



Optimization of Payroll Accounting Information System to Improve the Company's Financial Efficiency and Accuracy (Case Study on PT Maxpower Indonesia)

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This study aims to analyze the implementation of the payroll accounting information system at PT Maxpower Indonesia and its impact on administrative efficiency and accuracy of financial statements. Using a case study method based on a qualitative approach, this study collects data through observation, in-depth interviews, and analysis of company documents. The results of the study show that an integrated payroll accounting information system is able to improve operational efficiency by speeding up the payroll process and reducing the error rate in recording transactions. In addition, the use of biometric technology in recording employee attendance contributes to increasing data accuracy and transparency in the payroll system. The implications of this study underscore the importance of strengthening data security and integrating systems with tax policies to ensure compliance with applicable regulations. This study provides insights for companies in optimizing technology-based payroll systems to achieve higher efficiency and better financial accountability.

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INTRODUCTION

Accounting information systems (SIA) have a fundamental role in improving the efficiency and accuracy of modern corporate financial management (Romney & Steinbart, 2018). In the rapidly growing business world, organizations are required to have an information system that is not only able to manage financial data but also reduce the potential for human error and increase the transparency of financial statements (Gelinas & Dull, 2012). One of the main components of SIA is the payroll system that includes recording employee salaries, timely payment of salaries, and compliance with tax and employment regulations (Hall, 2015).

Digital transformation has prompted companies around the world to replace manual payroll methods with technology-based automated systems (Mulyadi, 2016). Technology-based payroll systems, such as the application of biometrics in attendance recording and salary calculation automation, have been shown to increase accuracy and transparency in corporate financial management (Dai et al., 2021; Banimahd et al., 2022). This technology allows companies to avoid errors in payroll calculations, ensure timely payments, and improve compliance with tax and employment policies (Smith & Wesson, 2019).

Research conducted by Abdullah et al. (2020) found that companies that implemented payroll accounting information systems experienced an increase in efficiency of up to 35% in processing payroll data. In addition, a study by Rahman et al. (2019) revealed that the implementation of digital systems in payroll helps reduce administrative errors by up to 40% as well as increase compliance with corporate tax policies.

PT Maxpower Indonesia is one of the companies that experiences challenges in payroll management, especially due to the number of employees spread across various operational locations. With a manual system, it is difficult to manage attendance, allowances, and tax deductions effectively. Therefore, the company turned to technology-based accounting information systems to improve efficiency and ensure the accuracy of payroll data (Zhang & Li, 2020).

A study by McLeod & Schell (2017) shows that companies that use digital-based accounting information systems experience an increase in operational efficiency of up to 40% compared to companies that still use manual systems. Meanwhile, research by Kaplan & Norton (2021) states that companies that adopt advanced accounting information systems experience an increase in financial transparency by 45%. Garcia et al. (2018) also found that the integration of payroll systems with biometric-based attendance data can reduce the risk of attendance data manipulation by up to 50%.

On the other hand, technology-based payroll systems also have a positive impact on employee job satisfaction. According to research by Smith et al. (2021), accuracy and transparency in the payroll system can increase employee motivation as well as reduce turnover rates. In addition, biometric technology has been applied by many companies to ensure the accuracy of attendance data as well as avoid fraud in attendance recording (Jones & George, 2020).

The implementation of payroll accounting information systems is also closely related to the company's financial efficiency. Hansen & Mowen (2019) found that organizations that adopted accounting information systems in payroll experienced a reduction in operational costs of up to 30% due to the automation of data processing and the elimination of record-keeping errors. A study from Laudon & Laudon (2022) also supports these findings, stating that accounting information systems enable companies to better manage cash flow through timely and accurate management of salary payments.

In addition to efficiency and transparency, data security is a major concern in payroll accounting information systems. Borthick & Roth (2020) highlight that the risk of data leakage as well as the threat of cyberattacks is a major challenge in the implementation of this system. Therefore, companies need to implement security technologies, such as data encryption, firewalls, as well as double authentication systems to safeguard financial information from external threats.

