The Influence of E-Attendance Application (SIMPEG TVRI) on Job Satisfaction, Organizational Commitment, and Employee Performance at LPP TVRI North Sulawesi

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Abstract

This study examines the impact of the mobile-based E-Attendance application (SIMPEG TVRI) on job satisfaction, organizational commitment, and employee performance at LPP TVRI North Sulawesi. The research was motivated by frequent employee complaints regarding the application's technical performance and fairness, which were suspected to influence work outcomes. Using a quantitative approach and descriptive analysis, data were collected from 50 employees across various employment statuses and analyzed using Structural Equation Modeling (SEM) with Smart PLS 4.1.1. The results indicate that the E-Attendance system has a significant positive influence on job satisfaction and organizational commitment. However, it does not directly affect employee performance. Job satisfaction was found to significantly influence performance but did not significantly affect organizational commitment. Meanwhile, organizational commitment emerged as the strongest predictor of employee performance. These findings suggest that while digital attendance systems improve administrative efficiency, their effectiveness depends on how they are perceived and supported within the organizational culture. The study fills an important gap in the literature by showing that digital tools in public institutions must be integrated with human-centered management strategies to achieve optimal outcomes. Technology should not be viewed as a standalone solution but as part of a broader performance and engagement ecosystem. It is recommended that organizations like TVRI provide training, system support, and recognition to maximize the benefits of digital HR systems. These efforts will enhance not only system functionality but also employee motivation and institutional commitment.

Keywords: Smart PLS, E-Attendance Application, Employee Performance, TVRI

Introduction

In the era of rapid technological advancement, digital transformation has become not just a trend but a necessity for institutions and organizations aiming to increase their operational efficiency and human resource effectiveness. One of the crucial areas impacted by technological progress is employee attendance and performance monitoring. Traditional systems such as manual sign-ins and fingerprint-based attendance have shown limitations, particularly during times of crisis like the COVID-19 pandemic, which forced organizations worldwide to adopt contactless and

remote work solutions (Nanne et al., 2023; Mulyani, 2020). In response, numerous public and private sector institutions have transitioned to mobile-based attendance systems, which allow for real-time monitoring, reduced administrative workload, and greater transparency (Hakiim, 2014; Hermanto et al., 2019).

In Indonesia, one such initiative has been undertaken by the national public broadcaster, LPP TVRI, through the implementation of the E-Attendance system known as SIMPEG TVRI. This system utilizes geolocation-based smartphone technology to record employee attendance digitally and remotely within a specified radius from the office (Mora et al., 2020). The move to digital attendance aims to enhance employee discipline, streamline human resource data processing, and contribute to higher organizational productivity. However, despite its advantages, the implementation of E-Attendance systems has not been without controversy or challenges (Indah & Puspitasari, 2021). Complaints from employees regarding usability, technical malfunctions, GPS detection errors, and system manipulation using location-spoofing apps have raised concerns about the reliability and fairness of such systems (Khan et al., 2021).

The introduction of mobile-based E-Attendance systems is not merely a technological shift but also represents a fundamental change in organizational culture and employee accountability mechanisms. In modern HR management, technological tools must align with employee expectations and organizational goals to produce the desired outcomes (Mathis & Jackson, 2016). If not implemented effectively, these tools may instead reduce employee satisfaction, create a sense of distrust, and even demotivate the workforce (Dewi, 2013; Halim et al., 2014). Numerous studies have linked job satisfaction with performance, indicating that satisfied employees are more likely to perform better, contribute to innovation, and remain committed to the organization (Baraweri & Suharnomo, 2015; Nagar, 2012).

In the context of LPP TVRI North Sulawesi, the implementation of SIMPEG TVRI has had mixed reception. While management considers it a progressive step toward digital governance and improved accountability, employees have reported technical difficulties, limited responsiveness of the system, and inconsistencies in location tracking, which have, in turn, affected their daily workflow (Mora et al., 2020; Nanne et al., 2023). These operational issues potentially undermine the core objectives of the system to improve job performance and foster a committed, satisfied workforce. Furthermore, the existence of loopholes such as the ability to manipulate location data erodes the credibility of the system and raises ethical concerns regarding fairness and integrity in performance monitoring (Hermanto et al., 2019; Cahyani, 2019).

