

## The Effect of E-Office Implementation on the Effectiveness and Productivity of ASN Performance and the Formulation of Strategies for Improving Them in Bappelitbangda OKU Regency

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### ABSTRACT

*This study investigates the effect of e-office implementation on the effectiveness and productivity of civil servants (ASN) at the Regional Development Planning, Research, and Development Agency (Bappelitbangda) of Ogan Komering Ulu Regency. It further examines whether work effectiveness mediates the relationship between e-office usage and employee productivity, and formulates strategic recommendations to enhance organizational performance. Using a quantitative survey design, data were collected from 60 ASN respondents through structured questionnaires. The analysis employed validity and reliability testing, classical assumption testing, simple and multiple linear regression, t-tests, F-tests, and Sobel mediation tests. Additionally, SWOT analysis was used to identify internal and external factors and to develop relevant*

*performance improvement strategies. Findings confirm that e-office implementation significantly improves both work effectiveness and productivity. Work effectiveness also serves as a significant mediating variable in the relationship between e-office usage and productivity. These results demonstrate that digital administrative systems enhance timeliness, accuracy, efficiency, and consistency of ASN performance. The research is limited to a single institution and relies on self-reported data, which may reduce generalizability and introduce potential response bias. This study contributes to public sector performance literature by providing empirical evidence on the strategic role of e-office systems in improving ASN productivity. It also offers practical managerial insights for optimizing digital work processes in government institutions.*

### A. INTRODUCTION

Digital transformation has become a strategic agenda in the implementation of modern government. The development of information and communication technology (ICT) encourages public sector organizations to adapt through the use of electronic-based systems in order to be able to increase transparency, effectiveness, efficiency, and quality of public services. In Indonesia, the strengthening of the electronic-based government system has been mandated through Presidential Instruction No. 3 of 2003 concerning National Policies and Strategies for the Development of E-Government. The instruction emphasizes the need for administrative reform through the use of digital technology to support accountability, competitiveness, and bureaucratic innovation.

In the context of ICT implementation in the public sector, e-office applications play a role as one of the important instruments that can strengthen governance of government administration. This application is designed to digitize office processes such as electronic attendance, document management, correspondence, filling out daily performance reports (LKH), action plans (Renaksi), and employee performance monitoring. According to Handayani (2019), the proper use of e-office applications can increase administrative efficiency and reduce dependence on manual processes that are prone to errors and



ineffectiveness. In line with that, several previous studies have also shown that the implementation of digital technology has a positive impact on employee performance and the quality of public services (Dewandaru, 2015; Zakiyah & Fitri, 2022).

At the regional level, the implementation of the e-office application is increasingly strengthened through central government policies related to the ASN performance management system, especially after the enactment of the BKN e-Performance application based on Permenpan RB Number 6 of 2022. The integration between e-office and e-Performance BKN allows for more structured, accountable, and results-oriented performance management. In addition, the filling of LKH and Renaksi which are directly connected to the payment of Employee Income Supplement (TPP) makes the presence of this system even more important in encouraging the productivity of ASN performance.

Bappelitbangda Ogan Komering Ulu Regency (OKU) is one of the agencies that has implemented the e-office application since 2023. This implementation is expected to be able to increase the effectiveness and productivity of ASN through a more transparent, measurable, and digitally documented work process. However, the results of initial observations show that the use of e-office is not fully optimal. Some of the challenges found include limited network infrastructure, lack of digital competence of employees, lack of training related to the use of applications, and a work culture that is still strong towards manual procedures. In addition, there is a discrepancy between daily performance reporting and employee duties and functions, so the validity of productivity data in the application still needs to be evaluated.

This condition shows that there is a gap between the purpose of e-office implementation and the operational reality in the field. From a theoretical perspective, various technology acceptance models such as the Technology Acceptance Model (TAM) and Diffusion of Innovation Theory explain that the success of technology implementation is influenced by the factors of ease of use, perceived benefits, and user adoption levels. However, there has not been much research that examines how these variables are specifically related in the context of local government bureaucracy, especially in e-office applications that are integrated with the ASN performance measurement system.