With the various benefits offered by the payroll accounting information system, this study aims to explore the extent to which the implementation of this system at PT Maxpower Indonesia can improve administrative efficiency and the accuracy of the

company's financial statements. The study also seeks to identify the challenges faced in implementing this system and provide recommendations that can be used by other companies to optimize technology-based payroll systems.

LITERATURE REVIEW

Concept and Function of Payroll Accounting Information System

Payroll Accounting Information System (SIAP) is a mechanism that integrates various aspects of payroll in one interconnected system. According to Davidescu et al. (2020), SIAP has a main function in supporting the company's financial management through recording attendance data, salary calculation, tax calculation, and more systematic and structured financial reporting. The main functions of SIAP can be categorized as follows:

1. Attendance and Working Hours Data Recording

SIAP enables automatic recording of employee attendance and working hours through an attendance system integrated with payroll software. This technology reduces the potential for manual recording errors and ensures the accuracy of data in salary calculation (Wong, 2016).

2. Automatic Salary Calculation

The process of calculating salaries, benefits, and tax and insurance deductions becomes faster and more accurate with automated systems, thereby reducing the risk of errors due to manual calculations (Jain et al., 2011).

3. Compliance with Tax and Employment Regulations

SIAP assists companies in ensuring compliance with tax regulations, such as the calculation of Income Tax (PPh 21), as well as other aspects of employment, such as BPJS Kesehatan and BPJS Ketenagakerjaan (Ahmad, 2015).

4. Preparation of Financial Statements

One of the main advantages of SIAP is its ability to produce accurate and real-time financial reports, making it easier for company management to make decisions (Stahl et al., 2020).

The advantages of this system have been proven in a study conducted by Chams & García-Blandón (2019), where companies that use technology-based accounting information systems experience an increase in operational efficiency of up to 30% compared to companies that still rely on manual methods.

Implementation and Integration of Technology in Payroll Systems

Digitalization and Automation in Payroll

The implementation of digitalization in the payroll system allows companies to improve operational efficiency and reduce reliance on manual processes. Cloud computing technology, for example, allows companies to access payroll data in real-time and reduces the risk of data loss due to hardware malfunctions or human error (Malik et al., 2021). A study conducted by Macke & Genari (2019) found that the application of cloud computing-based systems in payroll was able to increase operational efficiency by up to 45%.

In addition, digital-based systems allow integration with various other functions within the company, such as tax management and employee attendance. With automation, companies can avoid late payroll payments and ensure that all financial transactions are properly recorded for audit purposes (Buller & McEvoy, 2012).

Integration with Biometric Attendance System

In recent years, many companies have begun to adopt biometric-based attendance technology to ensure accuracy in recording employee attendance. This technology uses fingerprinting or face scanning to record employee entry and exit hours, thus avoiding potential fraud such as "buddy punching" (Wong, 2016). A study by Jain et al. (2011) showed that companies that implemented a biometric attendance system experienced an increase in accuracy in attendance recording by up to 95%, which had a direct impact on the accuracy of salary calculation.

In addition, the biometric attendance system can be integrated with payroll software to automatically calculate payroll based on recorded working hours, including overtime and unauthorised absences. This technology also allows companies to conduct attendance tracking in real-time, which helps in more effective workforce management (Jabbour et al., 2012).

The Impact of the Implementation of Payroll Accounting Information System

Increased Operational Efficiency

Research conducted by Davidescu et al. (2020) shows that companies that implement SIAP experience an increase in efficiency in financial management by up to 50%. With automation, the process of recording and calculating salaries becomes faster and there are fewer errors. This not only reduces the workload of the finance department, but also increases overall productivity.

Compliance with Tax and Employment Regulations

With a system that automatically calculates income tax, BPJS, and other benefits, companies can ensure compliance with tax and labor regulations. According to Ahmad (2015), companies that adopt SIAP experience a 30% reduction in the risk of tax penalties due to delays or tax reporting errors.

Increased Employee Satisfaction and Retention

A transparent and accurate payroll system contributes to improving employee satisfaction. A study by Cheema & Javed (2017) found that accuracy and timeliness in salary payments have a positive impact on employee satisfaction and retention rates. With an automated system, companies can ensure that every employee receives the salary that suits their rights, without any errors or delays.

