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The Influence of Service Innovation and Physical Work Environment on Public Satisfaction Mediated by Public Service Performance at the Regional Revenue Agency of West Tanjung Jabung Regency

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Abstract: This study aims to describe service innovation, physical work environment, service performance, and public satisfaction at the Regional Revenue Agency (Bapenda) of West Tanjung Jabung Regency (Tanjabbar), and to analyze the influence of service innovation and physical work environment through service performance on public satisfaction. This study is supported by several theories related to the research variables. This study was conducted at the Regional Revenue Agency of West Tanjung Jabung Regency. With a population of 120,740 people, while the sample size in this study uses Slovin's theory with a margin of error of 10% so that 100 people are obtained. This study uses a quantitative approach with a survey method and uses Partial Least Square (PLS) data analysis. The results show that service innovation and physical work environment have an influence on public satisfaction, both directly and indirectly through service performance at the Regional Revenue Agency of West Tanjung Jabung Regency. This finding indicates that the positive influence of service innovation and physical work environment on public satisfaction does not occur directly, but is carried out (mediated) through improved service performance.

Keyword: Service Innovation, Physical Work Environment, Service Performance and Public Satisfaction.

INTRODUCTION

Public service is the primary manifestation of the state's presence in fulfilling the rights and needs of the community. The quality of service provided by local governments not only reflects bureaucratic effectiveness but also serves as a crucial indicator in building public trust and government legitimacy (Dwiyanto, 2018; Ratminto & Winarsih, 2019). In the context of modern governance, public services are required to be more than merely procedural, but also oriented towards the satisfaction of the public as service users. Changing public expectations, which increasingly demand fast, transparent, and accountable services, have positioned the

quality of public services as a strategic issue that cannot be ignored by public sector organizations.

Along with the development of information technology and the increasing complexity of community needs, local governments are faced with the demand to continuously update their service systems. Service innovation is a key instrument in responding to these dynamics, as it can increase work process efficiency, accelerate service delivery, and improve the quality of interactions between officials and the public (de Vries et al., 2016; OECD & Eurostat, 2018). Various empirical studies show that service innovation, particularly digital-based innovation and procedural simplification, contributes significantly to improving service performance and public satisfaction (Torres et al., 2020; Rahmananda et al., 2024). However, service innovation does not always produce optimal impact if implemented only technically and is not accompanied by changes in work behavior and strengthening internal organizational capacity.

In addition to service innovation, physical work environment factors also play a crucial role in supporting public service performance. The physical work environment encompasses the condition of the service space, layout, cleanliness, lighting, air temperature, and the availability of facilities and infrastructure that support staff work activities. An inadequate work environment has the potential to reduce employee comfort, concentration, and productivity, ultimately impacting the quality of service perceived by the public (Robbins & Judge, 2017; Sedarmayanti, 2019). Empirical research shows that a conducive physical work environment positively influences staff performance and public service user satisfaction (Rahmasita & Perizade, 2022; Baribin et al., 2022).

Public service performance acts as a link between organizational inputs—such as service innovation and the physical work environment—and outputs in the form of public satisfaction. Service performance is measured not only by achieving administrative targets, but also by how quickly, accurately, responsively, and oriented toward public needs are implemented (Poister, 2020). When service performance is inconsistent, even after innovations and improvement programs have been launched, public satisfaction tends to fluctuate and is difficult to sustainably improve (Zeithaml et al., 2018; Kotler & Keller, 2016).

This phenomenon is relevant to the public service situation at the Regional Revenue Agency (Bapenda) of West Tanjung Jabung Regency. As an agency with a strategic role in managing regional revenues, Bapenda interacts directly with the public through various types of tax services. Empirical data shows an increase in the number of taxpayers and service burden from year to year, which is not fully offset by the optimal use of service innovations and the availability of an adequate physical work environment. Although the service quality index and the Public Satisfaction Index (IKM) are in the "good" category, their values tend to fluctuate and have not shown consistent improvement. This condition indicates a fundamental problem in the effectiveness of public service performance that requires further examination.

Various previous studies have examined the relationship between service innovation, service performance, and public satisfaction (Firmansyah, 2021; Sari & Cahyono, 2021; Ardianita et al., 2024). However, most studies still focus on the direct influence between variables and have not yet integrated the role of the physical work environment as a supporting factor for service performance in the context of regional public organizations. Furthermore, empirical studies that specifically position public service performance as a mediating variable in the relationship between service innovation, the physical work environment, and public satisfaction are still relatively limited, particularly in regional revenue management agencies.

