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ADDITIONAL ANALYSIS OF EMPLOYEE INCOME ON CIVIL SERVANT LOYALTY WITH JOB SATISFACTION AS AN INTERVENING VARIABLE AT THE NORTH TAPANULI REGENCY AGRICULTURE OFFICE

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ABSTRACT

This study examines the influence of Employee Income Allowance (TPP) on the loyalty of Civil Servants (PNS), with Job Satisfaction as an intervening variable in the North Tapanuli Regency Agriculture Office. The study used the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach with the help of SmartPLS 3.0 software and involved 117 civil servant respondents to analyze the measurement model and structural model. The results of the outer model analysis showed that all indicators of TPP, Job Satisfaction, and Civil Servant Loyalty had an outer loading value above 0.70, with Cronbach's Alpha values ranging from 0.865 to 0.916, Composite Reliability between 0.902 to 0.937, and Average Variance Extracted (AVE) between 0.649 to 0.749, indicating convergent validity and adequate reliability. The discriminant validity test also shows that each indicator has the highest correlation with its own construct. Structural model evaluation showed that TPP had a positive and significant effect on Job Satisfaction ($\beta = 0.895$; $T = 50.010$; $p < 0.001$) and directly had a positive effect on civil servant loyalty ($\beta = 0.576$; $T = 4,713$; $p < 0.001$). In addition, Job Satisfaction has a positive effect on Civil Servant Loyalty ($\beta = 0.364$; $T = 3.055$; $p = 0.003$). Indirect influence analysis showed that TPP also significantly affected civil servant loyalty through job satisfaction ($\beta = 0.326$; $T = 2,967$; $p = 0.004$), which confirms that Job Satisfaction plays a role as a partial intervening variable. The R^2 value of 0.801 for Job Satisfaction and 0.840 for Civil Servant Loyalty indicates a strong explanatory ability of the model.

INTRODUCTION

Human resources are an important asset that determines the success of an organization, including government agencies. Employee performance and organizational

sustainability are greatly influenced by employee loyalty, which is reflected in commitment, willingness to remain in the organization, and desire to contribute optimally in achieving organizational goals. In the context of an organization, loyalty is not formed automatically, but is influenced by supporting factors, one of which is compensation in the form of additional income (Sugiarto et al., 2025).

Additional income, such as benefits, incentives, or honorariums beyond the basic salary, serves as a form of recognition for employee contributions. According to MBA Especialistas en Finanzas (2020), providing additional income can increase work motivation and foster a sense of appreciation by organizations. This in turn can increase job satisfaction which further affects employee loyalty. However, in human resource management, improved performance and work discipline are not always directly proportional to loyalty if welfare aspects are not managed fairly. Additional income that is perceived to be disproportionate or unfair can reduce job satisfaction, potentially reducing employee loyalty (Taufik, 2025; Journal & ISSN, 2025).

Job satisfaction has an important role as an intervening variable between additional income and loyalty. Sartika et al. (2024) define job satisfaction as a positive emotional condition towards work that is reflected in attitudes, behaviors, and commitment to the organization. In accordance with Surya (2025), loyalty is not formed solely through structural factors, but is strengthened through mediation mechanisms that involve meaningful experiences and emotional attachment. Thus, providing additional income alone is not enough to form loyalty without being supported by adequate job satisfaction (Muharram et al., 2025).

This condition is relevant in the North Tapanuli Regency Agriculture Office, where Civil Servants (PNS) face high work demands due to the complexity of regional agricultural development programs. To improve employee performance and welfare, local governments have implemented the Employee Income Allowance (TPP) policy. The provision of TPP is expected to increase job satisfaction, which further affects employee loyalty in carrying out their duties at the Agriculture Office. This approach suggests that loyalty is formed indirectly through mediation variables that strengthen the relationship between key factors. In this context, TPP serves as an instrument that bridges high job demands with job satisfaction, thus overall contributing to increased loyalty and supporting the success of regional agricultural development programs (Surya, 2025).

In practice, the additional income provided is not always considered proportional to the workload, thus causing differences in job satisfaction between employees. Some employees are satisfied with the TPP received, while others consider it still lacking compared to the contribution given.