Furthermore, empirical studies related to the implementation of e-office in local government environments still tend to be limited. The majority of studies only assessed the direct influence of e-office on employee performance without considering work effectiveness as a mediating variable that can strengthen the relationship. In addition, previous research generally stops at quantitative analysis and has not integrated the findings with the formulation of organizational performance improvement strategies. In fact, in the context of public management, the development of data-based strategies is an important step to ensure the sustainability of improving performance and service quality.

Based on the research gap, this research is relevant and important to be carried out. This study not only analyzes the relationship between e-office implementation, work effectiveness, and productivity of ASN performance, but also examines the role of work effectiveness mediation which is suspected to be a connecting mechanism between the use of technology and increasing employee productivity. Furthermore, this study conducts an analysis of internal and external factors of the organization using the SWOT approach to formulate a comprehensive and empirical evidence-based ASN performance improvement strategy.

Thus, the objectives of this study are: (1) to analyze the effect of e-office implementation on the productivity of ASN performance; (2) analyze the influence of e-office implementation on the effectiveness of ASN performance; (3) testing the effectiveness as a mediating variable in the influence of e-office implementation on the productivity of ASN performance; and (4) formulate a strategy to improve the performance of ASN based on the results of empirical analysis and evaluation of organizational conditions. The results of this research are expected to make a theoretical contribution to the development of literature related to the performance of technology-based ASN, as well as practical input for local

governments in optimizing the use of e-office applications to realize more effective, productive, and accountable governance.

## B. THEORETICAL STUDY

### E-Office Implementation

E-office is a digital-based application used to support office administration, including document management, disposition, electronic attendance, performance reporting, and real-time work monitoring. The use of e-office aims to improve the efficiency, transparency, and accountability of work processes (Handayani, 2019). According to Dewandaru (2015), an integrated digital system can reduce manual errors, speed up administrative flows, and increase employee work effectiveness.

The implementation of technology in organizations is also influenced by perceived usefulness and perceived ease of use in accordance with the Technology Acceptance Model (Davis, 1989). In the context of bureaucracy, the success of e-office implementation is highly determined by the digital competence of employees, infrastructure support, and organizational policies that encourage the use of technology. The indicators of e-office implementation in this study refer to Handayani (2019), namely: (1) the function and completeness of the module; (2) frequency of use; (3) ease of use; (4) training; (5) technical support.

### Work Effectiveness of ASN

Work effectiveness refers to the ability of employees to complete tasks according to set time targets, procedures, and performance standards. Steers (1990) states that effectiveness is achieved when work produces outputs that are in accordance with organizational expectations. In the context of ASN, effectiveness is measured through punctuality, achievement of performance targets, and efficiency of task implementation (Hasibuan, 2017).

Effectiveness has an important role in public organizations because it is directly related to service quality and performance accountability. Civil servants who work effectively are better able to optimize the use of resources and produce consistent work output. Indicators of work effectiveness: (1) punctuality; (2) process efficiency; (3) achievement of work targets.

### ASN Performance Productivity

Performance productivity is the ability of employees to produce output optimally by utilizing available resources. According to Sutresno (2019), productivity is determined by the ability, skills, work spirit, and consistency of employees in producing work results. ASN productivity is important because it is the basis for assessing the performance of individuals and organizations.

In government agencies, productivity is also related to the obligation to report performance, complete daily tasks, and contribute to the achievement of organizational goals. The more productive an employee is, the greater the impact on service quality and the achievement of institutional targets. Productivity indicators in this study: (1) work volume; (2) quality of results; (3) consistency of performance.

### Previous Research

Several relevant studies show that digital technology has a positive impact on employee performance:

1. Handayani (2019): *e-office* improves the efficiency of office administration and services.
2. Fitri & Zakiyah (2022): The use of *e-office* has a significant effect on improving the performance of ASN.
3. Dewandaru (2015): Digitizing administrative processes speeds up workflows and increases accountability.
4. Sari (2021): Electronic performance systems have a positive influence on employee productivity.