Based on this description, this study is important to empirically examine how service innovation and the physical work environment influence public satisfaction through public service performance at the Regional Revenue Agency of West Tanjung Jabung Regency. This study is expected to provide theoretical contributions to enrich the public service literature, while also providing practical recommendations for local governments in formulating strategies

to improve service quality that are more effective, sustainable, and oriented towards public satisfaction.

METHOD

This study uses a quantitative approach with an explanatory research design, which aims to explain the causal relationships between research variables by testing previously formulated hypotheses. A quantitative approach was chosen because it can provide an objective picture of the relationship patterns between variables based on measurable numerical data and statistical analysis (Creswell & Creswell, 2018). Specifically, this study examines the influence of service innovation and the physical work environment on public satisfaction, with public service performance as a mediating variable.

This research was conducted at the Regional Revenue Agency of West Tanjung Jabung Regency. The population in this study were all taxpayers who received services at Regional Revenue Agency of West Tanjung Jabung Regency, with a total of 120,740 people based on service data in 2024. Considering the large population, the sampling technique was carried out using the Slovin formula to obtain a representative sample size (Umar, 2016). With a margin of error of 10%, a sample size of 100 respondents was obtained, which was considered to have met the sample adequacy requirements for statistical analysis based on Partial Least Square (Hair et al., 2017).

Data analysis was conducted using the Partial Least Squares-based Structural Equation Modeling (SEM-PLS) approach with the assistance of SmartPLS software. The SEM-PLS method was chosen because it has advantages in analyzing complex structural models, does not require normal data distribution, and can be used on relatively small sample sizes (Hair et al., 2017; Sarstedt et al., 2017).

Model evaluation in SEM-PLS is conducted through two main stages: measurement model evaluation (outer model) and structural model evaluation (inner model). Outer model evaluation includes testing convergent validity, discriminant validity, and construct reliability using outer loading values, composite reliability, and Cronbach's alpha. Meanwhile, inner model evaluation is conducted by assessing the coefficient of determination (R^2), effect size (f^2), and the significance of path coefficients through a bootstrapping procedure to test the research hypothesis (Ghozali, 2021; Hair et al., 2017).

RESULTS AND DISCUSSION

Respondent Profile

This study profiles respondents based on four key demographic attributes: gender, age group, education level, and occupation. The data source is a questionnaire completed by community members using the Regional Revenue Agency (Bapenda) of West Tanjung Jabung Regency. The purpose of presenting these characteristics is to contextualize the sample's background, allowing for a more in-depth and relevant analysis and interpretation of the research results. A complete description of the profiles of the respondents captured in this study is presented below.

Table 1. Respondent Profile

Profile	Information	Frequency (People)	Ratio (%)
Gender	Man	69	69
	Woman	31	31
Amount		**100**	**100**
Age Group (Years)	< 25	4	4.0
	25-35	53	53.0
	36-45	34	34.0
	46-55	8	8.0
	> 55	1	1.0

Profile	Information	Frequency (People)	Ratio (%)
Amount		**100**	**100**
Education	High School or Equivalent	27	27.0
	Diploma	5	5.0
	Bachelor degree	63	63
	Masters	5	5.0
Amount		**100**	**100**
Work	Civil Servant	29	29.0
	Soldier/Police	14	14.0
	Private sector employee	14	14.0
	Self-employed	24	24.0
	Farmers/Fishermen	19	19.0
Amount		**100**	**100**

Source: Processed data (2025)

Description of Research Variables

The descriptive statistical analysis used in this study aims to describe the variables observed through the questionnaire. Each indicator within these variables is designed to represent the actual conditions within the agency, with each question item having a specific classification that captures the real-world situation.

