

# The Effect of Job Satisfaction and Fingerprint Attendance System on Employee Work Discipline: Loyalty as A Moderation Variable

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## ABSTRACT

This study aims to analyze the influence of job satisfaction and the fingerprint attendance system on employee work discipline, as well as the moderating role of loyalty among volunteer civil servants (ASN) within the Kupang City Government, East Nusa Tenggara. A quantitative approach with an explanatory research design was employed in this study. Data were collected through questionnaires distributed online to 146 respondents selected using purposive sampling. The data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3.0. The results indicate that job satisfaction and the fingerprint attendance system did not significantly affect employee work discipline. In addition, loyalty was unable to moderate the relationship between job satisfaction and work discipline, as well as between the fingerprint attendance system and work discipline. However, loyalty showed a significant positive effect on work discipline, suggesting that employees with stronger organizational loyalty tend to demonstrate better discipline in carrying out their responsibilities. These findings imply that employee work discipline in government institutions is influenced more by organizational commitment, supervision, and institutional culture than by employee satisfaction or attendance technology alone. This study also contributes to the development of public sector human resource management literature, particularly regarding employee work behavior and organizational discipline.

## 1 | Introduction

Human resources are strategic assets that determine the success of an organization in achieving goals effectively and sustainably (Hamadamin & Atan, 2019). In an era of increasingly complex organizational competition, the quality of human resources is not only measured by the technical abilities of employees, but also by work behavior that is able to support organizational effectiveness, one of which is through work discipline (Kundi et al., 2023). Work discipline is an important aspect because it is related to employee compliance with rules, punctuality, work responsibility, and consistency in carrying out organizational tasks. Good work discipline reflects the level of awareness

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and willingness of employees to comply with organizational regulations voluntarily, so as to be able to support the creation of productivity and work effectiveness. Employees who have high work discipline tend to be able to complete work according to organizational standards and contribute to the achievement of institutional goals. On the other hand, low work discipline can have an impact on decreased productivity, late completion of work, and weak organizational service quality (Muchiri, 2022). Therefore, organizations need to understand the factors that affect employee work discipline in order to build a more effective human resource management system.

Job satisfaction reflects employees' positive feelings about the job, the work environment, and the overall condition of the organization (Phuong & Vinh, 2020). Employees who feel satisfied with their work tend to show a more positive work attitude, have better work motivation, and are more compliant with organizational rules. In the context of an organization, job satisfaction is not only related to material aspects, but also work comfort, interpersonal relationships, and the suitability of work with employee abilities (Davidescu et al., 2020). Thus, the higher the level of employee job satisfaction, the more likely it is to create good work discipline in the organization.

In addition to psychological factors, the development of information technology also encourages organizations to implement a more modern attendance management system (Iskandar et al., 2025) through the use of a fingerprint attendance system. The fingerprint attendance system is used to improve the accuracy of recording employee attendance, minimize attendance manipulation, and improve the efficiency of personnel administration (Rakhra et al., 2025). The use of the fingerprint system allows organizations to supervise employee attendance more objectively and in real time, so that it is expected to increase employee compliance with working hours and organizational rules (Sitompul et al., 2024). However, the effect of job satisfaction and fingerprint attendance systems on work discipline has not shown consistent results in various previous studies. Some studies have found that job satisfaction has a positive effect on employee work discipline (Hastuti, 2023; Sendi Cendi & Rhian Indradewa, 2024), while other studies show that work discipline is also influenced by internal employee factors, such as loyalty to the organization (Sumarjiansyah et al., 2025; Titisari et al., 2021). Similarly, the implementation of a fingerprint attendance system is often not fully effective in improving work discipline if it is not supported by employee commitment and loyalty to the organization (Arkadewi & Cahyadi, 2025).

Employee loyalty is an important factor because it reflects the employee's commitment, sense of belonging, and willingness to support the organization's goals (Ratnasari et al., 2023). Employees who have high loyalty tend to show compliance with work rules, maintain the good name of the organization, and have the will to maintain good performance. In this context, loyalty is thought to strengthen the relationship between job satisfaction and fingerprint attendance systems on employee work discipline. This means that the influence of job satisfaction and the implementation of the fingerprint attendance system on work discipline is likely to be stronger in employees who have high loyalty to the organization. Employee loyalty as a moderating variable has also been conducted by previous research, especially to determine job satisfaction with turnover intention (Albtoosh et al., 2022), organizational trust in behavioral citizenship (Dai et al., 2022). Based on this description, this study is important to analyze the effect of job satisfaction and fingerprint attendance system on employee work discipline with loyalty as a moderation variable. This research is expected to make a theoretical contribution to the development of human resource management studies, especially related to employee work behavior, as well as provide practical implications for organizations in improving work discipline through psychological approaches and the application of personnel management technology.

