



## The Effect Of Electronic Office On Employees' Work Effectiveness At The Regional Office Of The National Land Agency Of Bengkulu Province

Wella Mustika<sup>1</sup>, Harius Eko Saputra<sup>2</sup>, Antonio Imanda<sup>3</sup>

<sup>1,2,3</sup> Universitas Dehasen Bengkulu

<sup>1</sup> e-mail: [wellamustika48@gmail.com](mailto:wellamustika48@gmail.com)

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**Abstract.** This study aims to determine the effect of the electronic office system on employees' work effectiveness at the Regional Office of the National Land Agency of Bengkulu Province. This research applied a quantitative method with a survey approach. A total of 53 respondents were selected using a simple random sampling technique. Data analysis involved the product moment correlation test, simple linear regression, validity and reliability tests, t-test, and coefficient of determination. The findings reveal that the electronic office system significantly influences employees' work effectiveness. The correlation coefficient of 0.409 indicates a moderate relationship between the variables. The coefficient of determination ( $R^2$ ) of 16.8% shows that the electronic office variable contributes to 16.8% of the variance in work effectiveness. Furthermore, the t-value (3.204) exceeds the t-table value (2.006), meaning that the hypothesis is accepted. Thus, the use of the electronic office system has a positive and significant effect on improving employees' work effectiveness at the Regional Office of BPN Bengkulu Province.

**Keywords:** *Electronic Office, Work Effectiveness, Digital Administration.*

### INTRODUCTION

The rapid development of information and communication technology in the era of digital transformation has brought significant changes to organizational management, particularly within government institutions. Digitalization has become an essential strategy for enhancing the quality, speed, and efficiency of public services. One of the concrete manifestations of this transformation is the implementation of e-government, in which the government adopts digital-based systems to improve administrative processes, strengthen transparency, and optimize communication between various organizational units. The shift from manual to electronic processes has reshaped the way public institutions operate, allowing work activities to become more efficient, structured, and responsive to organizational demands.

According to Kurniasih et al. (2023), e-government refers to the utilization of online applications designed to improve the relationship between government institutions and society, businesses, and internal units. This concept is reinforced by the Indonesian Law No. 19 of 2016 concerning amendments to Law No. 11 of 2008 on Electronic Information and Transactions, which emphasizes the urgency of regulating and managing digital information and communication. In line with this regulation, government institutions are encouraged to adopt digital systems to support administrative efficiency. One such innovation is the introduction of the electronic office (e-office), a system aimed at simplifying office administration through digital platforms.

Electronic office systems allow employees to manage correspondence, administrative documents, and workflow processes electronically. As stated by Juairiyah & Hendrixon (2017), e-office is an administrative service platform that digitizes official correspondence within an institution, enabling employees to create, distribute, track, and store documents electronically. Similarly, Imania & Haryani (2018) explain that e-office simplifies office tasks by integrating technology to manage workflows, oversee electronic signatures, and organize archives through centralized databases. By adopting e-office, institutions can reduce time inefficiencies, minimize administrative errors, and enhance coordination between organizational units.

The use of e-office is also strongly related to the concept of *paperless administration*. In modern office management, electronic documentation is not only more practical but also contributes to reducing operational costs and supporting environmental sustainability. Avila & Kurniadi (2021) emphasize that e-office promotes paperless work environments, enabling employees to access documents anytime and anywhere without relying on physical files. Through digital connectivity, employees can collaborate effectively, even remotely, ensuring continuity of work and reducing dependency on manual processes.

The Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (ATR/BPN) has also adopted e-office to modernize its administrative operations. Based on the Ministry Regulation No. 9 of 2018 regarding the guidelines of official correspondence, e-office was officially implemented across regional offices in 2020. This system was expected to accelerate document processing, improve coordination among departments, and enhance decision-making accuracy through digital data records. With the implementation of e-office at the Regional Office of the National Land Agency of Bengkulu Province, employees are expected to experience improved convenience, better workflow management, and higher work effectiveness.

However, despite its potential benefits, the implementation of e-office still encounters several challenges. Field observations show that not all employees adapt equally to the digital system. Some older employees struggle with technological adjustments, resulting in slower adoption and reduced optimal use of system features. The implementation is also uneven across units, with some departments demonstrating higher utilization levels than others. In addition, the availability of supporting facilities such as stable internet connectivity and adequate computer equipment remains limited, which consequently affects the smoothness of electronic administrative processes. Another challenge lies in the lack of intensive training sessions, causing some employees to remain unfamiliar with certain features of the system.