Table 2. Description of Research Variables

No	Hypothesis	Score	Range	Result	Decision
1.	It is suspected that Bapenda is innovating good service	2.964	2.720 – 3.359	Good	Hypothesis Accepted
2.	It is suspected that Bapenda has a good physical work environment.	3.705	3.400 – 4.199	Good	Hypothesis Accepted
3.	It is suspected that Bapenda has good service performance	3.665	3.400 – 4.199	Good	Hypothesis Accepted
4.	It is suspected that Bapenda has a satisfactory level of public satisfaction.	2.969	2.720 – 3.359	Satisfied	Hypothesis Accepted

Source: Processed data (2025)

Evaluation of Measurement Model (Outer Model)

The data analysis technique in this study was Partial Least Squares (PLS), a Structural Equation Modeling (SEM) approach that focuses on components and variance. For analysis purposes, the SmartPLS version 3.0 application was used, specifically designed for variance-based structural equation modeling. The analysis phase included evaluating the outer model to assess the accuracy and consistency of the measurement constructs, and testing the inner model to prove the relationship between variables based on the formulated hypotheses.

The outer model evaluation process in PLS-SEM analysis using SmartPLS 3.0 is carried out through an assessment of three key aspects: convergent validity, discriminant validity, and composite reliability. For models with reflective indicators, convergent validity is measured based on the level of correlation (loading) between the indicators and the constructs generated in the modeling. The eligibility criteria for an indicator are met if it has a loading factor value of at least 0.70 on the construct being measured. This study sets a minimum limit of 0.70 as the assessment benchmark. The following are the analysis results:

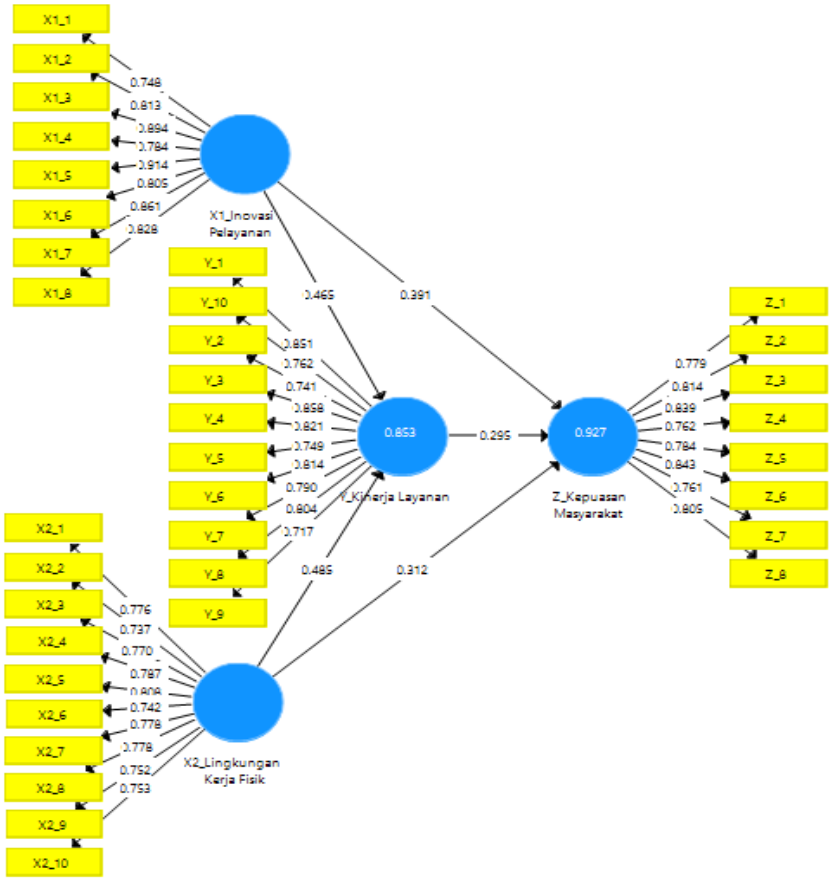

Figure 1. Full Outer Model

Based on the PLS modeling output presented in Figure 1 above, all research indicators have met the convergent validity criteria because they have outer loading values above the threshold of 0.70. Conceptually, an outer loading above 0.70 indicates a strong correlation between the indicator and its construct, which meets good convergent validity standards. The lowest outer loading value was found in indicator Y_9 at 0.717, while the highest value was achieved by indicator X1_5 with 0.914. Thus, the research stage can proceed to the next analysis.

Structural Model Test Results (Inner Model)

After verifying that all constructs met the standards of convergent, discriminant, and composite reliability validity, the analysis moved on to evaluating the structural model. This evaluation focused on two key aspects: the R-square test to assess how well the model predicts endogenous variables, and the F-square analysis to measure the extent of each exogenous variable's influence on the dependent variable.

