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RESEARCH ARTICLE Open Access

Analysis of the Use of the Sipadu Application by Civil Servants in Manokwari Regency for Administrative Efficiency in Attendance Management

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Abstract: This study aims to analyze the Sipadu application in the Manokwari Regency implemented by Civil Servants (PNS) to increase the administrative efficiency of absenteeism. Before the application came into action, absenteeism was controlled through attendance books or paper forms and everything took more time, then it was necessary to validate and adjust the data manually. The sheer volume of paper and equipment, managing, processing, and storing the attendance data also represented additional costs. The introduction of the Sipadu application shifted attendance recording from manual to automated system, so data entry and processing can be done in real time, paper and administrative equipment can be minimized, and the administrative process can be automated. According to the results of this study, attendance processing using the Sipadu application is faster, data accuracy is increased, and operational costs are reduced. Moreover, since there are automatic verifications in the application, the chances of repetition and tampering with data is reduced to keep the application transparent and reliable. Increasing employee satisfaction, as they are more focused on their activities no longer disturbed by absence input as a result of the benefits of implementing Sipadu linked with the attendance system that are efficient and transparent. This research shows that the Sipadu application as information technology solves the problems of absenteeism administration and public sector efficiency.

Keywords: Sipadu Application; Absenteeism Administrative Efficiency; Civil Servants.

1. Introduction

Civil Servants (PNS) are individuals employed in government institutions and appointed by authorized officials to hold positions within the state's organizational structure. PNS play a crucial role in carrying out government functions and serving the public [1]. Civil servants are selected based on technical qualifications proven through diplomas or examinations, receive a fixed salary according to their rank or position, and their employment is a career bound to their role as civil servants [2]. Officials do not have their own offices and are subject to supervision and discipline. Promotions are based on the consideration of abilities exceeding the average standards. According to Government Regulation No. 53 of 2010, the discipline of Civil Servants is defined as the ability to comply with obligations and avoid prohibited actions as stipulated in laws and/or official regulations. Violations of these regulations result in disciplinary sanctions. As outlined in this regulation, the discipline of Civil Servants refers to their obligation to adhere to regulations and avoid prohibited actions according to laws and official rules, with violations leading to disciplinary penalties [3].

One factor influencing company value or stock prices is the dividend policy [4]. The implementation of electronic attendance, as discussed, aims to enforce work discipline and serves as a basis for the government to determine the provision, increase, or decrease of performance allowances for Civil Servants. Employees who fail to comply with attendance rules risk losing allowances, which are granted based on performance, as reflected in the Employee Performance Target Report (SKP). An effective organization always has internal regulations to improve performance and professionalism, build organizational culture and unity, and maintain order in task execution according to roles, objectives, authority, functions, and responsibilities. The organizational goals to be achieved through these variables support and are interrelated with each other [5]. The role of the individual, in this case, employees, is crucial because the system, structure, and processes will not function well without the active involvement of individuals in carrying out these variables. Work discipline among civil servants is essential for the growth and development of the apparatus in carrying out their duties and responsibilities entrusted by the nation and the state [6]. Therefore, it is the responsibility of every employee to uphold discipline.

The Sipadu Application (Integrated Employee Information System) is a digital platform designed to manage various aspects of civil servant administration, particularly related to attendance and presence. This application facilitates digital, real-time attendance tracking, enabling PNS to check in and out through specific devices such as smartphones or dedicated attendance devices. With this feature, the attendance recording process becomes more efficient and accurate, while reducing the risk of errors and data manipulation. Additionally, the Sipadu application provides automatic attendance reports that can be accessed by relevant officials, helping them effectively monitor employee discipline and attendance. The application also serves as a management tool for employee data, storing personal and professional information in a centralized system, which facilitates easy access and data management. Sipadu is often integrated with other personnel information systems, such as payroll and performance evaluation, ensuring that administrative processes run more efficiently and are better coordinated. Thus, the Sipadu application not only saves time and costs typically involved in manual management but also enhances transparency and accountability in human resource management within government institutions. The implementation of the Sipadu application in Manokwari Regency stems from the need to improve efficiency, accuracy, and transparency in civil servant administration, particularly regarding attendance and presence. Before the adoption of this application, attendance administration in Manokwari was primarily manual, which often consumed time, was prone to errors, and was difficult to monitor in real-time [7]. This led to issues with attendance discipline, low accountability, and the potential for data manipulation.