However, previous research has generally only examined the direct relationship between technology and performance without examining the role of work effectiveness as a mediating variable.

### Research Gap

Based on the literature review, there are several research gaps:

1. There is a lack of studies that examine the role of work effectiveness mediation in the relationship between *e-office* implementation and ASN productivity.
2. There has not been much research conducted in the context of local government, especially regional planning agencies such as Bappelitbangda.
3. Few studies combine quantitative analysis with organizational strategy formulation, so practical recommendations are not comprehensive.
4. ASN performance is measured not only through output, but also integration with the BKN e-Performance application, which has not been widely researched.

### Hypothesis Development

Based on previous theories and research, the hypotheses tested are as follows:

- H1: The implementation of *e-office* has a positive effect on the productivity of ASN performance.
- H2: The implementation of *e-office* has a positive effect on the effectiveness of ASN performance.
- H3: Work effectiveness has a positive effect on the productivity of ASN performance.
- H4: Work effectiveness mediates the effect of *e-office implementation* on the productivity of ASN performance.

## C. RESEARCH METHODS

### Research Design

This study uses a quantitative approach with a survey method. This approach was chosen to measure the effect of e-office implementation on the effectiveness and productivity of ASN objectively through statistical testing. The research is explanatory because it aims to explain the causal relationship between variables, including the role of mediation of work effectiveness.

### Research Location and Time

The research was carried out at the Regional Development Planning, Research, and Development Agency (Bappelitbangda) of Ogan Komering Ulu Regency (OKU) in the October 2025 period.

### Population and Sample

The research population is all civil servants in Bappelitbangda OKU which totals 48 people. Because the population is less than 100, the sampling technique used is total sampling, so that all members of the population are made respondents.

### Data Types and Sources

The data used consisted of:

1. Primary data was obtained through the distribution of questionnaires regarding the implementation of e-office, work effectiveness, and productivity of ASN.
2. Secondary data, in the form of organizational documents such as organizational structure, job descriptions, performance reports, and policies related to the use of e-office.

### Data Collection Techniques

Data collection was carried out through: (1) Closed questionnaire, using a Likert scale of 1–5; (2) Light observation of the use of e-office applications; (3) Documentation, to complete administrative data.

### **Variable Operationalization**

The operational variables used in this study include:

1. E-Office Implementation (X)  
Measured by indicators: ease of use, usability, system quality, process speed, and technical support.
2. Work Effectiveness (M)  
Indicators include punctuality, quality of task completion, target achievement, and procedural efficiency.
3. Work Productivity (Y)  
Measured by indicators: work volume, output quality, completion accuracy, and performance consistency.  
Each indicator is measured through a Likert scale questionnaire statement.

### **Test Instruments**

The instrument test includes: (1) Validity test, using Pearson correlation. (2) Reliability test, using Cronbach's Alpha.

### **Data Analysis Techniques**

Data analysis is carried out through the following stages:

1. Classical Assumption Test, which is used includes: Normality test, Heteroscedasticity test, Multicollinearity test
2. Linear Regression Analysis, which is used, among others: Simple regression ( $X \rightarrow M$  and  $X \rightarrow Y$ ) and Multiple regression ( $M$  and  $X \rightarrow Y$ )
3. Statistical Tests, which are used include: t-test to test partial influence, F test for simultaneous influence, Coefficient of determination ( $R^2$ ).
4. The Mediation Test is carried out using the Sobel Test to test the role of work effectiveness as a mediation variable.
5. SWOT analysis is used to formulate a strategy to improve ASN performance based on empirical findings.

### **Research Ethics**

All respondents were provided with information about the purpose of the research and participation was voluntary. Data confidentiality is maintained in accordance with research ethical principles

## **D. RESULTS AND DISCUSSION**

### **Validity and Reliability Tests**

The results of the validity test showed that all statement items on the variables of e-office implementation, work effectiveness, and ASN productivity had a calculated  $r$  value greater than the  $r$  of the table and a significance value  $< 0.05$ . Thus, all instruments are declared valid. The reliability test using Cronbach's Alpha showed a  $\geq$  value of 0.70 on all variables, so the instrument was considered reliable and consistently used for measurement.