Results of R-Square Test Analysis

The coefficient of determination (R^2) serves as an indicator that measures the proportion of endogenous construct variance that can be explained by exogenous constructs in the model. In the context of structural model evaluation, the R^2 value reflects the level of predictive power of the model in aggregate. Based on the classification of Hair et al. (2017), the R^2 value can be interpreted into three categories: 1) a value of 0.75 reflects high predictive power; 2) a value of 0.50 indicates moderate predictive power; and 3) a value of 0.25 represents relatively low predictive power. The results of the R^2 calculation for this research model are shown in the following table:

Table 3. R Square Test Results

	R Square	Adjusted R Square
Y_Service Performance	0,853	0,850
Z Community Satisfaction	0,927	0,925

Source: SmartPLS 3 output (2025).

Based on Table 3, the R-Square (R^2) value obtained shows the predictive power of the structural model in this study. The Service Performance variable (Y) has an R^2 value of 0.853, which means that 85.3% of the variation in service performance can be explained by the service innovation and physical work environment variables, while the rest is influenced by other factors outside the model. Meanwhile, the Customer Satisfaction variable (Z) achieved an R^2 value of 0.927, indicating that 92.7% of the variation in customer satisfaction can be explained jointly by service innovation, physical work environment, and service performance.

The Adjusted R-Square value, which is nearly equal to R^2 (0.850 for Y and 0.925 for Z), indicates that the model does not contain excess indicators (overfitting) and has high stability. Therefore, this research model is considered very robust in predicting endogenous variables, particularly in explaining factors influencing public satisfaction.

F–Square Value (*f2* Effect Size)

The F-square test is conducted to evaluate the significance of the contribution of an exogenous construct by observing the change in the R-square value if the construct is excluded from the model. The interpretation criteria for effect size according to Hair et al. (2017) are as follows: 1) a value of 0.02 indicates a small effect; 2) a value of 0.15 indicates a moderate effect; 3) a value of 0.35 represents a large effect; and 4) a value below 0.02 proves that the variable does not have a significant effect. The results of the F-square calculation for this research model are presented in the following table:

Table 4. F-Square Test Results

	Y_Service Performance	Z Community Satisfaction
X1 Service Innovation	**0,309**	**0,334**
X2 Physical Work Environment	**0,336**	**0,209**
Y_Service Performance		**0,175**

Source: SmartPLS 3 output (2025).

Based on the results of the effect size (f^2) test, it is known that service innovation and the physical work environment have a significant contribution to service performance and public satisfaction. Service innovation shows an f^2 value of 0.309 on service performance and 0.334 on public satisfaction, which indicates a moderate to strong influence.

Meanwhile, the physical work environment has a strong influence on service performance with an f^2 value of 0.336, and a moderate influence on public satisfaction of 0.209. In addition, service performance also has a moderate influence on public satisfaction with an f^2 value of 0.175. Overall, these findings indicate that service innovation and the physical work environment play an important role in improving public service performance, which in turn has an impact on increasing public satisfaction.

Hypothesis Testing Analysis Results (Path Coefficient)

The results of the structural model testing are explained in the discussion in Figure 2 and Table 5 below.