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METHOD

This study uses a quantitative approach with an associative research design, which aims to analyze the relationship between two or more variables (Sugiyono, 2021). In this study, the exogenous variable is Employee Additional Income (X), the endogenous variable is Civil Servant Loyalty (Y), and job satisfaction (Z) plays a role as an intervening variable. The research was conducted at the North Tapanuli Regency Agriculture Office, which is located at Jl. S. M. Simanjuntak No.1, Hutatoruan VI, Tarutung District, North Tapanuli Regency, North Sumatra, in the period October to December 2025. The population of this study consists of 117 Civil Servants working in the Agriculture Service. Given the relatively small size of the population, the researcher applied the saturated sample technique, by including all members of the population as respondents so that the sample could represent the characteristics of the population as a whole.

Operationalization of variables is carried out by defining and measuring each construct through specific indicators. Employee Supplemental Income includes a total compensation component, including benefits, incentives, and bonuses, aimed at improving employee well-being and work motivation. These variables are measured through indicators of fairness, adequacy, consistency, relevance, and transparency (Apriansyah et al., 2023). Civil Servant loyalty is reflected through an individual's commitment to the organization, willingness to remain employed in the agency, compliance with regulations, extra-role behavior, and emotional attachment (Robbins & Judge, 2020). Job satisfaction is understood as a positive work-related emotional state that affects loyalty, productivity, and turnover, which is measured through satisfaction with compensation, promotional opportunities, supervision, and relationships between colleagues (Sembiring et al., 2021).

Data analysis uses quantitative methods through Structural Equation Modeling (SEM) based on Partial Least Squares (PLS) with the help of SmartPLS software version 3.3.3. The evaluation of the measurement model (outer model) was carried out through validity and reliability tests, with valid criteria if the outer loading value is more than 0.5 and reliable if Cronbach's alpha and composite reliability are more than 0.7 (Sekaran et al., 2021). The structural model (inner model) is used to test the hypothetical relationship between exogenous and endogenous constructs with the bootstrapping procedure. The model evaluation included a determination coefficient (R^2) to assess substantive influences, predictive relevance (Q^2) to assess model accuracy, a statistical significance test against the path coefficient with a significance level of 5% (t-value > 1.96), and a Normed Fit Index (NFI) to assess the overall suitability of the model, with a value close to 1 indicating a good fit model (Ulum et al., 2014). This entire procedure guarantees the robustness of the model and allows for an accurate interpretation of the relationship between additional income, job satisfaction, and Civil Servant loyalty.

RESULTS AND DISCUSSION

The evaluation of the measurement model (outer model) in this study was carried out using algorithm analysis in SmartPLS software version 3.0. This procedure aims to assess the validity and reliability of measurement indicators through outer loading values, so as to ensure that each construct meets the standards set for convergent validity, discriminant validity, and reliability.

Convergent Validity

The convergent validity in a measurement model with reflective indicators can be evaluated by reviewing the correlation between the score of each indicator and the underlying construct score. An indicator is considered valid if it has an outer loading value greater than 0.70. However, in research that is still in development, the outer loading value between 0.50 and 0.60 is still acceptable. Based on the results of the outer loading analysis, some indicators showed values below 0.60 and were not statistically significant. The outer loading values for each indicator are presented in Table 1 below.

Table 1. Outer Loading

Indicator	Outer Loading	Ket
Additional Employee Income (X)		
TPP1	0,859	Valid

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TPP2	0,857	Valid
TPP3	0,794	Valid
TPP4	0,870	Valid
TPP5	0,844	Valid
Job satisfaction (Z)		
KK1	0,960	Valid
KK2	0,952	Valid
KK3	0,872	Valid
CD4	0,854	Valid
KK5	0,940	Valid
Employee Performance (Y)		
LP1	0,900	Valid
LP2	0,913	Valid
LP3	0,757	Valid
LP4	0,894	Valid
LP5	0,900	Valid

Source: PLS Smart Output, 2025

Based on the results of the outer loading analysis, all indicators in each research variable had an outer loading value above 0.70. This indicates that each indicator effectively reflects the constructed being measured, thus meeting the criteria of convergent validity.