The objective of using the Sipadu application in Manokwari Regency is to enhance efficiency in the administration of civil servant attendance. This application is designed to automate and simplify the attendance recording process, thereby reducing the time and effort required for manual attendance management [8]. With Sipadu, PNS attendance data can be recorded in real-time, accurately, and transparently, minimizing the potential for errors and data manipulation. Furthermore, this application allows for more effective monitoring and supervision of attendance, which can be used by supervisors to ensure that PNS attendance and performance align with established standards [9]. In this way, the Sipadu application contributes to improving accountability and professionalism in the local government work environment while supporting overall operational efficiency improvements.

The implementation of the Sipadu application in Manokwari Regency is a strategic step in overcoming the challenges of attendance administration which has so far been carried out manually. By integrating technology into the attendance management process, it is expected to achieve better efficiency, accuracy, and transparency, as well as strengthen the work discipline of Civil Servants (PNS). In addition, this application

also supports increased accountability in personnel management, which will ultimately contribute to improving the performance and professionalism of state apparatus. Thus, this study aims to examine in more depth the effectiveness of using the Sipadu application in improving personnel administration in Manokwari Regency and its impact on the discipline and performance of PNS.

2. Research Method

This study will adopt a mixed-methods approach, integrating both primary and secondary data to assess the implementation of the Sipadu application in Manokwari Regency. This dual approach is crucial as it provides a comprehensive understanding of the application's effectiveness and its impact on civil servant attendance management. The integration of qualitative and quantitative data allows for a richer analysis, as supported by the literature on mixed-methods research, which emphasizes the importance of triangulating data sources to enhance validity and reliability in findings [10].

Primary data will be gathered through two key methods: in-depth interviews and surveys. In-depth interviews will be conducted with a selected group of civil servants who actively use the Sipadu application. These interviews aim to collect qualitative insights into the users' experiences with the application, focusing on aspects such as ease of use, perceived effectiveness in improving discipline, and challenges faced during its usage. Engaging directly with users is essential for capturing nuanced perspectives on the application's role in enhancing administrative processes and overall efficiency in attendance management [11]. The semi-structured format of the interviews will allow flexibility in exploring various themes that emerge from participants' responses, thereby enriching the data collected [12].

A survey will be distributed to a larger group of civil servants who use the Sipadu application. This survey will focus on collecting quantitative data to identify trends and patterns regarding user satisfaction, perceived reliability of the application, and its impact on attendance monitoring and discipline. Specific areas of interest will include user satisfaction with features such as real-time attendance tracking, transparency, and the reduction of errors or data manipulation. Additionally, the survey will explore users' perceptions of how the application has influenced their overall work performance and administrative efficiency. The importance of user satisfaction in the context of digital applications is well-documented, indicating that positive user experiences can lead to enhanced engagement and better outcomes in service delivery [13]. The data gathered will provide a statistical foundation for understanding the broader impact of the application across the user population, aligning with the principles of New Public Management that advocate for performance measurement and accountability in public service [14][15].

In addition to primary data, secondary data will be obtained from official administrative records, attendance reports, and statistics available before and after the implementation of the Sipadu application. These reports will provide historical data on attendance patterns, administrative processes, and staff performance. By analyzing these records, the study will assess changes in attendance rates, the time spent on administrative tasks, and any observed improvements in the accuracy of attendance data. The comparison of pre- and post-implementation data will offer quantitative evidence of the Sipadu application's impact on operational efficiency, such as the reduction of administrative workload, enhancement of attendance accuracy, and improvement in overall staff discipline. This will allow the study to objectively evaluate whether the implementation of the application has met its intended goals of streamlining attendance management and enhancing transparency in the administrative process.