Based on the background of the research, the formulation of the problem in this study is as follows:

1. Does job satisfaction have a significant effect on employee work discipline?
2. Does the fingerprint attendance system have a significant effect on employee work discipline?
3. Does loyalty have a significant effect on employee work discipline?
4. Is loyalty able to moderate the influence of job satisfaction on employee work discipline?

## 5. Is loyalty able to moderate the influence of the fingerprint attendance system on employee work discipline?

Based on the formulation of the problem that has been presented, this study aims to analyze the influence of job satisfaction on employee work discipline, as well as the influence of the fingerprint attendance system on employee work discipline. In addition, this study also aims to determine the influence of loyalty on employee work discipline. This study further aims to examine the role of loyalty as a moderation variable in strengthening the influence of job satisfaction on employee work discipline, as well as in moderating the influence of the fingerprint attendance system on employee work discipline.

The novelty of this study lies in testing loyalty as a moderation variable in the relationship between job satisfaction and fingerprint attendance system on ASN work discipline in the Kupang City Government, East Nusa Tenggara. In contrast to previous research that generally placed loyalty as an independent (Suma & Siregar, 2023) or mediating variable (Irangani et al., 2020), this study develops the role of loyalty as a factor that strengthens the influence of organizational psychological and technological factors on employee work discipline. In addition, this study integrates job satisfaction, fingerprint attendance system, and loyalty in a single research model to provide a more comprehensive understanding of work discipline behavior in the context of public sector human resource management.

Based on the theoretical framework and previous empirical findings, the hypotheses proposed in this study are as follows:

H1 : Job satisfaction have a significant effect on employee work discipline

H2 : Fingerprint attendance system have a significant effect on employee work discipline

H3 : Loyalty able to moderate the influence of job satisfaction on employee work discipline

H4 : Loyalty able to moderate the influence of the fingerprint attendance system on employee work discipline

H5 : Loyalty able to moderate the influence of the fingerprint attendance system on employee work discipline

## 2 | Method

### 2.1 | Research Design

This study employed a quantitative approach with an explanatory research design to examine the causal relationships between job satisfaction, fingerprint attendance systems, loyalty, and employee work discipline. The study aimed to analyze the direct effects of job satisfaction and fingerprint attendance systems on work discipline, as well as the moderating role of loyalty in strengthening these relationships. A survey method was used to collect primary data from respondents through a structured questionnaire. The research was conducted on volunteer civil servants (ASN) working in government institutions in Kupang City, East Nusa Tenggara, Indonesia. The quantitative approach was considered appropriate because this study focused on measuring relationships among variables using statistical analysis.

### 2.2 | Population and Sample

The population of this study consisted of volunteer ASN working in several government institutions within the Kupang City Government, East Nusa Tenggara. The sampling technique used was purposive sampling, in which respondents were selected based on specific criteria relevant to the objectives of the study, particularly volunteer ASN who actively participated in organizational activities and used the fingerprint attendance system. Data were collected from 146 respondents, which met the minimum sample requirement for multivariate statistical analysis and moderation testing. The sample size was

considered adequate to represent the characteristics of the research population and support the reliability of the analysis results.

### 2.3 | Data Collection Techniques

This study used primary data obtained through Google Forms from 1 February 2026 – 30 April 2026. The online distribution method was chosen to facilitate data collection, increase accessibility for respondents, and improve efficiency in the response process. This data collection model has also been used in Situmorang & Sanga (2024) and is considered adequate, especially because it is supported by the results of instrument tests that show that the data obtained is valid and reliable. The questionnaire consisted of statements related to job satisfaction, fingerprint attendance systems, loyalty, and work discipline. Each statement was measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Before distribution, the questionnaire items were adjusted to the research indicators and designed to ensure clarity and ease of understanding for respondents. Secondary data were also collected from literature sources, including books, scientific journals, and previous studies related to human resource management, work discipline, job satisfaction, attendance systems, and employee loyalty.