The effectiveness of any technological intervention in HR systems depends heavily on its ability to support key organizational outcomes: job satisfaction, organizational commitment, and ultimately, employee performance (Hair et al., 2021; Yunanto, 2014). Job satisfaction is a psychological state influenced by a variety of factors including work environment, management style, and the tools provided for task execution (Dewi, 2013). Organizational commitment, on the other hand, reflects the emotional attachment, loyalty, and involvement an employee has toward their organization (Allen & Meyer, 2013). Research has consistently shown that higher levels of satisfaction and commitment are positively correlated with better employee performance (Cahyani, 2019; Abdi et al., 2017).

Thus, understanding how the E-Attendance application influences these interrelated variables is critical for evaluating whether the digital transformation at TVRI is serving its intended purpose. Studies such as those by Indah & Puspitasari (2021) & Mora et al. (2020) have indicated that digital attendance systems can contribute to enhanced discipline and transparency, yet may also create resistance among users if not accompanied by proper training, clear policy guidelines, and technical support. This duality of outcomes underscores the importance of conducting empirical investigations to assess the real impact of such systems on employee experience and organizational performance.

Furthermore, the public sector in Indonesia faces unique challenges in adopting digital tools, including infrastructure limitations, uneven digital literacy, and bureaucratic inertia (Hair et al., 2021; Sarwono, 2014). The situation at TVRI North Sulawesi exemplifies these challenges, as technical inefficiencies in the E-Attendance system are exacerbated by the lack of real-time troubleshooting support and user feedback integration (Abdi et al., 2017; Hermanto et al., 2019). Consequently, a comprehensive assessment is necessary not only to measure system effectiveness but also to inform policy recommendations for sustainable digital governance in public institutions.

This study, therefore, seeks to bridge the gap between technological adoption and human performance outcomes by analyzing how the SIMPEG TVRI E-Attendance system affects job satisfaction, organizational commitment, and employee performance at LPP TVRI North Sulawesi. It addresses the urgent need for empirical evidence in guiding digital transformation efforts within government-affiliated institutions in Indonesia.

Methods

This study adopts a quantitative descriptive approach aimed at measuring and analyzing the impact of the E-Attendance application (SIMPEG TVRI) on job satisfaction, organizational commitment, and employee performance at LPP TVRI North Sulawesi. The choice of a quantitative approach is based on the objective nature of the variables involved, which require numerical analysis to identify relationships and influences among them. The study uses a cross-sectional design, which involves collecting data from a sample of respondents at a single point in time. This design is appropriate for understanding the current perceptions and attitudes of employees regarding the implementation of the E-Attendance application.

The population in this study consisted of all employees at LPP TVRI North Sulawesi, totaling 120 individuals. To determine the sample size, the researcher used Slovin's formula, which is commonly applied in social science research to calculate sample size when the population is known and a specific margin of error is accepted. With an error tolerance of 10%, the calculated minimum sample size was 21 respondents. However, to improve the validity and reliability of the results particularly considering the use of Structural Equation Modeling (SEM) via Partial Least Squares (PLS) the study increased the sample to 50 respondents. This larger sample size strengthens the robustness of the analysis and enhances the generalizability of the findings.

The sampling technique used in this research was stratified random sampling, where employees were grouped based on relevant characteristics such as employment status (permanent civil servants, contract employees, P3K, and non-civil servants), gender, and length of service. This

stratification ensured that the sample adequately represented the diversity within the population and minimized sampling bias.

The research involved the use of a structured questionnaire as the primary data collection instrument. The questionnaire consisted of closed-ended questions designed to measure four variables: (1) the use of the E-Attendance application (X1), (2) job satisfaction (X2), (3) organizational commitment (X3), and (4) employee performance (Y). Each variable was operationalized using multiple indicators, developed from validated instruments in prior studies and adapted to suit the organizational context of TVRI. Responses were recorded using a 4-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree" to capture the degree of respondent agreement without a neutral midpoint, encouraging more decisive responses.