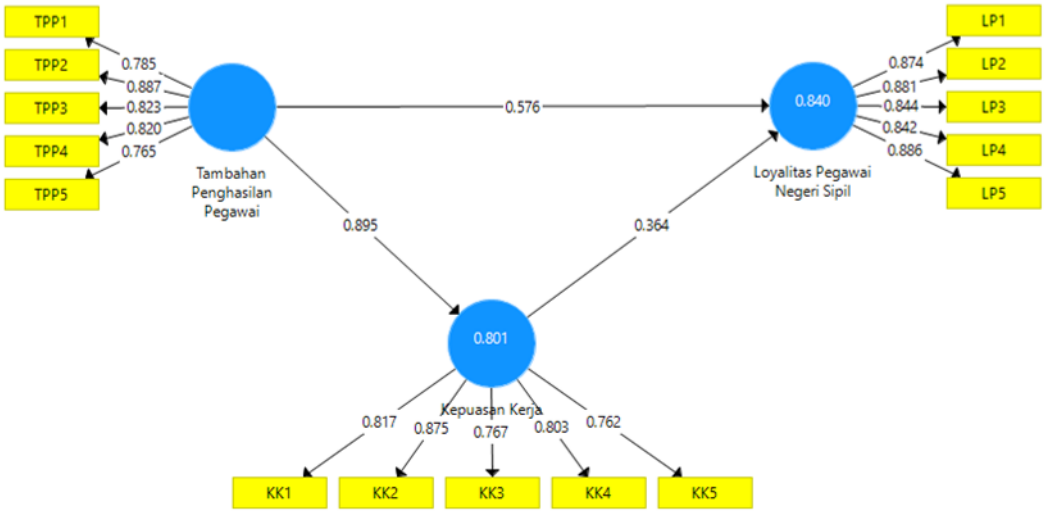
For the variable Additional Employee Income (X1), the outer loading value of the TPP1 to TPP5 indicator ranges from 0.794 to 0.870. These values exceed the minimum threshold of 0.70, which indicates that all indicators of Employee Income Supplement are valid and appropriate for measuring the TPP construct.

In the Job Satisfaction (Z) variable, the indicators KK1 to KK5 show a very high outer loading value, which is between 0.854 to 0.960. This high outer loading value shows a strong correlation between the indicator and the Job Satisfaction construct, so that all indicators are valid and meet the criteria of convergent validity.

Meanwhile, in the Employee Performance variable (Y), the LP1 to LP5 indicator has an outer loading value between 0.757 to 0.913. All of these values also meet the criteria for convergent validity because they exceed 0.70. Thus, all Employee Performance indicators are valid and can be used for further structural model testing.

Based on the results of the outer loading test in Table 1, it can be concluded that all research indicators meet the requirements of convergent validity and are worthy of further

analysis in the research model. The outer loading model can be visually seen in the following structural model image:



Discriminatory Validity

Discriminant validity aims to assess whether a reflective indicator is capable of distinguishing a well-measured construct, based on the principle that each indicator should have a higher correlation with its original construct than with any other construct. The results of the cross-loading analysis are presented in Table 2.

Table 2. Discriminant Validity

Indicator	Additional Employee Income (X)	Employee Performance (Y)	Job satisfaction (Z)
KK1	0.817	0.622	0.820

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KK2	0.875	0.813	0.737
KK3	0.767	0.546	0.593
CD4	0.803	0.881	0.824
KK5	0.762	0.601	0.570
LP1	0.824	0.874	0.886
LP2	0.803	0.881	0.824
LP3	0.719	0.844	0.674
LP4	0.650	0.842	0.732
LP5	0.792	0.886	0.761
TPP1	0.663	0.798	0.785
TPP2	0.783	0.871	0.887
TPP3	0.781	0.700	0.823
TPP4	0.817	0.622	0.820
TPP5	0.598	0.676	0.765

Source: PLS Smart Output, 2025

For the Job Satisfaction construct (Z), all indicators (KK1 to KK5) show the highest loading value in the Job Satisfaction construct compared to other constructs. For example, the KK1 indicator has a loading value of 0.817 in the Job Satisfaction construct, which is higher than the loading in Employee Performance (0.622) and Additional Employee Income (0.820). Although some indicators show relatively high cross-loading on other constructs, overall the Job Satisfaction indicator shows the strongest correlation with the construct intended to be measured.

Furthermore, for the Employee Performance construct (Y), the LP1 to LP5 indicators show the highest loading in the Employee Performance construct compared to Job Satisfaction and Additional Employee Income. For example, the LP5 indicator has a loading of 0.886 on Employee Performance, higher than the loading on Job Satisfaction (0.792) and Additional Employee Income (0.761). This shows that the Employee Performance indicator is able to effectively distinguish this construct from other constructs.

Meanwhile, for the Employee Income Supplement (TPP/X1) construct, the TPP1 to TPP5 indicators also show relatively high loading in the TPP construct. For example, the TPP2 indicator has a loading of 0.887 in the construct of Additional Employee Income, higher than the loading in Job Satisfaction (0.783) and Employee Performance (0.871). These findings confirm that the TPP indicator dominantly measures the construct of Additional Employee Income and distinguishes it from other constructs.