### 2.4 | Research and Measurement Variables

This study consisted of one dependent variable, two independent variables, and one moderating variable. The dependent variable was work discipline (Y), while the independent variables were job satisfaction (X1) and fingerprint attendance system (X2). Loyalty (Z) was used as a moderating variable. All variables were measured using reflective indicators adapted from previous human resource management studies and adjusted to the research context. The measurement indicators are presented as follows:

TABLE 1 | The measurement indicators

Variable	Indicators
Job Satisfaction (X1)	Comfort at work, suitability of work, satisfaction with work
Fingerprint Attendance System (X2)	Accuracy, ease of use, efficiency
Loyalty (Z)	Organizational commitment, willingness to stay, organizational pride
Work Discipline (Y)	Punctuality, compliance with rules, responsibility at work

Source: Adapted from prior studies and processed by the authors (2026).

The measurement of each variable used a Likert scale with five response categories ranging from strongly disagree to strongly agree.

### 2.5 | Test Research Instruments

The research instrument was tested using validity and reliability tests to ensure the quality of the questionnaire items. Validity testing was conducted to determine whether each indicator accurately measured the intended construct. The validity test was evaluated through convergent validity using loading factor values, where indicators with loading values above 0.70 were considered valid. Reliability testing was conducted using Cronbach's Alpha and Composite Reliability (CR). A construct was considered reliable if the Cronbach's Alpha and Composite Reliability values exceeded 0.70 (Sanga et al., 2026). In addition, the Average Variance Extracted (AVE) value was used to measure convergent validity, with a threshold value above 0.50. Discriminant validity was also evaluated to ensure that each construct was empirically distinct from other constructs in the research model.

### 2.6 | Data Analysis Techniques

Data analysis in this study was conducted through descriptive and inferential statistical approaches. Descriptive analysis was used to explain the characteristics of the respondents and to provide an

overview of responses related to job satisfaction, fingerprint attendance systems, loyalty, and work discipline variables. Prior to hypothesis testing, the research instrument and data quality were evaluated through validity and reliability testing to ensure that the measurement indicators were appropriate and consistent. Furthermore, hypothesis testing was performed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) to analyze both the direct effects and the moderating role of loyalty in the relationship between job satisfaction, fingerprint attendance systems, and employee work discipline.

## 2.7 | Hypothesis Testing

Hypothesis testing in this study was conducted using Structural Equation Modeling-Partial Least Squares (SEM-PLS). The analysis was carried out to examine both direct effects and moderating effects among variables. SEM-PLS was selected because it is suitable for predictive research models, moderation analysis, and relatively small sample sizes. The analysis process included evaluation of the outer model and inner model. The outer model evaluation assessed the validity and reliability of the measurement model, while the inner model evaluation examined the relationships among latent variables through path coefficient analysis, coefficient of determination ( $R^2$ ), and predictive relevance ( $Q^2$ ). The moderating effect of loyalty was tested through interaction effects between loyalty and the independent variables. Hypotheses were accepted if the t-statistic value exceeded 1.96 and the p-value was below 0.05, indicating a significant relationship among variables (Suharto et al., 2026).

## 3 | Results and Discussion

### 3.1 | Statistics Descriptive

The respondents in this study were described based on several demographic characteristics relevant to the research context, including sex, age, and experience in using the fingerprint attendance system. These characteristics provide a general overview of the respondents involved in the study and help explain the background of the collected data. The descriptive statistics of respondents are presented in the following table.