Once collected, the data were inputted and cleaned using Microsoft Excel before being analyzed using Smart PLS version 4.1.1. This software was selected due to its suitability for complex models and small-to-medium sample sizes, particularly when data do not meet the assumption of multivariate normality. The analysis followed the standard SEM-PLS procedure, which includes evaluation of the measurement model (outer model), structural model (inner model), and hypothesis testing.

The outer model evaluation assessed the reliability and validity of the indicators through three key tests: convergent validity, discriminant validity, and composite reliability. Convergent validity was confirmed when loading factors exceeded 0.6, indicating that indicators were sufficiently correlated with their respective constructs. Discriminant validity was tested using cross-loadings and the Fornell-Larcker criterion, ensuring that constructs were distinct and non-redundant. Composite reliability and Cronbach's Alpha values exceeding 0.7 further confirmed the internal consistency of the measurement instruments.

Next, the inner model evaluation was conducted to assess the relationships between the latent constructs. This involved calculating the R-squared (R^2) values for endogenous variables, which indicate the proportion of variance explained by the exogenous variables. In addition, path coefficients, t-statistics, and p-values were obtained through the bootstrapping resampling method (with 5000 samples) to test the significance of each hypothesized relationship. A t-value greater than 1.96 and a p-value less than 0.05 were used as thresholds for statistical significance at the 95% confidence level.

All analytical decisions from questionnaire design to data processing and interpretation—were grounded in best practices in quantitative research, guided by recommendations from scholars such as Hair et al. (2021) & Ghozali (2014). Ethical considerations were also observed, including ensuring respondent confidentiality, voluntary participation, and the secure storage of data throughout the study.

Results and Discussion

From the data of 50 respondents of TVRI North Sulawesi employees, the composition of respondents based on job class is 26 people or 52.5 percent with PNS status. As many as 23% or 12 respondents have PPNPN status (contract employees/Pramubakti), 8 respondents have P3K status or 16.4% of the total 50 respondents and as many as 4 respondents or 8.2% of employees

have PBPNS status or Non-Civil Servant Employees. According to the diagram results in Figure 1, employees with ASN or Civil Servant status are the largest respondents with a total of 26 respondents or 52.5 percent. The results of the analysis of respondent characteristics based on the length of time an employee has worked at TVRI North Sulawesi Station are shown in the Table and Figure below:

Table 1. Respondent Characteristics Based on Length of Service

Length of Service	Number of Respondents	Percentage (%)
1 – 5 years	15	29.5%
5 – 10 years	7	13.1%
10 – 15 years	12	24.6%
More than 15 years	16	32.8%
Total	**50**	**100%**

Descriptive Analysis of Questionnaire Results

Descriptive analysis of questionnaire results aims to explain how much respondents' perception in understanding each indicator through the questions attached to the questionnaire. Based on the results of the responses or answers to the questionnaire from each respondent, a descriptive analysis can then be carried out for each variable according to the information obtained from the questionnaire distribution location.

