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The Effect of Competence, Service Innovation, and Knowledge Sharing on Work Effectiveness at Tegal Regency's Investment and One-Stop Service Office

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Abstract

Employee work effectiveness is a key determinant of service quality in public organizations, yet evidence on its drivers remains mixed. This study analyzes the effect of competence, service innovation, and knowledge sharing on employee work effectiveness at the Investment and One-Stop Integrated Service Office of Tegal Regency, Indonesia. A quantitative approach with a causal design was employed. All 45 employees of the office were included as respondents through a saturated sampling technique, and data were collected using a Likert-scale questionnaire. The data were analyzed using multiple linear regression, the t-test, the F-test, and the coefficient of determination in IBM SPSS Statistics. The results show that competence has a positive and significant effect on work effectiveness ($B = 0.529$, $\text{Sig.} = 0.000$), service innovation has a positive but insignificant effect ($B = 0.026$, $\text{Sig.} = 0.430$), and knowledge sharing has a positive and significant effect ($B = 0.694$, $\text{Sig.} = 0.000$). Simultaneously, the three variables have a significant effect on work effectiveness ($F = 347.115$, $\text{Sig.} = 0.000$), and an Adjusted R Square of 0.959 indicates that they explain 95.9% of its variation, while the remaining 4.1% is explained by factors outside the model. The findings suggest that efforts to improve work effectiveness in public service organizations should focus primarily on developing employee competence

and strengthening knowledge sharing, while service innovation needs to be accompanied by employee readiness before it can translate into effectiveness gains.

Keywords : *competence; service innovation; knowledge sharing; work effectiveness*

I. INTRODUCTION

Employee work effectiveness is one of the key factors in the success of public sector organizations. Employees who are competent, responsible, and able to cooperate, and who complete their work in line with targets, support the achievement of organizational goals and improve the quality of services delivered to the public (Wulandari & Hernawaty, 2024). In public service units, effectiveness is particularly important because the quality of work implementation directly affects the smoothness of the service process experienced by the public.

The Investment and One-Stop Integrated Service Office of Tegal Regency (*Dinas Penanaman Modal dan Pelayanan Terpadu Satu Pintu Kabupaten Tegal*; hereafter, the Office) is a public organization responsible for administering investment services and one-stop integrated services. Because the smoothness of these services depends on how well employees carry out their work, employee work effectiveness is a critical concern for the Office.

A pre-survey of 24 employees indicated that work effectiveness is still not optimal. Specifically, 62.50% of respondents stated that they do not always comply with work schedules, 58.33% reported that work results are not yet consistent, and 66.67% reported that communication with coworkers and supervisors has not yet been effective. Problems were also identified in the three explanatory variables. Regarding competence, 58.33% of respondents did not yet fully understand how to use work technology, 62.50% considered team collaboration ineffective, and 66.67% had difficulty adapting to change. Regarding service innovation, 62.50% stated that the use of information technology has not been going well, and 66.67% assessed service quality as not yet optimal. Regarding knowledge sharing, 62.50% reported that access to information is not yet good, 66.67% stated that joint problem solving is not yet effective, and 58.33% stated that knowledge transfer among employees is not yet optimal.

Theoretically, these relationships can be explained from the resource-based and knowledge-based perspectives, which regard employee competence and the knowledge circulating within an organization as valuable resources for improving work outcomes, while service innovation represents the organization's effort to renew its processes and technologies. Previous studies have examined the relationship between competence and work effectiveness (Aniswara et al., 2025; Goi et al., 2022; Mukminin, 2025; Pera et al., 2025; Sulaeman et al., 2024), the effectiveness of service innovation in public organizations (Arsyad, 2025; Hanipah & Aryani, 2022; Saputra & Widiyarta, 2021), and the role of knowledge sharing (Liman & Idulfilastri, 2022; Prayuda, 2022). However, the findings are not uniform. Several studies found that competence has a significant effect on work effectiveness, whereas others reported different results, and inconsistent evidence has also been found for the relationship between service innovation and work effectiveness (Sakawati et al., 2024). These inconsistencies constitute a research gap that motivates the present study.

This study contributes to the literature in two ways. First, to the authors' knowledge, few studies have examined competence, service innovation, and knowledge sharing jointly in a single model, particularly in the setting of a regional one-stop investment service office. Second, the pre-survey evidence provides a problem-based motivation that links observed weaknesses in each variable to employee work effectiveness. Accordingly, this study aims to analyze the effect of competence, service innovation, and knowledge sharing on the work effectiveness of employees of the Office, both partially and simultaneously. The findings are expected to provide empirical evidence on the drivers of work effectiveness in Indonesian local government and practical guidance for human resource development and knowledge management in public service units.