### **Classic Assumption Test**

The results of the normality test showed a significance value of  $> 0.05$  so that the data was distributed normally. The multicollinearity test showed a VIF value of  $< 10$  and a Tolerance  $> 0.10$  so that no symptoms of multicollinearity were found. The heteroscedasticity test also showed a significance value of  $> 0.05$  which indicates that heteroscedasticity did not occur. Thus, the regression model is worthy of further analysis.

### **Regression Analysis**

The Effect of E-Office Implementation on Work Effectiveness



**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.153	2.430		-1.298	.201
	Implementasi E-Office	.675	.058	.862	11.540	<.001

a. Dependent Variable: Efektivitas Kinerja ASN

**Table of Impact of E-Office Implementation on Work Effectiveness**

The regression results show that the implementation of e-office has a positive and significant effect on work effectiveness. The t-test value shows *the t-count* of the > *t table* and the significance value < 0.05. This shows that the better the implementation of e-office, the higher the level of effectiveness of ASN in completing tasks.

The Effect of E-Office Implementation on ASN Productivity

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.349	2.458		.956	.344
	Implementasi E-Office	.543	.059	.804	9.174	<.001

a. Dependent Variable: Produktivitas Kinerja ASN

**Table of the Effect of E-Office Implementation on ASN Productivity**

The results of the simple regression showed a positive and significant coefficient value, with a sig < 0.05. This shows that the implementation of e-office contributes to increasing ASN productivity, both in terms of timeliness, work volume, and output quality.

The Effect of E-Office Implementation on Work Effectiveness and Productivity of ASN

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.088	2.120		1.928	.060
	Implementasi E-Office	.170	.099	.252	1.722	.092
	Efektivitas Kinerja ASN	.552	.126	.640	4.364	<.001

a. Dependent Variable: Produktivitas Kinerja ASN

**Table of the Effect of E-Office Implementation on Work Effectiveness and Productivity of ASN**

The significance value of 0.092 > 0.05, the implementation of *e-office* has no significant effect on the productivity of ASN performance when tested with ASN performance effectiveness variables. This means that after the ASN performance effectiveness variable is included as a mediation variable, the influence of *e-office* becomes insignificant, which was previously before the ASN performance effectiveness variable had not been included as a mediation variable. The coefficient B = 0.170 still indicates the direction of positive influence, but the effect is not statistically proven. This proves that the effectiveness of ASN performance is full mediation.

Thus, the effectiveness of ASN (M) performance mediates the full influence of the implementation of *e-office* on the productivity of ASN performance. The implementation of *e-office* has a positive effect on ASN Performance Productivity through ASN Performance Effectiveness as a mediation variable. So that hypothesis (H3) "*The implementation of e-office has a positive effect through the effectiveness of ASN performance as a mediating*

variable on the productivity of ASN performance in Bappelitbangda Regency OKU" was accepted.

The Effect of E-Office Implementation and Effectiveness Simultaneously

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	358.553	2	179.277	68.110	<.001 <sup>b</sup>
	Residual	118.447	45	2.632		
	Total	477.000	47			

a. Dependent Variable: Produktivitas Kinerja ASN

b. Predictors: (Constant), Efektivitas Kinerja ASN, Implementasi E-Office

**Table of the Influence of E-Office Implementation and Effectiveness Simultaneously**

The F test showed the value of  $F_{calculated} > F_{table}$  with a significance of  $< 0.05$ , so that the implementation of e-office and effectiveness simultaneously had a significant effect on the productivity of ASN.

Sobel Test (Mediation)

**CALCULATION FOR THE SOBEL TEST**
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**To conduct the Sobel test**

Details can be found in Baron and Kenny (1986), Sobel (1982), Goodman (1960), and MacKinnon, Warsi, and Dwyer (1995). Insert the  $a$ ,  $b$ ,  $s_a$ , and  $s_b$  into the cells below and this program will calculate the critical ratio as a test of whether the indirect effect of the IV on the DV via the mediator is significantly different from zero.