Descriptive Variables of E-Presence Application

E-Presence is a new breakthrough by TVRI in order to improve the quality of performance and monitor the fulfillment of the burden of all TVRI employees spread across each LPP TVRI in each province throughout Indonesia. Specifically, E-presence is a web-based, android, and mobile application to manage the presence or attendance and performance of all employees in determining employee wages or allowances. The table below will show the results of the responses to the responses from respondents, namely employees of LPP TVRI North Sulawesi Station, to each indicator in the questions or statements of the E-Presence Application (PTAE).
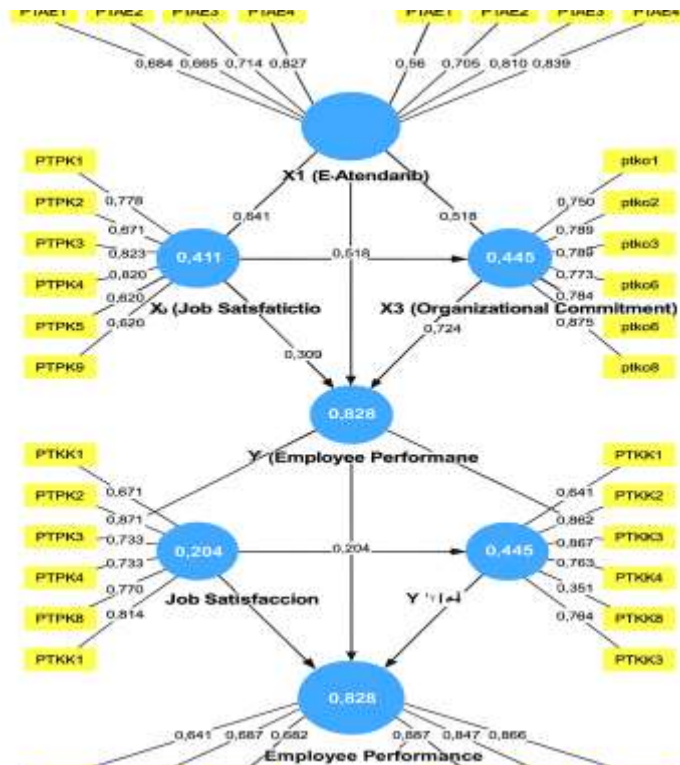
Figure 1. Structural Equation Model (SEM) Path Diagram of E-Attendance Impact

This diagram illustrates the relationships among four key variables: E-Attendance (X1), Job Satisfaction (X2), Organizational Commitment (X3), and Employee Performance (Y). The blue circles represent latent variables, yellow boxes are observed indicators with their factor loadings, and black arrows show the direction and strength of influence (path coefficients). The R² values within the circles indicate the proportion of variance explained in each dependent variable, highlighting that employee performance is most strongly influenced by job satisfaction and organizational commitment.

Table 2. Summary of Responses on E-Attendance Application (Variable X1)

Indicator	Strongly Disagree (1)	Disagree (2)	Agree (3)	Strongly Agree (4)	Total Responses
PTAE1	0	1	32	17	50
PTAE2	0	1	30	19	50
PTAE3	0	2	36	12	50
PTAE4	1	2	33	14	50
PTAE5	0	7	32	11	50
PTAE6	0	8	35	7	50
PTAE7	0	2	28	20	50
PTAE8	0	2	38	10	50
PTAE9	0	4	41	5	50
PTAE10	0	3	39	8	50
PTAE11	0	13	32	5	50

PTAE12	1	12	34	3	50
PTAE13	6	17	24	3	50
PTAE14	0	3	37	10	50
Mean %	5%	10%	65%	20%	

From the results of SEM-PLS data processing Stage 2 in the image and table above, it can be seen that all indicators are valid or have met the requirements of a loading factor value of more than 0.6. It should also be noted that in the data processing process to obtain valid loading factor values by eliminating indicators that do not meet 0.6 in the first stage, the PTPK7 (0.666) and PTPK8 (0.607) values also have an influence that tends to decrease the loading factor value which has a value almost below 0.6, so that in the completion of data processing stage 2, the PTPK7 and PTPK8 indicators also need to be removed.

Evaluation Results of Measurement Model (Outer Model)

Data processing in this study using SEM-PLS calculations on the Smart PLS 4.1.1 application. Data that has been filled in by respondents is combined in a CSV (Comma Separated Values) type data tabulation format. This data processing aims to determine the form of the model, loading factor, significance in each latent variable. Data processing using SEM-PLS requires repeated data running so that the validity and reliability values are met. There are 3 measurement criteria for assessing the Outer Model, namely Convergent Validity, Discriminant Validity, and Composite Validity.

Convergent validity with reflective indicators can be seen from the correlation between indicators and their construct values. Indicators with loading factor values in measurements with SEM-PLS are said to be valid/reliable if they have a correlation value above 0.7, however, for early-stage research from developing a measurement scale, loading values of 0.5 to 0.6 are considered sufficient (Chin, 1998 in Ghozali, 2014). However, if the value produced through the outer loading calculation process is not > 0.6, then the indicator is declared invalid and the indicator must be removed from the model so that the data processing (running data) must be carried out again.

