agatha & Mulyadi	The employee payroll Accounting Information System by PT Batik Arjuna Cemerlang Sukoharjo shows that the implementation of the payroll and wage accounting information system is in accordance with and fulfills the rules set by the company but is still not effective. The functions and procedures for paying employee

	Sukoharjo			salaries in the payroll system of PT Batik Arjuna Cemerlang Sukoharjo have been carried out quite well, as well as the supervision process. However, the company's Payroll AIS is still not effective because the general journal and ledger are still compiled manually. Likewise, the attendance process and the provision of salaries to employees. In addition, in this system there are also still duplicate tasks between the procedure for making a list of salaries and wages and paying salaries and wages carried out by the finance department, which should be done by the cashier.
3.	Analysis of the Effectiveness of the Employee Payroll Accounting Information System at PT. Kerismas Witikco Makmur Factory Bitung	2019	Maya Ariesti Vinastri, Jenny Morasa, Sonny Pangerapan	The employee payroll Accounting Information System by PT Kerismas Witikco Makmur is actually quite well implemented. The entire payroll process, from procedures carried out by the personnel and finance department to the use of accounting documents and records, is under internal supervision and control to ensure compliance and accuracy during its implementation. However, there are still shortcomings in the process, such as the system is still run manually, there is no specific computerized system. In addition, there is also no separation of functions between recording and determining employee salaries and there is no procedure for distributing salary and wage costs to each department which makes the payroll system experience delays.
4.	Analysis of Payroll Accounting Information System to Improve Internal Control Effectiveness at PT Gamma Utama Sejati	2020	Bella Natalia	The employee payroll Accounting Information System by PT Gamma Utama Sejati has been carried out effectively. Internal control in the payroll system has been carried out according to company operational standards. The company's Payroll AIS has developed by no longer using salary envelopes because salary payments have switched to transferring to each employee's account. However, employees still

				have documents in the form of pay slips in which there are details of the salary received by each employee. Then one of the elements of internal control in the form of entering attendance cards that need to be supervised by a party has also not been carried out because PT Gamma Utama Sejati has used fingerprint attendance which will be computerized and recorded by the system.
5.	Analysis of the Effectiveness of Payroll Accounting Information Systems at PT Prima Multi Termi	2022	Fitri Handayani & Kamilah K.	The employee payroll Accounting Information System by PT Prima Multi Terminal is quite good because the company already uses a computerized system. There is already a separation of functions and no duplication of duties. However, the documents used are still not appropriate even though this company already uses a computerized system. Procedures in the payroll and wage system at PT Prima Multi Terminal are still inappropriate because the attendance list system is not included in the payroll calculation, internal control related to the payroll and wage process is good, this can be seen in several payroll activities that are carried out separately in each division until they reach their respective employee accounts.
6.	Analisis Efektivitas dan Efisiensi Sistem Informasi Akuntansi Penggajian Karyawan pada PT. Tani Cemerlang	2022	Ririn Fauziya Ilmi, Anik Malikah, & Hariri	The employee payroll Accounting Information System by PT Tani Cemerlang has implemented the main elements of the payroll system (organizational structure that separates functional responsibilities, authority system, recording procedures, and healthy practices in the payroll and wage system) so that the company's Payroll AIS is well implemented. There is only one weakness, namely the absence of work time cards. However, the attendance book has shown employee work time cards so that healthy practices in carrying out the duties

				and functions of each section have been implemented properly at PT Brilliant Farmer. Therefore, it can be concluded that the payroll system at PT Tani Cemerlang is less effective.
7.	Analysis of the Effectiveness of Employee Payroll Accounting Information System at PT Perkebunan Nusantara III Kebun Bandar Selamat	2023	Siti Nur Adillah & Arnida Wahyuni Lubis	The employee payroll Accounting Information System by PT Perkebunan Nusantara III shows that the functions or parts involved in the procedures used in payroll are good, each procedure is scrutinized for correctness and suitability before proceeding to the next payroll procedure. The documents used are good in supporting payroll at PT Perkebunan Nusantara III because it already uses a computer-based payroll system. Employee attendance cards at PT Perkebunan Nusantara III have used fingerprints. However, there are external obstacles to the company that are difficult for the company to control, namely a slow network because PT Perkebunan Nusantara III is located in a rural area.
8.	Analysis of Employee Payroll Accounting Information System in Internal Control Efforts at PT Jaya Sampurna Konstruksi	2023	Niendya Zelly Agustina & Cholis Hidayati	The employee payroll Accounting Information System by PT Jaya Sampurna Konstruksi is still ineffective. The procedure for recording employees in the payroll procedure is only in the form of an employee attendance list which is filled in manually by the general administration department. Employees do not fill in the attendance list directly, the administration only records employee attendance based on attendance without a list of hours in and out. This can lead to manipulation of employee working hours due to lack of direct supervision from superiors. The internal control system at PT Jaya Sampurna Konstruksi has not been running well, where there are still duplicate tasks, namely in the attendance recording section in charge of recording employee attendance while calculating