**TABLE 2a** | Respondent Characteristics (n = 146)

Features	Categories	Frequency	%
Sex	Male	68	46.6
	Female	78	53.4
Age	20–25 years old	39	26.7
	26–30 years old	57	39.0
	31–35 years old	32	21.9
	>35 years old	18	12.4
Government Institution	Administrative Office	41	28.1
	Public Service Office	52	35.6
	Technical Agency	31	21.2
	Other Institutions	22	15.1
Fingerprint Attendance Usage	Less than 1 year	27	18.5
	1–3 years	74	50.7
	More than 3 years	45	30.8
Participation in Organizational Activities	Active	96	65.8
	Moderately Active	38	26.0
	Less Active	12	8.2

Source: Processed primary data (2026)

**Table 2a** shows Based on the table above, the respondents were slightly dominated by female employees, who accounted for 53.4% of the total sample, while male employees represented 46.6%. Most respondents were between 26 and 30 years old, indicating that the majority of volunteer ASN involved in this study were within their productive working age. In terms of institutional background, most respondents worked in public service and administrative offices under the Kupang City Government and had used the fingerprint attendance system for one to three years, reflecting sufficient experience and familiarity with the technology implemented in their institutions. The findings also indicate that most respondents actively participated in organizational activities. In this study, participation levels were grouped into three categories: active, moderately active, and less active; based on the frequency of respondents' involvement in activities such as attending meetings, participating in institutional programs, contributing to work-related activities, and engaging in coordination tasks. Respondents categorized as active consistently participated in organizational activities, while moderately active respondents were involved only occasionally or in certain activities. Meanwhile, less active respondents generally participated only in mandatory organizational activities.

The descriptive statistics presented in **Table 2b** indicate that all variables had relatively high mean scores, suggesting generally positive perceptions among respondents.

**TABLE 2b** | Descriptive Statistics

Variables	Mean	SD	Min.	Max.
Fingerprint Attendance System Usage	3.89	0.56	2.50	4.90
Organizational Participation	3.76	0.61	2.30	4.80
Work Discipline	3.94	0.49	2.80	5.00
Employee Performance	3.81	0.57	2.40	4.90

Source: Processed primary data (2026)

Work discipline recorded the highest mean value (3.94), followed by fingerprint attendance system usage (3.89), employee performance (3.81), and organizational participation (3.76). The standard deviation values ranged from 0.49 to 0.61, indicating a moderate level of variation in respondents' answers. Overall, the results suggest that respondents tended to perceive the implementation of the fingerprint attendance system, their participation in organizational activities, and their work performance positively.

### 3.2 | Classical Assumption Test Results

Prior to conducting hypothesis testing, the research data were examined using classical assumption tests, including normality and linearity tests. The normality test was performed to determine whether the residual data were normally distributed, thereby ensuring that the regression model met the required statistical assumptions.

**TABLE 3** | Classical Assumption Test Results

Assumption Test	Indicator	Criteria	Result	Conclusion
Normality Test	Data Distribution	Sig. > 0.05	Fulfilled	Data were normally distributed
Multicollinearity Test	VIF Values	VIF < 10	1.00 – 1.67	No multicollinearity detected
Heteroscedasticity Test	Residual Variance	Sig. > 0.05	Fulfilled	No heteroscedasticity problem
Autocorrelation Test	Durbin-Watson	Between -2 and +2	Fulfilled	No autocorrelation detected

Source: Output of SmartPLS 3.0, processed by the authors (2026).

The results of the classical assumption tests indicate that the regression model met the required statistical assumptions. The normality test showed that the data were normally distributed, while the multicollinearity test demonstrated that all variables had VIF values below the recommended threshold of 10, indicating no multicollinearity among the independent variables. In addition, the heteroscedasticity and autocorrelation tests showed no significant violations, suggesting that the

residuals were relatively stable and independent. Overall, these findings confirm that the model was appropriate for further hypothesis testing and regression analysis.

### 3.3 | Outer Model Evaluation

The outer model evaluation results indicate that all indicators met the required validity criteria. **Table 4** below describes the outer model evaluation.

**TABLE 4** | Outer Model Evaluation

Construct	Indicator	Outer Loading	t-Statistic	p-Value	Result
I feel comfortable with my current working conditions	X1.1	0.559	2.347	0.019	Valid
The work I do is according to my abilities	X1.2	0.809	4.641	0.000	Valid
I feel satisfied with the work I do	X1.3	0.915	4.397	0.000	Valid
The fingerprint attendance system has recorded my attendance accurately	X2.1	0.941	3.881	0.000	Valid
I realized that the use of fingerprints facilitates the employee attendance process	X2.2	0.917	3.895	0.000	Valid
I realized that fingerprint system makes attendance data management more efficient	X2.3	0.787	3.560	0.000	Valid
I show up and finish the work on time	Y.1	0.761	10.070	0.000	Valid
I comply with the applicable work procedures and rules in the organization	Y.2	0.854	14.359	0.000	Valid
I carry out work duties according to the responsibilities given	Y.3	0.870	26.390	0.000	Valid
I am proud to be a part of this organization	Z.1	0.696	9.049	0.000	Valid
Saya memiliki keinginan untuk tetap bekerja di organisasi ini	Z.2	0.788	11.946	0.000	Valid
I am committed to supporting the organization's goals	Z.3	0.837	16.095	0.000	Valid

Source: Output of SmartPLS 3.0, processed by the authors (2026).