Table 3. Average Variance Extracted (AVE) Values

Variable	AVE Value
X1 (E-Attendance)	0.523
X2 (Job Satisfaction)	0.636
X3 (Organizational Commitment)	0.598
Y (Employee Performance)	0.557

From the table above, it can be seen that the SEM-PLS data processing for the 2nd stage of testing produces an AVE value for each variable that can be stated as positive because it has met the requirements with a value of more than 0.5. This shows that the latent variable can explain more than 50% of the variance in the indicators. from Table 12, Table 13, and Figure 7 it can be concluded that all indicators and constructs in the model have met the Convergent Validity test criteria.

Furthermore, a discriminant validity test is carried out to test whether the indicators of a

construct are not highly correlated with indicators from other constructs. The discriminant validity of the measurement model with reflective indicators is assessed based on the cross loading of the measurement with the construct. If the correlation of the construct with the measurement item is greater than the size of the other constructs, it indicates that the latent construct predicts the size of the block better than the size of the other blocks. The following are the results of the loading and cross loading values from the results of the SEM-PLS data processing stage 2.

Table 4. Composite Reliability and Cronbach's Alpha

Variable	Cronbach's Alpha	Composite Reliability
X1 (E-Attendance)	0.917	0.925
X2 (Job Satisfaction)	0.904	0.906
X3 (Organizational Commitment)	0.916	0.916
Y (Employee Performance)	0.898	0.904

Structural Model Evaluation Results

The next step is to evaluate R^2, the explanation is the same as R^2 in linear regression where the magnitude of the endogenous variable can be explained by the exogenous variable. Chin (1998) in Sarwono (2014: p. 23) explains, "the criteria for the R^2 value limits are in three classifications, namely 0.67 as substantial; 0.33 as moderate and 0.19 as weak". Changes in the R^2 value are used to see whether the measurement of the exogenous latent variable on the endogenous latent variable has a substantive influence. From the results of SEM-PLS data processing stage 2, the R^2 value obtained is as follows.

Table 5. R-Square (R^2) Values for Endogenous Variables

Endogenous Variable	R^2 Value
Job Satisfaction (X2)	0.411
Organizational Commitment (X3)	0.445
Employee Performance (Y)	0.828

From the table above, it is shown that the employee performance construct can be explained by the variables of job satisfaction, and organizational commitment with a value of 0.828 or if in percentage of 82.8%, while the remaining 17.2% is explained by other variables from outside the research model. The table above also shows that the Job Satisfaction construct can be explained by 0.411% or 41.1% by the variables of organizational commitment and employee performance, while the remaining 58.9% is explained by other variables outside the research model.

Table 6. Hypothesis Testing Results

Hypothesis	Path Coefficient (β)	T-Statistic	P-Value	Conclusion
H1: X1 → X2 (E-Attendance → Job Satisfaction)	0.641	6.926	0.000	Accepted
H2: X1 → X3 (E-Attendance → Organizational Commitment)	0.518	2.790	0.006	Accepted

H3: X1 → Y (E-Attendance → Performance)	-0.024	0.239	0.812	Rejected
H4: X2 → X3 (Job Satisfaction → Commitment)	0.204	0.906	0.367	Rejected
H5: X2 → Y (Job Satisfaction → Performance)	0.309	3.879	0.000	Accepted
H6: X3 → Y (Commitment → Performance)	0.724	7.567	0.000	Accepted

The results of the hypothesis testing show that the use of the E-Attendance application (SIMPEG TVRI) has a significant positive impact on both job satisfaction and organizational commitment among employees, confirming H1 and H2. However, the application does not have a direct influence on employee performance, as indicated by the rejection of H3. Interestingly, job satisfaction does not significantly affect organizational commitment (H4 rejected), suggesting that other factors may influence employee loyalty. On the other hand, job satisfaction does have a meaningful and positive effect on employee performance (H5 accepted), indicating that satisfied employees tend to perform better. Most notably, organizational commitment was found to have the strongest and most significant impact on employee performance (H6 accepted). These findings suggest that while the E-Attendance system may not directly boost performance, it plays an important indirect role by enhancing job satisfaction and organizational commitment, both of which are key contributors to improved employee performance especially commitment, which stands out as the most influential factor.