				employee salaries and paying employee salaries. Healthy practices are also not running well. Where no checks have ever been carried out on existing functions. The authorization system at PT Jaya Sampurna Konstruksi for recording employee overtime lists is not authorized by the personnel department.
9.	Analysis of Payroll Accounting Information System in Efforts to Effectiveness of Internal Control at PT Air Minum Giri Menang	2023	Satria Rizki Rahman, Baiq Anggun Hilendri L, & Nurabiah	The employee payroll Accounting Information System by PT Air Minum Giri Menang (Persero) has been running quite well and effectively. Starting from the documents produced, related functions, accounting records, payroll and wage procedures, internal control in terms of organizational structure, authorization system, recording procedures and healthy practices are in accordance with existing theories and company provisions. The company PT Air Minum Giri Menang (Perseroda) has a payroll accounting information system that supports internal control of payroll because it shows accountability for the separation of functions on the authorized parties and otherwise provides authorization for all transactions that occur in the company. The computerized payroll system is effective enough to help the internal control element. In addition, the company has utilized technology in the implementation of payroll which makes work easier, this system also reduces fraud in employee payroll activities so that the rights and obligations of employees and companies can be carried out in a balanced manner and applicable regulations.
10.	Analysis of the Effectiveness of Employee Payroll Accounting Information	2023	Sa'diyah Nurshabrina Umar, Mahdalena, & Ayu Rakhma Wuryandini	The employee payroll Accounting Information System by PT Indotruck Utama Gorontalo has not used a system, so the payroll process is computerized but only processed through Microsoft excel. And regarding the analysis of the

Systems at PT Indotruck Utama Gorontalo	effectiveness of the employee payroll accounting information system at PT Indotruck Utama Gorontalo that all elements related to the employee payroll accounting information system in the company have been implemented properly and in accordance with existing theories. This means that the employee payroll accounting information system at PT Indotruck Utama Gorontalo has been effective.
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Source: data processed by the researcher

Discussion

Through this discussion, it is described how the effectiveness of the companies was raised by previous researchers. Based on the results that have been obtained from the 10 articles that have been presented, there are some gaps in research results from one article to another.

6 out of 10 previous research results show companies that have been able to implement their payroll accounting information systems effectively. The effectiveness of Payroll AIS in a company depends on several main factors. As found in research by (Sari, 2017) which states that payroll procedures are in accordance with the implemented system because they are entirely computerized. The results of research by (Adillah & Lubis, 2023) and (Natalia, 2020) also show that a computerized or digital-based payroll system can increase efficiency in the payroll process because salary payments can be made directly through transfers to employee accounts and for recording attendance only need to use a fingerprint. Procedures and supporting documents have also been integrated with the system, allowing faster and more accurate access to payroll data. In addition, research by (Vinastri et al., 2019) emphasizes the factor of control and supervision during the payroll process. Furthermore, the results of (Rahman et al., 2023) highlight the employee payroll computerization system that is in accordance with applicable regulations. The use of the system can provide benefits to the company in the form of preventing fraud that may occur within the company so that the company's internal control remains controlled. Although in some cases, as shown by the research of (Umar et al., 2023) that the Payroll AIS of the company studied is still simple computerized with the use of Microsoft Excel without a special system, effectiveness can still be achieved by implementing clear and structured procedures.

The results of the above research indicate that companies that implement payroll accounting information systems effectively have been able to improve their efficiency and internal control. The use of technology in digital recording and computerized payment procedures is generally an important factor in the success of this system. However, not all companies can implement this system optimally. Research by (Agatha & Mulyadi, 2018) shows that although the payroll accounting

information system has been running in accordance with company criteria, there are still obstacles that hinder its effectiveness, such as the existence of duplicate tasks that have the potential to reduce work efficiency. In addition, employee attendance and payroll records that have not been computerized show that there are still discrepancies in the system, which can increase the risk of errors. According to (Handayani & Kamilah, 2022), the payroll system that has been implemented by the company is quite good, but still faces problems in integrating attendance data. The employee attendance list system that has not been directly connected to payroll causes document mismatches, even though the company has implemented a computerized system.

Research that reveals the ineffectiveness of Payroll AIS implementation is also seen in the research findings by (Ilmi et al., 2022) where the effectiveness of the payroll system is still constrained by employee attendance due to the absence of computerized employee time cards. The absence of digital work time cards causes the recording of working time to be less integrated with the system, even though the employee attendance register book still records information related to working hours. This deficiency can have an impact on the inaccuracy in calculating salaries and controlling company operations. (Agustina & Hidayati, 2023) also found that the payroll system implemented still uses manual methods. Employees' work hours are not recorded by the administration department, but only through general attendance, which has the potential to increase the risk of inaccuracy in calculating salaries. In addition, the absence of authority for the personnel department to record overtime hours causes limitations in supervision and control of additional wage payments.

According to researchers, one of the company's good internal controls can be seen from the implementation of information systems that are integrated with each other. Including one of them integration with the payroll accounting information system. Researchers found that some companies already have an effective and efficient payroll accounting information system, but there are also companies that use other payroll accounting information systems, for example using excel so that there is data that is not integrated in the system, for example recording related to employee working hours. From the existence of unintegrated data, it will be able to cause fraud, both in terms of time corruption and fraud in overtime activities that do not match reality. Therefore, comprehensive system integration is very important to support data accuracy, process efficiency, and strengthen company internal control.

CONCLUSION

Companies that have successfully implemented payroll accounting information systems properly and effectively show increased transparency, accuracy, and efficiency in payroll management. Thus, the success of the payroll accounting information system in improving the company's internal control is strongly influenced by alignment with standard procedures, supervisory effectiveness, technology utilization, and risk prevention mechanisms implemented by the company. Conditions that cause payroll accounting information systems to

be less effective are often caused by the lack of digitization in recording working hours, payroll methods that are still manual, and weak data integration between attendance and payroll systems. Without a computerized and well-controlled mechanism, the payroll system is at risk of inaccuracy, document mismatches, and weaknesses in the company's internal control.

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