A. Literature Review and Hypothesis Development

Work effectiveness is the ability of employees to complete work according to the targets, standards, and time that have been set. In this study, work effectiveness covers timeliness, work quality, work quantity, responsibility, and cooperation.

Competence is a combination of knowledge, skills, attitudes, and behaviors that enable employees to carry out their work effectively. It encompasses technical, managerial, social or behavioral, and personal aspects. Employees with good competence understand their work, use technology, coordinate with colleagues, and adapt to change. Consistent with this reasoning, Goi et al. (2022), Aniswara et al. (2025), Sulaeman et al. (2024), and Pera et al. (2025) show that competence has a positive effect on work effectiveness. Based on theory and these previous studies, the first hypothesis is formulated as follows:

H1: Competence has a positive and significant effect on employee work effectiveness.

Service innovation is the application of new ideas, methods, technologies, or approaches to improve the quality and efficiency of services (Rohayatin, 2024; Walo, 2022). In this study, it includes technology, processes, products or services, and customer interaction. Innovation is expected to streamline service delivery and thereby raise employee work effectiveness; however, its benefits may depend on how ready employees are to adopt it, and the empirical evidence is not uniform (Sakawati et al., 2024). Therefore:

H2: Service innovation has a positive and significant effect on employee work effectiveness.

Knowledge sharing is the process of exchanging knowledge, information, experience, and skills among employees. It helps organizations turn individual knowledge into shared knowledge through information access, collaboration, sharing of best practices, and the use of knowledge for innovation (Saragih, 2024). Liman and Idulfilastri (2022) and Prayuda (2022) indicate a positive relationship between knowledge sharing and effectiveness. Therefore:

H3: Knowledge sharing has a positive and significant effect on employee work effectiveness.

Finally, because these factors operate together in the workplace, they are expected to jointly explain employee work effectiveness:

H4: Competence, service innovation, and knowledge sharing simultaneously have a significant effect on employee work effectiveness.

Fig. 1 summarizes the research framework and the hypothesized relationships among the variables.

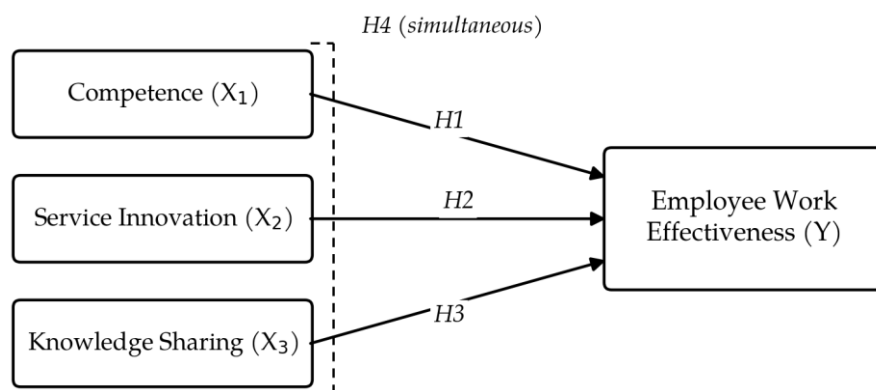


Fig. 1. Research framework

II. METHOD

This study employs a quantitative approach with a causal design to test the effect of three independent variables on one dependent variable. The research population comprises all 45 employees of the Office. Because the population is small, a saturated sampling technique was applied, so that all members of the population became respondents.

Primary data were collected through a questionnaire using a Likert scale. The research variables are competence (X_1), service innovation (X_2), knowledge sharing (X_3), and work effectiveness (Y). Work effectiveness is operationalized through timeliness, work quality, work quantity, responsibility, and cooperation. Competence covers technical, managerial, social or behavioral, and personal aspects. Service innovation is measured through technology, processes, products or services, and customer interaction. Knowledge sharing is measured through information access, collaboration, sharing of best practices, and the use of knowledge for innovation.

Data analysis was carried out using IBM SPSS Statistics and comprised validity and reliability tests of the instrument, classical assumption tests, multiple linear regression analysis, the partial test (t-test), the simultaneous test (F-test), and the coefficient of determination. The regression model is specified as $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$, where Y is work effectiveness, X_1 is competence, X_2 is service innovation, X_3 is knowledge sharing, and e is the error term. All instrument items were declared valid. The reliability results show that all variables are reliable, with Cronbach's alpha of 0.969 for work effectiveness, 0.949 for competence, 0.971 for service innovation, and 0.968 for knowledge sharing.

III. RESULTS AND DISCUSSION

This section presents the respondent profile, the results of the classical assumption tests and the regression analysis, and a discussion of the findings in light of previous studies.