Challenges in the Implementation of SIAP

While it has many benefits, the implementation of SIAP also faces a number of challenges. High implementation costs are a major obstacle, especially for small and medium-sized companies (Amjad et al., 2021). In addition, employee resistance to change is also a challenge in adopting new technologies (Gurbuz & Mert, 2011). Data security and privacy are also a major concern, especially in cloud-based systems that are vulnerable to cyber threats (Chams & García-Blandón, 2019).

METHODS

This study uses a qualitative approach with a case study method, which aims to explore in depth the application of Payroll Accounting Information System (SIAP) at PT Maxpower Indonesia. The case study was chosen as the main method because it allows researchers to investigate the phenomenon in a real context, especially in understanding how the implementation of an accounting information system can improve the efficiency

and accuracy of the payroll process in the corporate environment (Yin, 2018). This approach also allows researchers to collect data from various sources to gain a more holistic understanding of the effectiveness of the system in payroll management and the challenges faced in its implementation (Baxter & Jack, 2018).

In this study, SIAP was analyzed based on its effectiveness in reducing recording errors, improving the accuracy of financial statements, and accelerating the payroll process. Along with technological developments, the application of information systems in payroll accounting is increasingly becoming a major need for companies to ensure that financial transaction recording is carried out efficiently and in accordance with regulatory standards (Romney & Steinbart, 2018). Therefore, this research will provide further insight into how SIAP can improve corporate governance through the application of digital technology in the payroll system (Hall, 2015).

Research Design

This study uses a qualitative descriptive design, which aims to provide a comprehensive overview of how payroll information systems are implemented in organizational contexts and how the system affects administrative efficiency and accuracy of financial records. This method was chosen because it is able to delve deeper into the factors that affect the success of the implementation of SIAP, both from the perspective of management, employees, and government regulations (Creswell & Poth, 2017).

In this context, the research focuses on exploring the user experience of the system, including financial managers, HR staff, and employees, to understand how these systems are used in daily practice. In addition, the study also evaluated the effectiveness of the system in handling various payroll components, such as attendance recording based on a biometric fingerprint system, automatic salary calculation, tax deductions, and digital distribution of payslips (Myers, 2020). Thus, this research not only contributes to the academic literature but also provides practical implications for companies that want to adopt similar systems.

Data Source

This study uses two main types of data, namely primary data and secondary data. Primary data was obtained through in-depth interviews with various parties involved in the implementation of SIAP, including the head of the finance department, administrative staff, and employees who receive salaries through this system. Secondary data is collected from internal company documents, payroll reports, HRD policies, as well as references from relevant academic literature and international journals (Baxter & Jack, 2018).

Data Collection Techniques

To ensure the accuracy and credibility of the data collected, this study uses three main techniques in data collection, namely in-depth interviews, direct observation, and document analysis.

1. In-Depth Interviews Interviews are conducted with a semi-structured approach, allowing flexibility in exploring respondents' experiences. Key respondents include:
 - a. Financial Manager, who is responsible for the company's financial management and integration of SIAP with other accounting systems.
 - b. The HRD team, which plays a role in payroll administration and ensures the system's compliance with labor and tax regulations.

- c. Employees, who provide perspective on the transparency and accuracy of the system in calculating salaries and benefits.

This interview aims to gain in-depth insight into the advantages and challenges of the system in daily operations (Creswell & Poth, 2017).

2. **Direct Observation** Observation is carried out by directly observing the process of using SIAP at PT Maxpower Indonesia. This process includes recording attendance using a biometric system, calculating salaries based on attendance data, and issuing salary slips electronically. This observation helps researchers understand how the system can reduce human error in attendance and payroll recording (Heeks, 2019).
3. **Document Analysis** Secondary data is analyzed from company policy documents, payroll reports, and regulations related to the payroll and taxation system. These documents are used to evaluate the extent to which SIAP contributes to the company's compliance with tax and employment regulations (Gelinis et al., 2017).