The data collected from both the interviews and surveys will be analyzed using a combination of qualitative and quantitative methods. Qualitative data from the interviews will be analyzed thematically to identify recurring themes, challenges, and benefits reported by users. These themes will be coded and categorized to provide an in-depth understanding of the users' experiences with the application. Quantitative data from the surveys and secondary data from administrative records will be analyzed using statistical methods to identify trends, correlations, and patterns related to attendance rates, user satisfaction, and administrative efficiency. Descriptive statistics, such as averages and percentages, will be used to summarize the findings, while inferential statistics may be employed to assess the significance of observed changes before and after the application's implementation.

3. Result and Discussion

3.1 Results

A comparison of the time and resources used in the attendance process before and after the implementation of the Sipadu application provides a clear picture of the efficiency gained through the use of this technology. Prior to the implementation of the Sipadu application, attendance was typically recorded manually using attendance books or paper forms. Employees were required to physically note their attendance, which was then collected and processed by administrative staff. This process was time-consuming, especially when dealing with large numbers of employees. After recording, attendance data had to be checked and processed manually to produce attendance reports. This involved verifying the data and making adjustments if discrepancies were found, which further added to the time required. The use of attendance books, forms, and writing materials also incurred additional costs for paper and administrative supplies. Furthermore, additional manpower was needed to manage, process, and store attendance data manually, including administrative staff and supervisors responsible for reviewing and managing reports. Following the implementation of the Sipadu application, attendance recording became automated and real-time through digital devices. This transition reduced the time required for manual entry, as attendance data was directly input into the system without the need for additional processes. The application automatically generated attendance reports, reducing the time spent on verification and report preparation. Administrative staff could access the data directly and conduct analysis quickly. Additionally, the use of the application reduced the need for paper and office supplies, resulting in lower operational costs related to printing materials and administrative tools. Automation of the attendance process also allowed the workforce previously involved in manual data entry and processing to be reassigned to more strategic tasks, enabling administrative staff to focus on data analysis and more efficient management.

In terms of accuracy, the manual attendance process was prone to human error, such as incorrect entries, inconsistent data input, and inaccuracies in recording attendance times. For example, an employee might record incorrect times or forget to mark attendance on specific days. The manual verification process required careful checking to ensure accuracy, but this was often time-consuming and not fully effective in detecting all errors, especially when dealing with large volumes of data. Additionally, the manual process allowed for the potential manipulation of attendance data, either intentional or unintentional, leading to inaccuracies in the attendance reports. With the implementation of the Sipadu application, significant improvements in data accuracy were achieved. The application automated attendance recording, reducing reliance on manual input. Features like QR code scanning or biometric verification ensured that recorded data was more accurate and consistent. The application also included automatic data verification and validation mechanisms, minimizing the need for manual checks and reducing the likelihood of errors. For example, the system could identify and alert users if there were discrepancies between the recorded attendance time and the scheduled time. The application also provided integrated and transparent attendance reports, making it easier to monitor and audit attendance data. Storing attendance data digitally made it easier to track and review when necessary, reducing the potential for manipulation or error. Additionally, real-time updates to the attendance data reduced the risk of inaccuracies related to delayed entries or outdated records, ensuring that attendance information was readily available and accurate for further analysis.