Construct Reliability Test

The construct reliability test was performed using Cronbach Alpha, rho_A, and Composite Reliability values. A construct is considered reliable if all three values are greater than 0.70. The convergent validity is further assessed through Average Variance Extracted (AVE), where an AVE value above 0.50 indicates that the construct has adequate convergent validity. The test results show that all constructs in this study have good reliability and strong convergent validity, so that the measurement model can be considered robust and ready for structural model analysis.

Table 3. Construct Reliability Test

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Additional Employee Income (X)	0.865	0.902	0.649
Additional Employee Income (X)	0.916	0.937	0.749
Additional Employee Income (X)	0.875	0.909	0.668

Source: PLS Smart Output, 2025

Evaluation of Structural Models (Inner Model)

Structural model evaluation (inner model) was carried out to assess the strength and accuracy of the relationship between latent constructs in this study. This evaluation includes testing the determination coefficient (R^2) to measure the explainability of independent variables to bound variables, goodness of fit assessment to determine the suitability of the model with empirical data, and hypothesis testing to determine the significance of the relationship between constructs.

Coefficient of Determination

It is known that the Adjusted R^2 value for the Job Satisfaction (Z) variable is 0.799 or 79.9%. This shows that the Employee Income Supplement (TPP) is able to explain 79.9% of the variation in Civil Servant Job Satisfaction at the North Tapanuli Regency Agriculture Office, which is categorized as high. In other words, the provision of additional income that is fair, proportional, and in accordance with the workload has a strong influence on employee job satisfaction. Meanwhile, 20.1% of the variation in Job

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Satisfaction was influenced by other factors outside of this research model, such as the work environment, interpersonal relationships, and organizational policies. The R^2 value for Job Satisfaction is 0.801 or 80.1%, indicating that the structural model built has a strong explanatory ability in describing the level of Job Satisfaction of Civil Servants in the North Tapanuli Regency Agriculture Office.

Furthermore, for the Employee Performance variable (Y), the Adjusted R^2 value was 0.837 or 83.7%. These results show that Employee Income Supplement (TPP) and Job Satisfaction together are able to explain 83.7% of the variation in Employee Performance, which is in the very high category. This indicates that the combination of additional income and employee job satisfaction policies has a very strong influence in shaping the loyalty of Civil Servants at the North Tapanuli Regency Agriculture Office. Meanwhile, 16.3% of the variation in Employee Performance was influenced by factors that were not included in the research model. The R^2 value for Employee Performance of 0.840 or 84.0% further confirms that the developed structural model has a very high predictive ability in explaining Employee Performance.

Thus, it can be concluded that the research model has a strong predictive ability in explaining Job Satisfaction and Employee Performance. These findings emphasize the role of Job Satisfaction as an effective intervening variable, bridging the influence of Additional Employee Income on Employee Performance at the North Tapanuli Regency Agriculture Office.

Table 4. R Square Results

Variable	R Square	R Square Adjusted
Employee Performance (Y)	0.801	0.799
Employee Performance (Y)	0.840	0.837

Source: PLS Smart Output, 2025

Goodness of Fit

Evaluation of the suitability of the model (model fit) was carried out to assess the extent to which the proposed structural model was able to represent empirical data. In PLS-SEM, the suitability of the model was tested using several indicators, including Standardized Root Mean Square Residual (SRMR), d_ULS, d_G, Chi-Square, and Normed Fit Index (NFI).

Table 5. Fit Model

	Saturated Model	Estimated Model
SRMR	0.121	0.121
d_ULS	1.763	1.763
d_G	2,453	2,453
Chi-Square	759,436	759,436
NFI	0,783	0,783

Source: PLS Smart Output, 2025

Hypothesis Testing Results

Hypothesis testing was carried out by reviewing the T-statistical value and P-value. A hypothesis is accepted if the statistical T-value is greater than 1.96 and the P-value is less than 0.05. The results of the analysis of the direct influence of each variable on other variables are presented in Table 6, which shows the level of significance of the relationship between variables in this research model.