A. Respondent Characteristics

Based on the data collection, the characteristics of the 45 respondents are presented in Table I.

TABLE I. RESPONDENT CHARACTERISTICS

Characteristic	Category	Frequency (persons)	Percentage (%)
Gender	Male	23	51.1
	Female	22	48.9
	Total	45	100.0
Age	20–30 years	8	17.8
	31–40 years	16	35.6
	41–50 years	14	31.1
	Over 50 years	7	15.5
	Total	45	100.0
Education	Senior high school or equivalent	4	8.9
	Diploma (D3)	8	17.8
	Bachelor's degree (S1)	28	62.2
	Postgraduate (S2/S3)	5	11.1
	Total	45	100.0
Length of service	1–5 years	11	24.4
	6–10 years	15	33.3
	Over 10 years	19	42.2
	Total	45	100.0

Source: Processed primary data (2026)

Respondents were dominated by male employees (23 people; 51.1%), aged 31–40 years (16 people; 35.6%), holding a bachelor's degree (S1) (28 people; 62.2%), and having more than 10 years of service (19 people; 42.2%). This composition indicates that most respondents have a sound educational background and adequate work experience, which enables them to provide relevant information for this study.

B. Classical Assumption Tests

The classical assumption tests show that the regression model meets the requirements for analysis. The normality test yields a significance value of 0.200 (> 0.05). The multicollinearity test shows that the tolerance values of all variables are above 0.10 and the VIF values are below 10. The heteroscedasticity test also shows that the significance value of each variable is above 0.05.

C. Regression Results and Hypothesis Testing

Table II reports the results of the multiple linear regression analysis together with the partial test (t-test). With 45 respondents and three independent variables, the degrees of freedom are 41 ($45 - 3 - 1$), so the critical t value at the 0.05 significance level is 2.019. A hypothesis is accepted when the calculated t exceeds the critical t and the significance value is below 0.05.

TABLE II. MULTIPLE LINEAR REGRESSION AND PARTIAL TEST RESULTS

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.692	1.652	—	-1.629	0.111
Competence (X_1)	0.529	0.119	0.392	4.462	0.000
Service Innovation (X_2)	0.026	0.032	0.025	0.797	0.430
Knowledge Sharing (X_3)	0.694	0.104	0.597	6.697	0.000

Dependent variable: Work Effectiveness (Y). Source: SPSS output (2026)

Based on Table II, the following regression equation is obtained:

$$Y = -2.692 + 0.529X_1 + 0.026X_2 + 0.694X_3 + e$$

Competence has a positive and significant effect on work effectiveness because the calculated t of 4.462 exceeds 2.019 and Sig. 0.000 is below 0.05. Service innovation has a positive but insignificant effect because the calculated t of 0.797 is below 2.019 and Sig. 0.430 is above 0.05. Knowledge sharing has a positive and significant effect because the calculated t of 6.697 exceeds 2.019 and Sig. 0.000 is below 0.05. The standardized coefficients show that knowledge sharing ($\beta = 0.597$) is the strongest predictor, followed by competence ($\beta = 0.392$), whereas service innovation contributes very little ($\beta = 0.025$).

The simultaneous test (F-test) is presented in Table III. The calculated F value of 347.115 with a significance of 0.000 (< 0.05) indicates that competence, service innovation, and knowledge sharing simultaneously have a significant effect on employee work effectiveness.

TABLE III. SIMULTANEOUS TEST (F-TEST) RESULTS

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1457.431	3	485.810	347.115	0.000
Residual	57.382	41	1.400		
Total	1514.814	44			

Dependent variable: Work Effectiveness (Y). Source: SPSS output (2026)

The coefficient of determination is shown in Table IV. The Adjusted R Square is used because the regression model contains more than one independent variable. Its value of 0.959 means that competence, service innovation, and knowledge sharing together explain 95.9% of the variation in work effectiveness, while the remaining 4.1% is explained by other factors outside the research model.

TABLE IV. COEFFICIENT OF DETERMINATION

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.981	0.962	0.959	1.183

Source: SPSS output (2026)

Table V summarizes the results of the hypothesis testing.