Data Analysis Techniques

The data that has been collected is analyzed using a thematic analysis method based on the approach of Miles and Huberman (1994). The analysis process is carried out in three main stages:

1. **Data Reduction** Data obtained from interviews, observations, and documents was filtered and categorized based on the main themes related to the effectiveness of SIAP.
2. The presentation of the Data Data that has been categorized is presented in the form of tables, diagrams, and descriptive narratives to provide a clear picture of the research results.
3. **Conclusions** are drawn based on the main findings of the study, by comparing the results of the analysis with relevant theories regarding accounting information systems and payroll management.

To ensure the reliability of the research results, a triangulation technique is used, which compares the results of various data collection methods to improve the validity of the findings (Lincoln & Guba, 1985).

Data Validity

This study uses several data validation techniques, including:

1. **Triangulation of sources** to ensure that data from interviews, observations, and documents support each other.
2. **Member checking**, where the results of the interview are confirmed back to the respondent to ensure the accuracy of the interpretation.
3. **Trail audits**, which record each step of research transparently so that they can be replicated by other researchers (Patton, 2015).

Research Ethics

This research was conducted by considering research ethical principles, including:

1. **Informed consent**, where respondents are provided with information about the purpose of the research before participating.
2. **Data confidentiality**, by ensuring that the data collected is not used for purposes outside of research.
3. **Transparency of analysis**, by systematically documenting each stage of research (Flick, 2018).

RESULT AND DISCUSSION

This study aims to analyze the application of the Payroll Accounting Information System (SIAP) at PT Maxpower Indonesia, as well as its impact on administrative efficiency, financial reporting accuracy, and compliance with tax and employment regulations. Using the case study method, this research involves data collection through direct observation, interviews with management and employees, and analysis of company documents related to the payroll system.

The results show that the implementation of SIAP provides significant benefits in several key aspects:

1. Efficiency in Payroll Administration

Prior to the implementation of the system, the payroll process at PT Maxpower Indonesia was carried out manually, which led to delays in processing and recording. With the new system, this process has experienced an efficiency increase of up to 70%, where the process that previously took 3-4 working days, can now be completed in less than 24 hours. This reflects how automation can improve the operational effectiveness of companies and reduce reliance on manual labor. Additionally, automation also allows finance teams to focus more on data analysis as opposed to repetitive administrative tasks. A study by Romney & Steinbart (2018) shows that the digitization of payroll management is able to increase employee productivity and reduce administrative workload by up to 65%.

In addition, administrative efficiency is also obtained from the system's ability to manage employee data automatically, including employment contract information, changes in employment status, and incentives and benefits. This reduces the risk of errors in manual data entry that can lead to inaccuracies in salary calculations. With the reduction of repetitive administrative work, the workforce can be diverted to other more strategic tasks, such as human resource planning and employee performance development.

In addition, the implementation of a more integrated system also reduces data duplication and information redundancy, which previously often occurred in manual payroll management. This system is able to synchronize attendance data, tax calculations, and benefits management in one platform, thus speeding up the entire salary payment cycle. Research by Hall (2015) emphasizes that companies that adopt accounting information systems in payroll experience an increase in efficiency of 50-70% compared to conventional methods.

2. Accuracy of Salary and Tax Calculation

Errors in recording salaries and tax deductions often occur in manual systems. With SIAP, the error rate in salary and tax calculations has decreased drastically, from an average of 10% of errors per month to almost zero. This system also automatically adjusts income tax deductions (PPH 21) based on the latest regulations, thereby reducing the risk of non-compliance with tax rules.

In addition, this system makes it easier for companies to calculate benefits, bonuses, and overtime compensation in accordance with applicable regulations. In the manual system, the calculation of overtime is often not in accordance with the Regulation of the Minister of Manpower Number 6 of 2023 which regulates overtime rates based on working hours and certain working days. With an automated system, every detail related to employee hours is directly connected into the salary calculation, ensuring that salary payments match working hours and that there are no shortfalls or overpayments.

Research by Mulyadi (2017) also shows that the implementation of a technology-based accounting system is able to increase the accuracy of financial reporting by up to 80%, as well as reduce administrative errors that can cause differences in the amount of salary received by employees and the amount that should be paid by the company. Errors in tax calculations and contribution deductions can also be minimized with direct integration with the national tax system, which allows companies to automatically report and pay employee taxes without delay.