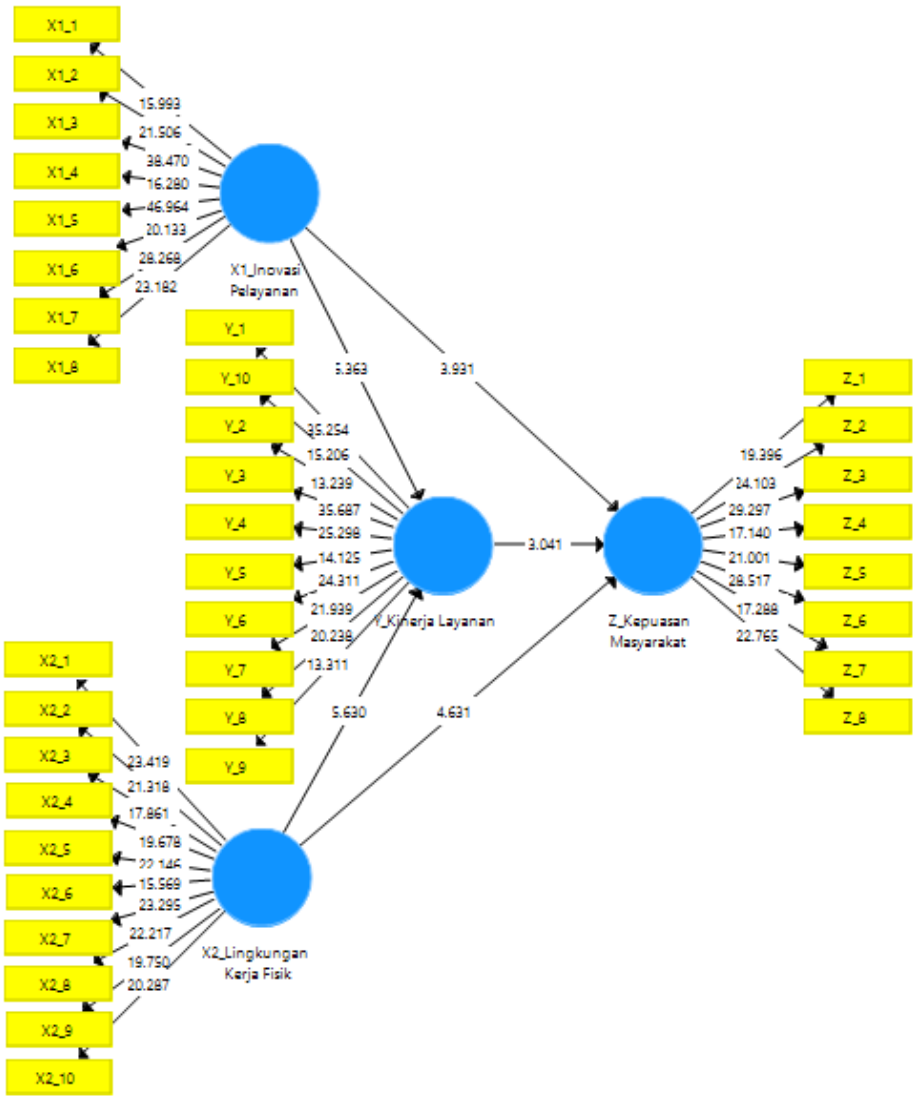

Figure 2. Research Construct Relationship Model Using Bootstrapping Method

Table 5. Summary of Hypothesis Tests

	Hypothesis	Original Sample (O)	T Statistics (|O/STDEV|)	P Values	Kesimpulan
1	Service Innovation on Service Performance	0,465	5,363	0,000	Hypothesis Accepted
2	Physical Work Environment on Service Performance	0,485	5,630	0,000	Hypothesis Accepted
3	Service Innovation for Community Satisfaction	0,391	3,931	0,000	Hypothesis Accepted
4	Physical Work Environment on Community Satisfaction	0,312	4,631	0,000	Hypothesis Accepted
5	Service Performance on Public Satisfaction	0,295	3,041	0,003	Hypothesis Accepted
6	Service Performance Mediates Service Innovation to Community Satisfaction	0,137	2,758	0,006	Hypothesis Accepted
7	Service Performance Mediates Physical Work Environment on Community Satisfaction	0,143	2,504	0,013	Hypothesis Accepted

Source: SmartPLS 3 output (2025).

The results of the study indicate that service innovation has a positive and significant impact on public service performance. This finding confirms that the application of innovation in service processes, such as simplifying procedures, utilizing technology, and increasing staff responsiveness, can improve the effectiveness and quality of service performance. Conceptually, service innovation is a strategic instrument for public sector organizations to respond to changing community needs and increase the value of services provided (de Vries et al., 2016; OECD & Eurostat, 2018). The results of this study align with the empirical findings of Torres et al. (2020) and Firmansyah (2021), which state that service innovation contributes significantly to improving public service performance, especially in local government agencies that interact directly with the public.

In addition to service innovation, the physical work environment has been shown to have a positive and significant impact on public service performance. These findings indicate that the physical condition of the workplace, such as the comfort of the service area, cleanliness, lighting, and availability of infrastructure, plays a crucial role in supporting the productivity and quality of work of civil servants. Theoretically, a conducive physical work environment can improve employee concentration, motivation, and efficiency, ultimately impacting organizational performance (Robbins & Judge, 2017; Sedarmayanti, 2019). These results support previous research that found the physical work environment significantly influences public service performance and government apparatus performance (Rahmasita & Perizade, 2022; Baribin et al., 2022).