Table 6. Path Coefficients

Relationships between Variables	Original Sample (O)	Sample Mean (M)	Std. Deviation	T-Statistics	P-Values	Results
Job Satisfaction → Employee Performance	0.364	0.372	0.119	3.055	0.003	Accepted
Additional Employee Income → Job Satisfaction	0.895	0.896	0.018	50.010	0.000	Accepted
Additional Employee Income → Employee Performance	0.576	0.569	0.122	4.713	0.000	Accepted

Source: PLS Smart Output, 2025

Based on the path coefficient analysis table, the relationship between variables in this study can be explained as follows. First, the effect of job satisfaction (Z) on Employee

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Performance (Y) showed a path coefficient value (Original Sample) of 0.364, with a T-Statistic of 3.055 > 1.96 and a P-Value of 0.003 < 0.05. These results show that job satisfaction has a positive and significant effect on Employee Performance. In other words, the higher the level of employee job satisfaction, the higher their loyalty to the organization. Therefore, the hypothesis that job satisfaction has a positive and significant effect on Employee Performance is accepted.

Second, the effect of Additional Employee Income (TPP) on job satisfaction (Z) has a path coefficient of 0.895, with a T-Statistic of 50.010 > 1.96 and a P-Value of 0.000 < 0.05. These results show a very strong, positive, and significant influence of TPP on job satisfaction. This indicates that the provision of additional income in a fair, proportional, and appropriate manner can increase the job satisfaction of Civil Servants. Therefore, the hypothesis that TPP has a positive and significant effect on job satisfaction is accepted.

Third, the effect of Additional Employee Income (TPP) on Employee Performance (Y) showed a path coefficient of 0.576, with a T-Statistic of 4.713 > 1.96 and a P-Value of 0.000 < 0.05. These results show that TPP has a positive and significant direct influence on Employee Performance. In other words, the better the system of providing additional income to employees, the higher the loyalty and performance of employees to the agency. Therefore, the hypothesis that states that TPP has a positive and significant effect on Employee Performance is accepted.

Based on the results of the direct influence test, it can be concluded that Additional Employee Income has a significant effect on Job Satisfaction and Employee Performance, and Job Satisfaction also has a significant effect on Employee Performance. This finding confirms that job satisfaction plays an important role as an intervening variable that bridges the influence of Additional Employee Income on Employee Performance at the North Tapanuli Regency Agricultural Office.

To determine the indirect influence and role of Job Satisfaction (Z) as an intervening variable in the relationship between Employee Income Supplement (X) and Civil Servant Loyalty (Y), the next analysis is presented in the table of specific indirect effects as follows.

Table 7. Indirect Influence

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**	**Results**
Additional	0.326	0.334	0.110	2.967	**0.004**	**Accepted**

Employee Income → Job Satisfaction → Employee Loyalty

The results in Table 7 show that the Employee Income Supplement, Job Satisfaction, and Civil Servant Loyalty pathway has a positive and significant indirect influence, with an original sample value of 0.326. The t-value of 2.967 is greater than the critical value of 1.96, and the p-value of 0.004 is less than 0.05, indicating that the effect is statistically significant.

These findings confirm that Job Satisfaction plays a significant role as a mediating variable in the relationship between Employee Income Supplement and Civil Servant Loyalty. Thus, the hypothesis is accepted, which suggests that an additional increase in income can increase employee loyalty mainly through increased job satisfaction.

CONCLUSION

Based on the results of the analysis and discussion on the effect of Employee Income Supplement (TPP) on Employee Performance (PNS) with job satisfaction as an intervening variable at the North Tapanuli Regency Agriculture Office, several conclusions can be drawn. First, TPP has a positive and significant effect on job satisfaction. This shows that the policy of providing additional income that is fair, transparent, and in accordance with the workload can increase the job satisfaction of Civil Servants, so that the TPP plays an important instrument in employee welfare and motivation.

Second, TPP also has a positive and significant effect on Employee Performance, which shows that additional income not only has an impact on welfare, but also strengthens employees' commitment and attachment to the organization, thereby encouraging the formation of long-term loyalty. Similarly, job satisfaction has a positive and significant effect on loyalty, indicating that employees who feel satisfied with their jobs, work environment, and reward system tend to show higher levels of loyalty to their agency.

Finally, job satisfaction has been proven to function as an intervening variable in the relationship between TPP and Employee Performance. The results of the indirect influence analysis show that TPP can increase loyalty through increasing job satisfaction, thus acting as a liaison mechanism between compensation policies and the formation of employee loyalty. This intervening influence is partial, because the TPP also has a direct influence on loyalty. In addition, the research model showed high explanatory and

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predictive ability, which was evidenced by the large R-Square value for Job Satisfaction and Employee Performance, confirming that TPP and Job Satisfaction were the dominant factors in explaining the loyalty of Civil Servants at the North Tapanuli Regency Agriculture Office.

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