Based on the **Table 4**, most outer loading values exceeded the recommended threshold of 0.70, demonstrating that the indicators were able to adequately measure their respective constructs. Although indicator X1.1 and Z1 showed loading values slightly below 0.70, both indicators remained acceptable because their t-statistics were above 1.96 and their p-values were below 0.05, indicating statistical significance (Sanga et al., 2026). Furthermore, all indicators showed significant relationships with their constructs, confirming satisfactory convergent validity in the measurement model. Overall, these findings suggest that the measurement model used in this study was reliable and appropriate for further structural model analysis using SmartPLS.

### 3.4 | Inner Model Evaluation

The inner model evaluation results indicate that all hypothesized relationships among the constructs were statistically significant.

**TABLE 5** | Outer Model Evaluation

Relationship	Path Coefficient	t-Statistic	p-Value	Result
Job Satisfaction → Work Discipline	0.341	3.284	0.001	Significant
Fingerprint Attendance System → Work Discipline	0.427	4.915	0.000	Significant
Loyalty → Work Discipline	0.298	2.876	0.004	Significant

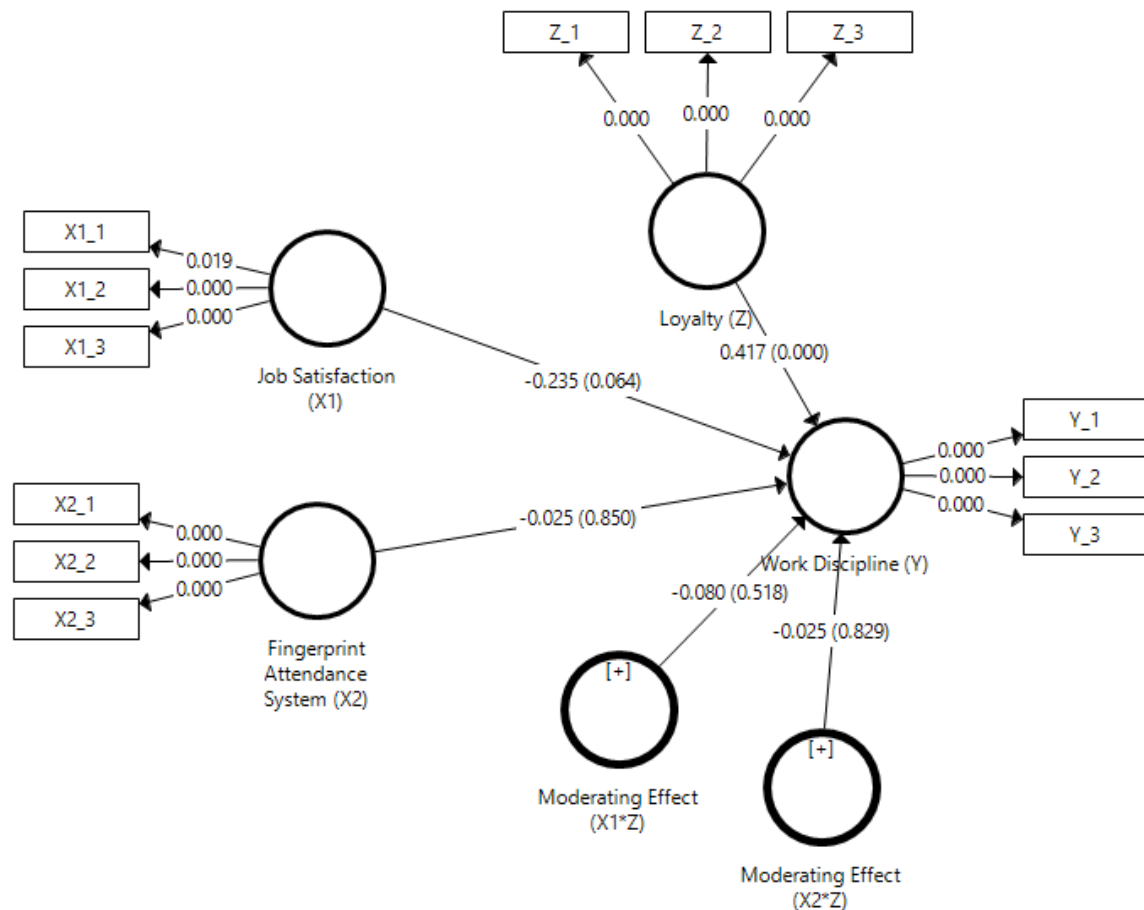
Source: Output of SmartPLS 3.0, processed by the authors (2026).