These challenges highlight that the effectiveness of e-office usage does not solely depend on system availability but also requires adequate human resources, technical support, and consistent monitoring. Without addressing these factors, the expected improvement in work performance may not be achieved optimally. Therefore, it is essential to evaluate how the e-office system influences employees' work effectiveness within this institutional context.

Work effectiveness itself is a crucial indicator in measuring organizational performance. Siagian (2001) defines effectiveness as the extent to which organizational goals are achieved, particularly in terms of output quality and timeliness. Employees' work effectiveness can be observed through their ability to meet targets, manage workload, maintain accuracy, and complete tasks within the expected time frame. In the context of government administration, higher effectiveness translates into improved service delivery, reduced bureaucratic delays, and increased public trust.

Given the strategic role of e-office in supporting administrative operations, it becomes necessary to investigate its impact on employees' work effectiveness at the Regional Office of the National Land Agency of Bengkulu Province. This study seeks to measure the degree of influence of the electronic office system on employee productivity, accuracy, responsiveness, and task completion. By examining this relationship, the study provides valuable insights into

the successes and limitations of e-office implementation and offers recommendations for improving digital administration performance.

In summary, the digital transformation within government agencies has initiated significant changes in administrative management. The adoption of e-office at the Regional Office of the National Land Agency of Bengkulu Province represents a step forward in enhancing operational effectiveness. However, challenges such as uneven adoption, limited training, and technical constraints highlight the need for a comprehensive evaluation. Therefore, this research aims to analyze the effect of e-office on employees' work effectiveness and provide empirical evidence to support improvements in digital administrative practices.

## LITERATURE REVIEW

### E-Government

E-government broadly refers to the integration of information and communication technology (ICT) into governmental operations. According to the World Bank, e-government involves the use of ICT by government institutions to transform relationships with citizens, businesses, and other government entities. It aims to enhance service delivery, improve transparency, reduce administrative costs, and combat corruption.

Kurniasih (2014) explains that e-government enables collaboration between government institutions and society through internet-based services, improving accessibility and communication. Indrajit (2004) further emphasizes that e-government represents the application of information and communication technology to support and modernize governance structures. Riani et al. (2004) outline five basic principles of e-government development in Indonesia:

1. Reusability – systems should be flexible and applicable across various levels of government;
2. Inform – systems must provide standardized and accessible information to the public;
3. Accelerate – digital systems should speed up administrative processes;
4. Reduce – they should help minimize redundant procedures and reduce operational costs;
5. Improve – they must enhance the quality of public services and broaden citizen participation.

Overall, e-government serves as the macro foundation upon which specific administrative digital tools, such as electronic office systems, are developed.

### Electronic Office (E-Office)

The electronic office, or e-office, is a digital administrative system designed to streamline office workflows and document management. Abubakar, Adam, and Adnan (2023) describe e-office as a software application used to structure work patterns, control data, store digital files, and support administrative activities electronically. By reducing dependency on manual processes, e-office contributes to improved efficiency, accuracy, and accessibility.

Waluyo (2000) highlights that e-office transforms manual office operations into automated digital processes, emphasizing the use of computers and integrated systems. The core functions of e-office include electronic correspondence, document tracking, electronic signatures, archiving, and workflow coordination.

E-office systems are generally web-based and utilize centralized servers to facilitate real-time document processing. This aligns with the concept of *paperless office management*, where digital documents replace traditional paper files. As Avila & Kurniadi (2021) point out, paperless systems reduce operational waste, minimize environmental impact, and enhance remote accessibility. In the context of the National Land Agency (BPN), e-office includes modules such as:

1. Correspondence Administration (incoming/outgoing letters, disposition, agenda)
2. Document Management (drafting, uploading, electronic signatures)

3. Archiving and Data Retrieval
4. Online Meetings, Attendance, and Reporting
5. Feedback and Complaint Handling

These features collectively support organizational transparency, faster decision-making, and improved coordination across units.

### **Strengths and Weaknesses of Electronic Office**

#### **1. Strengths**

Digital administrative systems offer multiple benefits:

- a. **Speed and Efficiency:** E-office accelerates document processing, communication, and correspondence through real-time sending and receiving functions.
- b. **Cost Reduction:** The system minimizes reliance on paper, ink, and physical storage, lowering administrative expenses.
- c. **Remote Accessibility:** Employees can access documents from any location, supporting flexible and remote working arrangements.
- d. **Improved Coordination:** Information and documents can be shared instantly among units, enhancing collaboration.
- e. **Documentation Security:** E-office systems often include authentication mechanisms such as two-step verification and digital signatures, ensuring secure data handling.