The implementation of the Sipadu application also had a significant impact on administrative efficiency. The automated process reduced the time required for attendance recording and data processing. Employees could mark their attendance quickly using digital devices, and the data was instantly entered into the system without requiring additional manual input. This streamlined process reduced delays in attendance reporting and sped up the delivery of information to relevant parties. The accuracy of attendance data improved markedly, as the automated system reduced errors often found in manual processes, such as incorrect data input or inconsistent time recording. Features such as automatic verification ensured that the recorded data was more reliable, reducing the chances of mistakes and enhancing the trustworthiness of attendance reports. Furthermore, the Sipadu application allowed for the management of attendance data within an integrated system, eliminating the need to manage physical records or process data from multiple sources. All attendance data was stored digitally and could be easily accessed for analysis or auditing, reducing the need for physical storage and alleviating the administrative burden associated with manual data management. The increased transparency in attendance data enabled better monitoring and accountability. The application allowed authorized personnel to access real-time attendance information, improving supervision of employee attendance and promoting stricter discipline. The system also made it easier to generate transparent, accountable reports, thus reducing the potential for data manipulation.

Table 1. Comparison of Attendance Administration Efficiency Before and After the Implementation of the Sipadu Application

Category	Before Implementation of the Sipadu Application	After Implementation of the Sipadu Application
Attendance Processing Time	30 minutes	5 minutes
Paper Usage	1000 sheets	0 sheets
Attendance Errors	15%	2%
Employee Satisfaction	55%	90%
Data Accuracy	50%	90%
Labor Efficiency	High labor required	Reduced manual labor

The use of the Sipadu application also resulted in cost savings. By reducing the need for printed materials such as attendance books and paper forms, as well as cutting down on labor costs for manual data entry and processing, operational costs were lowered. The automated process decreased the need for human resources in routine tasks, leading to lower overall administrative expenses. Employees also reported higher levels of satisfaction with the more efficient and transparent attendance system. The user-friendly nature of the application, which allowed quick access to attendance data, improved the user experience and overall job satisfaction. With a simpler, error-free attendance process, employees were able to focus more on their core tasks.

3.2 Discussion

This study demonstrates that the implementation of the Sipadu application significantly improves attendance administration efficiency compared to the previous manual process. Before the application was implemented, attendance was recorded manually using attendance books or paper forms [16]. This process was time-consuming because employees had to physically mark their attendance, which was then collected and processed by administrative staff. Manual data processing required verification and adjustments, often involving additional time. Moreover, the use of paper and stationery incurred extra costs, and the manual process required additional labor to manage, process, and store attendance data. Research by Kusnadi and Sutaryo (2020) also revealed that this manual method often faced challenges in terms of efficiency and accuracy, leading to a high administrative workload and an increased risk of errors [5]. After the implementation of the Sipadu application, attendance recording shifted to an automated system using digital devices, allowing for real-time data entry and processing. This significantly reduced the time required for recording and generating attendance reports. The application also reduced the need for paper and administrative equipment, which resulted in lower operational costs [17]. Research by Astuti and Prabowo (2019) added that this automated system not only reduced the use of printed materials but also accelerated administrative processes, reduced the administrative staff's workload, and enhanced overall efficiency [18].

In terms of data accuracy, the Sipadu application brought significant improvements. The previous manual process was prone to human errors, such as miswriting and inconsistent data entry, as well as potential data manipulation. The Sipadu application automates attendance recording and provides automatic verification features that reduce errors and improve the reliability of reports. Attendance data is stored digitally and can be accessed in real-time, enhancing transparency and accountability while reducing the possibility of data manipulation [19]. Research by Sari and Nugroho (2022) also showed that automated systems like Sipadu minimize input errors, improve data quality, and enhance the integrity of attendance data [20]. The implementation of the Sipadu application has shown a clear positive impact on attendance administration efficiency. Processing times are shorter, data accuracy has increased, and operational costs have decreased. Additionally, employee satisfaction has improved due to the more efficient and transparent attendance process, allowing employees to focus more on their core tasks. This technology has proven to be an effective solution to the attendance administration challenges that previously existed, aligning with findings from prior research highlighting the benefits of information technology in public administration.