Technological tools alone are insufficient to drive performance

Although the adoption of digital attendance systems such as SIMPEG TVRI was designed to streamline attendance tracking and promote employee discipline, the findings of this study indicate that the mere presence of such a system does not automatically translate into improved employee performance. The insignificant relationship between the E-Attendance application and performance (H3 rejected) demonstrates that technology while important is not a standalone solution for performance enhancement. This aligns with the argument by Hair et al. (2021) that technological interventions must be complemented by organizational infrastructure, including user training, motivation, responsive leadership, and clear performance feedback systems. In public sector institutions like TVRI, where organizational dynamics are often influenced by bureaucracy and rigid hierarchy, the role of human support systems becomes even more crucial. Without addressing employee perceptions, technical difficulties, and system fairness, digital tools risk being underutilized or even resented, thereby failing to achieve their intended outcomes.

Contextual differences in public sector organizations in Indonesia

One of the unique findings in this study is the lack of a significant relationship between job satisfaction and organizational commitment (H4 rejected), which contradicts much of the existing HR literature that emphasizes a strong correlation between the two (Nagar, 2012; Allen & Meyer, 2013). This deviation may be explained by contextual factors inherent in Indonesian public sector institutions. Unlike private sector environments where organizational culture is often dynamic and performance-driven, public institutions may operate with limited career

mobility, minimal performance-based incentives, and political or administrative constraints. These conditions can reduce the emotional attachment or loyalty employees feel toward the organization, even when they are generally satisfied with their job roles or environment. As suggested by Baraweri & Suharnomo (2015), organizational commitment in such contexts may be more deeply influenced by factors like job security, leadership credibility, and institutional justice, rather than satisfaction alone. Therefore, improving commitment in government agencies like TVRI may require broader reforms beyond improving daily work conditions such as fostering inclusive decision-making, transparent promotions, and clearer organizational vision.

Demonstrates the mediating roles of satisfaction and commitment

A critical contribution of this study is its empirical validation of the indirect pathways through which technology affects performance. While E-Attendance alone does not significantly impact performance, it does have strong, positive effects on job satisfaction and organizational commitment—both of which, in turn, significantly contribute to performance (H5 and H6 accepted). This confirms the mediating roles of satisfaction and commitment as psychological mechanisms that bridge the influence of digital tools and actual work outcomes. Such findings align with contemporary HR theories that advocate for a more human-centered approach in technology integration (Hair et al., 2021; Mathis & Jackson, 2016). Instead of assuming that automated systems will inherently drive efficiency, institutions should focus on how these systems are received and interpreted by employees. When workers feel that tools like E-Attendance support their work rather than control it, satisfaction and commitment are likely to rise leading to better performance outcomes. Hence, organizations should prioritize user experience, clarity in usage policies, and employee involvement in system evaluation and refinement.

Conclusion

This study concludes that the implementation of the E-Attendance system (SIMPEG TVRI) at LPP TVRI North Sulawesi has a significant indirect impact on employee performance through its influence on job satisfaction and organizational commitment. While the system does not directly improve performance, it positively affects employee perceptions and attitudes, particularly in terms of satisfaction and loyalty to the organization. The strongest predictor of employee performance was found to be organizational commitment, emphasizing the importance of fostering trust, loyalty, and emotional attachment within the workplace. The findings highlight a critical insight: technological solutions alone are not sufficient to enhance performance outcomes. Instead, digital tools must be integrated with supportive human resource strategies, including clear communication, fair policies, training, and employee recognition. Additionally, the lack of a significant relationship between job satisfaction and organizational commitment in this public sector context underscores the influence of institutional culture, leadership, and career structure in shaping organizational behavior. In addressing gaps in the literature, this study demonstrates that the success of digital HR systems in the public sector depends not only on their technical features but also on the psychological and organizational environment in which they are applied. Therefore, for institutions like TVRI, it is essential to optimize digital systems in conjunction with employee-centered policies to create a more productive and committed workforce.

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