Furthermore, the research results show that service innovation has a positive and significant impact on public satisfaction. This finding indicates that people tend to feel more satisfied when the services they receive are easily accessible, fast, transparent, and tailored to their needs. Conceptually, public satisfaction is a subjective evaluation of the match between expectations and perceived service performance (Kotler & Keller, 2016; Zeithaml et al., 2018). These research results align with empirical studies that suggest that public service innovation, particularly technology- and process-based innovation, directly contributes to increased public satisfaction (Rahmananda et al., 2024; Ardianita et al., 2024).

The analysis also shows that the physical work environment has a positive and significant impact on customer satisfaction, although the effect is not as significant as service innovation. This finding suggests that the physical condition of the service space remains a crucial factor in shaping customer perceptions of service quality, particularly regarding comfort and ease of access. This aligns with the view that tangible aspects of public services, such as facilities and infrastructure, are key determinants of user satisfaction (Parasuraman et al., 1988; Ratminto & Winarsih, 2019). These findings support previous research that found that the quality of facilities and the physical environment of service contribute to customer satisfaction (Sari & Cahyono, 2021).

Furthermore, this study demonstrates that public service performance has a positive and significant impact on public satisfaction. This finding confirms that increased public satisfaction is not solely determined by innovation or physical facilities, but also by how effectively, responsively, and accountably these services are implemented. Theoretically, service performance represents a public organization's ability to meet service objectives and public expectations (Poister, 2020; Dwiyanto, 2018). These results are consistent with various empirical studies showing that public service performance is a key predictor of public satisfaction (Zeithaml et al., 2018; Firmansyah, 2021).

The role of public service performance as a mediating variable in this study indicates that service innovation and the physical work environment not only directly influence public satisfaction but also through improved service performance. This finding reinforces the public service management approach that positions service performance as a key mechanism in transforming organizational resources and innovation into perceived value for the public. Therefore, improving public satisfaction requires an integrated strategy that encompasses the

development of service innovation, improvements to the physical work environment, and the continuous strengthening of public service performance.

CONCLUSION

The research results show that service innovation and the physical work environment are important factors in improving public service performance and public satisfaction. Service innovation has been shown to significantly contribute to improving service quality while directly strengthening public satisfaction as users of public services. These findings confirm that improving service processes oriented towards convenience, speed, and transparency is key to creating a positive service experience.

The physical work environment has also been shown to play a strategic role in improving public service performance and public satisfaction. Comfortable service spaces, adequate facilities, and a layout that supports service activities can encourage optimal staff performance, ultimately impacting the quality of service perceived by the public. Although its influence on public satisfaction is not as strong as service innovation, the physical work environment remains an indispensable supporting element in public service delivery.

Furthermore, public service performance acts as a crucial mechanism bridging the influence of service innovation and the physical work environment on public satisfaction. These findings suggest that public satisfaction is not solely determined by the presence of innovation and physical facilities, but also by the ability of public organizations to manage and execute services effectively, responsively, and accountably. Overall, the results of this study emphasize the importance of an integrated approach to improving public service quality by simultaneously strengthening innovation, the physical work environment, and service performance.

This study has several limitations that should be considered when interpreting the results. First, the study used a cross-sectional design, which means it cannot capture the dynamics of changes in public perceptions of service innovation and service performance over the long term. Second, data collection was conducted using a questionnaire based on respondents' perceptions, which has the potential to introduce subjective bias and differences in interpretation between respondents. Third, the research object is limited to one agency, namely the Regional Revenue Agency of West Tanjung Jabung Regency, so the results cannot be broadly generalized to other public agencies with different characteristics.

Based on the research findings and limitations, several recommendations can be put forward. First, practitioners and managers of public services, particularly the Regional Revenue Agency of West Tanjung Jabung Regency, are advised to continue developing service innovations oriented to community needs, particularly through optimizing information technology and simplifying service procedures. Furthermore, improving and maintaining the physical work environment needs to be a primary focus to create a comfortable work environment and support improved staff performance.

Second, for local governments, the results of this study can serve as a basis for formulating policies to improve the quality of public services that integrate innovation, work environment management, and service performance enhancement. Third, for future researchers, it is recommended to expand the research by adding other relevant variables, such as apparatus competence, organizational culture, and leadership quality, as well as using a longitudinal research design or expanding the research object to other public institutions to obtain more comprehensive and generalizable results.

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