TABLE V. SUMMARY OF HYPOTHESIS TESTING

Hypothesis	Relationship	Test statistic	Sig.	Decision
H1	Competence $\rightarrow$ Work Effectiveness	B = 0.529; t = 4.462	0.000	Accepted
H2	Service Innovation $\rightarrow$ Work Effectiveness	B = 0.026; t = 0.797	0.430	Rejected
H3	Knowledge Sharing $\rightarrow$ Work Effectiveness	B = 0.694; t = 6.697	0.000	Accepted
H4	X_1, X_2, X_3 simultaneously $\rightarrow$ Work Effectiveness	F = 347.115	0.000	Accepted

Decision rule: accepted if Sig. < 0.05 (critical t = 2.019 for the partial tests). Source: SPSS output (2026)

D. Discussion

Competence and work effectiveness. Competence has a regression coefficient of 0.529 with a calculated t of 4.462 and a significance of 0.000. Because the significance value is below 0.05, H1 is accepted: the better the employees' competence, the higher their work effectiveness. Competence gives employees the ability to understand their tasks, master technology and procedures, cooperate with colleagues, and adapt to change, all of which are needed to complete work according to targets. This is consistent with the pre-survey, in which more than half of the respondents did not yet fully understand how to use work technology and had difficulty adapting to change, suggesting that such competence gaps are likely to constrain effectiveness. This finding is in line with Goi et al. (2022), Aniswara et al. (2025), Sulaeman et al. (2024), and Pera et al. (2025). Therefore, developing competence through training, improving technological skills, and strengthening adaptability is important for improving work effectiveness.

Service innovation and work effectiveness. Service innovation has a regression coefficient of 0.026 with a calculated t of 0.797 and a significance of 0.430. Because the significance value is above 0.05, H2 is rejected. Service innovation therefore has a positive direction of relationship but does not yet have a significant effect on work effectiveness. A plausible explanation is that service innovation is not yet fully supported by employee readiness, technological capability, coordination, and adaptation to change. This explanation is consistent with the pre-survey, in which a majority of respondents reported that the use of information technology had not yet gone well. Consequently, the implementation of innovation needs to be accompanied by competence development and socialization so that innovation can have a direct impact on work effectiveness. This result is in line with Sakawati et al. (2024), who show that service innovation does not always have a significant effect on service effectiveness.

Knowledge sharing and work effectiveness. Knowledge sharing has a regression coefficient of 0.694 with a calculated t of 6.697 and a significance of 0.000. Because the significance value is below 0.05, H3 is accepted: the better the knowledge sharing, the higher the employee work effectiveness. Knowledge sharing enables employees to obtain information, experience, and solutions from coworkers so that work can be completed more quickly and accurately. This result is in line with Liman and Idulfilastri (2022) and Prayuda (2022). The pre-survey likewise showed that more than half of the respondents considered access to information and knowledge transfer to be below optimal, which underlines the practical relevance of this result. Its standardized coefficient, the largest among the three predictors, suggests that the exchange of knowledge is the most influential factor in the Office. Organizations therefore need to strengthen forums for sharing experience, access to information, knowledge documentation, and joint problem solving.

Simultaneous effect. The F-test shows a calculated F value of 347.115 with a significance of 0.000; therefore, H4 is accepted. Competence, service innovation, and knowledge sharing together have a significant effect on work effectiveness. The Adjusted R Square of 95.9% indicates that the research model has a very high capability in explaining the variation in work effectiveness. These results show that work effectiveness is not determined solely by individual ability but is also related to service renewal and to the organization's ability to manage knowledge. At the same time, an Adjusted R Square this high should be interpreted with caution, because all variables were measured through self-reported perceptions from the same respondents, which may inflate the observed relationships.

IV. CONCLUSIONS

This study analyzed the effect of competence, service innovation, and knowledge sharing on employee work effectiveness at the Investment and One-Stop Integrated Service Office of Tegal Regency. The results show that (1) competence has a positive and significant effect on work effectiveness ($B = 0.529$, $\text{Sig.} = 0.000$); (2) service innovation has a positive but insignificant effect ($B = 0.026$, $\text{Sig.} = 0.430$); (3) knowledge sharing has a positive and significant effect ($B = 0.694$, $\text{Sig.} = 0.000$); and (4) the three variables simultaneously have a significant effect ($F = 347.115$, $\text{Sig.} = 0.000$). The Adjusted R Square of 0.959 indicates that 95.9% of the variation in work effectiveness can be explained by the three research variables, while 4.1% is influenced by other factors.

Theoretically, the findings support the view that human capital and knowledge resources are primary drivers of effectiveness in public service organizations, and they show that service innovation does not automatically improve effectiveness unless employees are ready to use it. Practically, the leaders of the Office should prioritize competence development through training, technological skills, and adaptability; strengthen forums for knowledge sharing and knowledge documentation; and introduce service innovations together with socialization and capacity building.

This study has several limitations. It is limited to one public organization with 45 respondents, relies on cross-sectional perceptual data collected through a questionnaire, and does not include other determinants of work effectiveness. Future studies are encouraged to involve multiple regional service offices, to use longer observation periods or mixed methods,

to add variables such as leadership, work motivation, or digital readiness, and to test mediating or moderating mechanisms, for example whether competence moderates the effect of service innovation on work effectiveness.

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