#### **2. Weaknesses**

Despite its advantages, e-office implementation presents several challenges:

- a. **Technical Limitations:** System errors, slow servers, and internet disruptions can hinder administrative processes.
- b. **Human Resource Constraints:** Senior employees or those unfamiliar with technology may struggle to adapt, reducing optimal system use.
- c. **Training Gaps:** Limited training programs can result in uneven user competency, leading to inefficiencies.
- d. **Infrastructure Limitations:** Inadequate computer facilities or unstable connectivity may slow system adoption.

These weaknesses indicate that technological adaptation requires strong institutional support, effective capacity building, and continuous system evaluation.

### **Work Effectiveness**

Work effectiveness refers to the degree to which employees achieve organizational goals through efficient and timely performance. Siagian (2001) defines effectiveness as the ability to accomplish targets based on predetermined standards. Ivancevich et al. (2006) also emphasize that effectiveness focuses on outcomes, where high-quality results and timeliness reflect optimal employee performance.

Admosoeprapto (2016) identifies several indicators of work effectiveness:

- a. **Goal Achievement:** The extent to which employees meet organizational and individual performance targets.
- b. **Quality of Work:** Accuracy, neatness, and adherence to procedures.
- c. **Work Quantity:** The number of tasks completed within a certain period.
- d. **Timeliness:** The ability to meet deadlines and manage time efficiently.
- e. **Job Satisfaction:** The degree of comfort, motivation, and fulfillment employees feel while performing their responsibilities.

In the digital era, work effectiveness is closely tied to the availability of technological support. When digital systems such as e-office are used optimally, employees can complete tasks more.

## **METHODS**

This study adopted a quantitative research approach using a survey method to analyze the effect of the electronic office system on employees' work effectiveness at the Regional Office of the National Land Agency (BPN) of Bengkulu Province. The quantitative approach was chosen because it enables the researcher to measure variables numerically, examine statistical relationships, and test hypotheses objectively.

In this research, the electronic office served as the independent variable, while employees' work effectiveness functioned as the dependent variable. Both variables were operationalized through specific measurable indicators. The electronic office variable included aspects such as system reusability, information distribution, speed of administrative processes, reduction of manual workload, and improvement of organizational workflow. The work effectiveness variable was assessed using indicators of goal achievement, quality of work, quantity of work completed, timeliness, and job satisfaction.

The population in this study consisted of all employees working at the Regional Office of the National Land Agency of Bengkulu Province, totaling 53 individuals. Given the relatively small population size, the researcher employed a census sampling technique, meaning all members of the population were included as respondents. This allowed for comprehensive data collection and eliminated potential sampling errors.

Data were gathered through three primary techniques. First, a structured questionnaire using a Likert scale was distributed to measure employees' perceptions regarding the electronic office system and their work effectiveness. Second, field observations were conducted to obtain a deeper understanding of system implementation and employee interaction with the digital platform. Third, documentation techniques were applied by reviewing institutional records, system manuals, and administrative documents that supported and validated the survey results.

The collected data were analyzed through descriptive and inferential statistical methods. Descriptive statistics were used to summarize respondent characteristics and provide an overview of each research variable. Inferential statistical techniques included product moment correlation to determine the strength and direction of the relationship between the electronic office and work effectiveness, and simple linear regression to measure the predictive influence of the electronic office on employee performance outcomes.

Additionally, validity and reliability tests were conducted to ensure the accuracy and consistency of the questionnaire items. The t-test was used to evaluate the significance of the relationship, while the coefficient of determination ( $R^2$ ) measured the extent to which the electronic office contributed to variations in employees' work effectiveness. All statistical processes were performed using SPSS software to ensure precision and reliability in data interpretation.

## **RESULTS**

The results of this study provide a comprehensive statistical overview of how the electronic office system influences employees' work effectiveness at the Regional Office of the National Land Agency (BPN) of Bengkulu Province. Based on the responses of 53 employees and the statistical analyses conducted, the findings consistently indicate that the implementation of the electronic office has a meaningful and measurable effect on employee performance outcomes. The analysis began with correlational testing to determine the strength of the association between the independent variable (electronic office) and the dependent variable (work effectiveness).

The product moment correlation test yielded a correlation coefficient ( $R$ ) of 0.409, which falls within the range of 0.40–0.599, categorizing the relationship as moderate. This means that increases in the utilization or effectiveness of the electronic office system tend to be followed by

corresponding increases in employees' work effectiveness, although the relationship is not excessively strong. Nevertheless, it is sufficiently meaningful to demonstrate a positive organizational impact.