Input:	Test statistic:	Std. Error:	p-value:
$a$ 0.675	Sobel test: 4.10007273	0.09087644	0.0000413
$b$ 0.552	Aroian test: 4.08687935	0.09116981	0.00004372
$s_a$ 0.058	Goodman test: 4.11339471	0.09058212	0.00003899
$s_b$ 0.126	Reset all	Calculate	

**Sobel Test Drawings (Mediation)**

The results of the Sobel Test showed a z-calculated value  $> 1.96$  with a significance of  $< 0.05$ . This means that work effectiveness plays a role as a mediating variable in the influence of e-office implementation on productivity. Thus, the implementation of e-office not only has a direct impact, but also indirectly through increasing work effectiveness.

**Discussion**

**E-Office Implementation Increases Work Effectiveness**

The results of the study show that the use of e-office makes it easier for employees to manage work, speed up administrative processes, and reduce manual errors. This is in line with Davis (1989) who stated that the perception of usefulness and ease of use is the main determinant of the effectiveness of technology adoption.

**E-Office Implementation Affects ASN Productivity**

These findings are consistent with the research of Zakiyah & Fitri (2022), which shows that the digitalization of work processes increases productivity through punctuality and improved output quality. At Bappelitbangda OKU, the use of e-office strengthens accountability and makes it easier to monitor performance achievements.

**Effectiveness of Work as a Mediator**

Effectiveness has been proven to play an important role in bridging the influence of technology on ASN productivity. Supporting the findings of Sudibyo & Mangkunegara (2020), work effectiveness is a mechanism that ensures that technology truly improves performance.



### Contribution of Research Models

This research model not only confirms the direct and indirect influences, but also provides important evidence that the success of e-offices is strongly influenced by employee readiness, training quality, and technical support.

## E. CONCLUSION AND SUGGESTIONS

### Conclusion

Based on the results of quantitative analysis, hypothesis testing, and strategy formulation, this study concludes that:

1. The implementation of e-office has a significant effect on the effectiveness of ASN performance in Bappelitbangda, OKU Regency. Improving the quality of system modules, ease of use, and technical support has been proven to be able to improve punctuality, process efficiency, and achievement of ASN work targets.
2. The implementation of e-office has a significant effect on the productivity of ASN performance. The use of e-office allows civil servants to manage work in a more structured, documented, and monitorable manner in real-time, thus having an impact on increasing the volume and quality of work results.
3. The effectiveness of ASN performance plays a role as a mediating variable that strengthens the influence of e-office implementation on productivity. This means that the more effectively ASN works through the e-office system, the higher the productivity produced.
4. The formulation of performance improvement strategies through the SWOT approach results in several key strategies, namely:
  - a. SO strategy: optimizing the use of e-office features to speed up administrative services and improve performance based on individual performance.
  - b. WO strategy: improving training, digital literacy of civil servants, and improving network infrastructure.
  - c. ST strategy: strengthening discipline policies and e-office data-based performance monitoring.
  - d. WT Strategy: minimizing the competency gap of ASN and improving technical assistance.

Overall, this study proves that e-office not only functions as an administrative support tool, but also as a strategic instrument in increasing the effectiveness and productivity of ASN in regional apparatus organizations.

### Suggestion

Practical Advice for Bappelitbangda OKU Regency and Academic Advice for further research :

1. Increase e-office training and assistance regularly so that all civil servants are able to utilize the application features optimally and correctly, including integration with e-Performance BKN.
2. Improving the quality of internet network infrastructure, especially during peak hours, so that the process of LKH input, attendance, and document delivery is not hampered.
3. Improve e-office data-based supervision and monitoring, so that performance assessments are more objective and in line with TPP calculations.
4. Encouraging digital work culture through performance incentives, reward systems, and discipline enforcement for civil servants who do not input performance according to the provisions.
5. Researchers can then expand the research location to other OPDs so that the research results can be more generalized.
6. Adding other independent variables such as digital literacy, leadership, motivation, organizational culture, and quality of technology services.

7. Conducting longitudinal research to see the development of ASN performance over time after the implementation of e-office.

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