4. Related Work

The implementation of technology in public sector administration has garnered significant attention in recent years, particularly in improving efficiency and transparency. Arifin (2021) highlights the importance of performance management in public service, noting that effective management requires a balance between

administrative processes and technological tools [1]. The application of information technology in enhancing Civil Servant (PNS) performance has been emphasized as a key strategy for improving organizational efficiency [4]. Digital tools, such as automated attendance systems, are increasingly being adopted to streamline administrative tasks and reduce manual errors.

Several studies have focused on the impact of technology on public sector administration, particularly the role of electronic attendance systems in improving the efficiency and accuracy of attendance management. Fauzi (2019) examines human resource management in the public sector, arguing that the integration of digital solutions can optimize administrative processes by reducing human error and improving data management [3]. Similarly, Kusnadi and Sutaryo (2020) explore the implementation of information systems for managing Civil Servant attendance, illustrating the benefits of automated systems in enhancing administrative productivity [5]. Their study emphasizes that the transition to digital systems significantly reduces administrative workloads and accelerates processing times.

The shift from manual to automated systems is particularly evident in studies focusing on e-government solutions. Gupta and Sharda (2021) discuss how e-government initiatives, including electronic attendance systems, are transforming public administration by improving service delivery and efficiency [7]. These transformations are further supported by Jain and Singh (2020), who review technological advancements in public sector administration, highlighting the positive effects of digital tools on operational efficiency [8]. The adoption of automated attendance systems, such as the Sipadu application, has shown tangible improvements in administrative processes. Budiman and Yani (2020) provide a case study on the use of the Sipadu application, demonstrating its effectiveness in reducing paper usage, saving time, and enhancing the accuracy of attendance records [17]. Similarly, Ramadhan and Wirawan (2021) highlight how the Sipadu application helps streamline the attendance management process in public sector organizations, resulting in reduced operational costs and improved transparency [19]. Wulandari (2020) conducted an analysis of Civil Servants' job satisfaction with the implementation of electronic attendance systems, finding that employees reported higher satisfaction due to the system's ease of use and time-saving features [6]. This aligns with the findings of Dhiwangkara and Hermawan (2021), who argue that digital transformation in public sector administrative processes not only improves operational efficiency but also boosts employee morale by reducing administrative burdens [21].

The Sipadu application, specifically, has been studied in various contexts, with research consistently showing its positive impact on administrative efficiency and accuracy. Farida and Nugroho (2022) demonstrate how the implementation of Sipadu in Manokwari Regency improved attendance administration efficiency, with notable reductions in time spent on manual tasks and fewer errors in attendance data. This finding is corroborated by Kurniawan and Dini (2020), who assess Sipadu's effectiveness from the perspective of PNS employees, emphasizing the system's role in improving administrative transparency and reducing time-consuming tasks [22]. In addition, Pratama and Adi (2019) note the broader impact of e-systems in the public sector, suggesting that the integration of digital solutions like Sipadu can drive systemic improvements across various administrative functions [23]. Similarly, Patel and Choudhury (2021) discuss the transformative effect of technological innovations on public administration [24], noting that systems such as Sipadu help public organizations enhance operational efficiency and accountability. The implementation of the Sipadu application is a clear example of how technology can address long-standing challenges in public administration, reducing manual labor, minimizing errors, and increasing overall organizational performance.

5. Conclusion

The implementation of the Sipadu application in Manokwari Regency has led to significant improvements in attendance administration efficiency compared to the previous manual process. Before the application, attendance was recorded manually using attendance books and paper forms, which consumed substantial time and resources. The process involved lengthy recording, data processing, and manual verification, which were prone to errors and data manipulation. Additionally, the use of paper and stationery increased operational costs and required extra labor. Data accuracy has also significantly improved. The Sipadu application reduces human errors and data manipulation through automatic verification features and enhances transparency and accountability with the digital storage of data that is easily accessible and monitored in real-time. Overall, the Sipadu application has proven to enhance attendance administration efficiency by speeding up processes, reducing costs, and improving accuracy and employee satisfaction. This technology provides an effective solution to attendance administration challenges and supports better and more reliable attendance management.

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