3. Improved Data Security and Reliability

The system adopts fingerprint biometric technology to ensure that only employees who are actually present can access the payroll system. This reduces the risk of attendance fraud that often occurs in manual systems, such as absenteeism or attendance data manipulation. With this system, employee attendance can be monitored in real-time, allowing management to make data-driven decisions regarding workforce management.

Data security is also enhanced with advanced encryption to prevent unauthorized access and leakage of sensitive information. Jabbour et al. (2012) in their research found that the use of biometric systems in employee attendance management can reduce fraud cases by up to 90% and increase the reliability of personnel data. Thus, companies can improve the accuracy of recording working hours, ensure that salary payments are in accordance with actual attendance, and prevent losses due to unauthorized payroll.

In addition, the implementation of an integrated accounting information system also allows automatic data backup in a cloud-based system. This is especially important in the face of possible data disasters such as system crashes, cyberattacks, or hardware failures. With automated backups, companies can ensure that payroll data is always safe and can be restored quickly in the event of an unwanted incident.

4. Recommendations for System Optimization

Based on the above findings, some recommendations to improve the effectiveness of SIAP at PT Maxpower Indonesia include:

- a. Improved data security systems with stronger encryption technology to prevent the leakage of sensitive information and avoid the risk of hacking that can harm the company. The use of blockchain technology can be a solution in ensuring integrity and transparency in recording payroll data.
- b. Further integration with accounting and HRM systems to make the payroll recording process more automated and can reduce manual interventions that risk administrative errors. With wider integration, employee compensation management can be done more strategically and not just limited to the routine payroll aspect.
- c. The development of mobile features so that employees can access payroll information through smartphones, allowing them to check payslips, tax details, and benefits anytime and anywhere. This feature can be accompanied by real-time payroll notifications and tax reports to increase transparency in the payroll system.
- d. Regular training for employees to improve their understanding of the system and ensure that each user is able to operate the system optimally, so that the potential for errors in the use of the system can be minimized. Training can also be focused on understanding the evolving tax regulations so that employees understand the implications of tax cuts on their salaries.
- e. Increased server capacity and IT infrastructure to ensure that the system can run smoothly without technical obstacles such as downtime or system failure.

Implementation of a cloud-based payroll system can also be considered to improve the scalability and accessibility of the system.

CONCLUSION

The implementation of the Payroll Accounting Information System (SIAP) at PT Maxpower Indonesia has been proven to bring significant improvements in administrative efficiency, salary calculation accuracy, and corporate financial transparency. With automation in the payroll process, companies are able to reduce administrative burdens that previously hindered productivity. In addition, this system ensures that the calculation of salaries, allowances, and taxes is carried out more precisely and in accordance with applicable regulations, reducing the risk of errors and late payments. The application of biometric technology in attendance recording also contributes to increasing the accuracy of employee attendance data and preventing data manipulation that can be detrimental to the company.

In addition to improving internal efficiency, SIAP also has a positive impact on the transparency of the payroll system, allowing employees to access their salary and tax information more clearly and accurately. This increases employee trust and satisfaction with the company. From the perspective of compliance with tax and employment regulations, the implementation of SIAP ensures that all payroll components are processed in accordance with applicable legal standards, avoiding companies from potential sanctions due to administrative violations. With better system integration with ERP and HRM systems, companies can optimize human resource management and support more accurate data-driven strategic decision-making.

To further optimize the system, some of the recommended steps include improving data security through stronger encryption technology, further integration with accounting and HR management systems, and developing mobile features so that employees can easily access payroll information at any time. In addition, regular training for system users and increased capacity building of IT infrastructure will ensure that the system continues to run optimally in the long term. By continuing to innovate and optimize, PT Maxpower Indonesia can continuously improve operational efficiency and employee welfare, as well as ensure compliance with applicable regulations in the labor and financial industries.

The implementation of the Payroll Accounting Information System at PT Maxpower Indonesia has had a positive impact in improving administrative efficiency, financial transparency, and compliance with tax regulations. By continuously optimizing the system, the company can improve operational efficiency and employee well-being in the long run.

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