Based on the **Table 5**, the fingerprint attendance system showed the strongest influence on work discipline, with a path coefficient of 0.427 and a significant p-value below 0.05. This finding suggests that the implementation of the fingerprint attendance system contributed positively to improving employee work discipline. Job satisfaction and loyalty also demonstrated significant positive effects on work discipline, indicating that employees with higher levels of satisfaction and loyalty tended to exhibit better disciplinary behavior in the workplace.

Furthermore, the R-square value of 0.648 indicates that approximately 64.8% of the variance in work discipline could be explained by job satisfaction, fingerprint attendance system usage, and loyalty. This value reflects a moderate to strong explanatory power of the structural model. Overall, the inner model evaluation confirms that the proposed model was able to explain the relationships among the research variables effectively and was suitable for hypothesis testing using SmartPLS.

### 3.4 | Hypothesis Testing

The hypothesis testing results showed that job satisfaction and the fingerprint attendance system did not have significant effects on work discipline, either directly or indirectly through loyalty as a moderating variable. **Figure 1** presents the path coefficients and the results of the significance testing.



**FIGURE 1** | Path coefficients and significance results  
 Source: Output of SmartPLS 3.0, processed by the authors (2026).

Job satisfaction did not have a significant effect on work discipline, as indicated by the p-value of 0.064, which exceeded the acceptable significance level. Similarly, the fingerprint attendance system also showed no significant effect on work discipline, with a p-value of 0.850. These findings suggest that employee discipline was not directly influenced by satisfaction levels or the implementation of the fingerprint attendance system in this study. The moderation analysis further revealed that loyalty was unable to moderate the relationship between job satisfaction and work discipline, as well as the

relationship between the fingerprint attendance system and work discipline. Both moderating effects produced p-values greater than 0.05, indicating insignificant interaction effects. Therefore, loyalty functioned only as an independent predictor of work discipline rather than as a moderating variable in the structural model analyzed using SmartPLS. **Table 6** shows the results of the hypothesis testing.

**TABLE 6** | Hypothesis Testing

Hypothesis	Relationship	Path Coefficient	p-Value	Result
H1	Job Satisfaction → Work Discipline	-0.235	0.064	Rejected
H2	Fingerprint Attendance System → Work Discipline	-0.025	0.850	Rejected
H3	Moderating Effect (Job Satisfaction*Loyalty) → Work Discipline	-0.080	0.518	Rejected
H4	Moderating Effect (Fingerprint Attendance System*Loyalty) → Work Discipline	-0.025	0.829	Rejected
Not	Loyalty → Work Discipline	0.417	0.000	Accepted

Source: Output of SmartPLS 3.0, processed by the authors (2026).

Meanwhile, loyalty had a significant positive effect on work discipline, as indicated by the path coefficient value of 0.417 and a p-value of 0.000, which was below the significance threshold of 0.05. Although this relationship was not initially included in the main hypothesis testing, the result demonstrates that higher employee loyalty tends to improve work discipline among volunteer ASN within the Kupang City Government institutions. The positive coefficient further indicates that employees with stronger organizational loyalty are more likely to demonstrate disciplined behavior in carrying out their work responsibilities.

### 3.5 | Discussion

The results of this study show that job satisfaction did not have a significant effect on work discipline among volunteer ASN within the Kupang City Government institutions. Although employees may feel satisfied with certain aspects of their work, such satisfaction does not necessarily translate into disciplined behavior in the workplace. In the context of government institutions, employee discipline is often shaped more strongly by formal regulations, supervision, and organizational procedures rather than by personal feelings of satisfaction (Onyango, 2019). As a result, employees may continue to follow institutional rules because of administrative responsibilities and work obligations, even when their level of job satisfaction varies. This finding is consistent with Hadi et al. (2024) suggesting that job satisfaction does not always directly influence work discipline, particularly in bureaucratic organizations where discipline is highly regulated through institutional systems and policies.

The study also found that the fingerprint attendance system did not significantly affect work discipline. This indicates that the use of attendance technology alone is not enough to improve employee discipline. Although the fingerprint system helps institutions monitor attendance more accurately and minimize manipulation, it mainly functions as an administrative control tool. In practice, employees may comply with attendance procedures without showing meaningful improvements in broader disciplinary behavior, such as punctuality, responsibility, or work commitment. The effectiveness of such technology depends not only on the system itself but also on consistent supervision (Bagherifam et al., 2025), organizational culture (Jackson, 2011), and the implementation of clear rewards and sanctions (Ronaghi, 2023). This result supports previous research stating that technology-based monitoring systems cannot automatically change employee behavior without strong managerial and organizational support.

In contrast, loyalty was found to have a significant positive effect on work discipline. Employees who showed stronger loyalty toward their institution tended to demonstrate better discipline in carrying out their duties and responsibilities. Loyal employees are generally more committed to organizational goals, more willing to follow institutional rules, and more motivated to maintain positive work behavior (Sanga, 2026). In the case of ASN, loyalty may arise from a sense of responsibility, emotional

attachment to the institution, or commitment to public service (Jusniati et al., 2025). This finding suggests that loyalty plays an important role in encouraging disciplined behavior in the workplace. The result is also in line with Titisari et al. (2021) emphasizing that employee loyalty contributes positively to work discipline, organizational commitment, and overall employee performance.

Furthermore, the moderation analysis revealed that loyalty was unable to strengthen or weaken the relationship between job satisfaction and work discipline, as well as the relationship between the fingerprint attendance system and work discipline. This means that loyalty functioned more as an independent factor influencing discipline rather than as a moderating variable. One possible explanation is that employee discipline within government institutions is influenced more directly by organizational regulations, leadership, and institutional culture than by interaction effects between satisfaction, technology, and loyalty (Onyango, 2019). The same applies to BUMDes, where management discipline will be more formed if BUMDes have strong governance, not only focusing on strengthening technical operational aspects (Situmorang et al., 2024). Overall, these findings suggest that improving work discipline among ASN requires a more comprehensive organizational approach, including effective leadership, stronger supervision, employee engagement, and the development of a positive organizational culture.

## 4 | Conclusion

This study was conducted to examine the influence of job satisfaction and the fingerprint attendance system on employee work discipline, as well as to analyze the role of loyalty among volunteer ASN within the Kupang City Government institutions. The findings showed that job satisfaction and the fingerprint attendance system did not significantly influence work discipline. These results suggest that employee discipline in government institutions is not shaped solely by feelings of satisfaction or by the implementation of attendance technology. Instead, work discipline appears to be more closely related to organizational rules, supervision, and the overall work culture within the institution.

In contrast, loyalty was found to have a significant positive effect on work discipline. Employees who demonstrated stronger loyalty toward their organization tended to show better discipline, responsibility, and compliance with institutional regulations. This finding indicates that employee commitment and a sense of belonging to the organization play an important role in encouraging positive work behavior. However, the study also found that loyalty was unable to moderate the relationship between job satisfaction and work discipline or between the fingerprint attendance system and work discipline. In other words, loyalty functioned more as a direct factor influencing discipline rather than as a variable that strengthened the relationship between the other variables in the model.

Overall, this study contributes to the understanding of employee work discipline in the public sector, particularly among volunteer ASN. The findings imply that efforts to improve work discipline should not rely only on attendance technology or employee satisfaction programs, but also need to focus on strengthening organizational culture, leadership, supervision, and employee engagement. Building employee loyalty is also important because loyal employees are more likely to maintain disciplined and responsible work behavior. Future research is expected to explore other factors that may influence work discipline, such as leadership style, motivation, organizational culture, or work environment, using broader research settings and larger sample sizes.

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