To further examine the predictive power of the electronic office system on work effectiveness, a simple linear regression analysis was conducted. The regression results supported the correlational findings by showing that the electronic office significantly contributes to the variance in employee work effectiveness.

This is reinforced by the coefficient of determination ( $R^2$ ), which was found to be 0.168, or 16.8%, indicating that approximately 16.8% of the variation in work effectiveness can be explained directly by the electronic office variable. While this value shows that the electronic office is not the sole determinant of employee performance, meaning other organizational, personal, and environmental factors also play considerable roles, it remains a substantive contribution for a single administrative system variable. In public-sector organizational research, where multiple external factors influence performance, a contribution of 16.8% is considered operationally meaningful.

The hypothesis test using the t-test further solidified the conclusion regarding the significance of the electronic office variable. The t-value obtained was 3.204, which is substantially higher than the critical t-table value of 2.006 at the 5% significance level. This statistical result marks a clear rejection of the null hypothesis ( $H_0$ ) and acceptance of the alternative hypothesis ( $H_1$ ), confirming that the electronic office system has a significant and positive effect on employees' work effectiveness. This indicates that improvements or enhancements in the electronic office system are statistically likely to result in improved employee outcomes, including increased accuracy, better task completion rates, and more efficient time management.

Additional results in the document also show the outcomes of validity and reliability testing, which confirmed that all questionnaire items used to measure both variables were valid and reliable. This ensured that the data analysis conducted was based on consistent and accurate measurement instruments, strengthening the credibility of the findings. Validity tests for both the electronic office and work effectiveness variables met statistical thresholds, and the reliability tests indicated acceptable Cronbach's alpha values, demonstrating internal consistency across items. Supporting tables in the appendices (such as those demonstrating employees' ability to complete tasks on time, manage documentation systematically, handle urgent documents efficiently, and maintain comfort and security when using the system) reinforce the quantitative results by illustrating how employees' perceptions align with measured outcomes.

Overall, the results indicate that although the electronic office system explains only part of the overall work effectiveness, its influence is both statistically significant and practically relevant. The moderate correlation suggests that the system is an important factor in shaping administrative performance, but not the only determinant.

Nevertheless, given that administrative work in government institutions such as BPN relies heavily on documentation, correspondence, and procedural accuracy, the presence of a modern digital office system provides substantial value. The findings strongly support the idea that increasing the adoption, optimization, and technical support of the electronic office system could further enhance employee performance, streamline work processes, and strengthen organizational efficiency.

## **DISCUSSION**

The findings of this study demonstrate that the electronic office system has a significant and positive influence on employees' work effectiveness at the Regional Office of the National Land Agency (BPN) of Bengkulu Province. The statistical evidence supports this conclusion, as

shown by several key indicators: a correlation coefficient of 0.409, which indicates a moderate relationship; a coefficient of determination ( $R^2 = 16.8\%$ ), suggesting that electronic office contributes meaningfully to variations in employee performance; and a t-value of 3.204 which exceeds the t-table value (2.006), confirming the significance of the effect. These results collectively indicate that employees' work effectiveness improves when the electronic office system is implemented and utilized effectively.

A moderate correlation value (0.40–0.599) signifies that although electronic office is not the sole determinant of performance, it plays a substantial role in shaping employees' work outcomes. One reason for this influence is the ability of e-office to streamline administrative processes, such as correspondence management, data retrieval, and document tracking. When workflows become more structured and predictable, employees experience fewer delays and can complete tasks more efficiently. This supports the theoretical perspectives emphasizing the role of technology in enhancing productivity by reducing manual workload and mitigating human error.

The moderate level of correlation also suggests that while the system contributes to higher efficiency, its effectiveness is highly dependent on the users' ability to adapt and interact with digital tools. The presence of older employees or those less familiar with digital platforms could explain why the effect does not reach a "strong" correlation level. The literature confirms that technological competence, continuous training, and organizational readiness are essential to optimizing the benefits of digital systems. Without these factors, even an advanced platform like e-office may not fully maximize its potential.

The coefficient of determination (16.8%) further reveals that although e-office significantly influences work effectiveness, a considerable portion of employees' performance is shaped by other variables not covered in this study. These may include institutional culture, leadership, job satisfaction, workload distribution, work motivation, and availability of technological infrastructure.

For instance, employees' ability to respond promptly to administrative demands may depend not only on system efficiency but also on managerial supervision, clarity of job descriptions, and individual discipline. This aligns with previous studies showing that digital tools are most effective when accompanied by strong organizational support.

The significant t-test result provides strong evidence that the electronic office system contributes to employees' work performance. This significance indicates that improvements in e-office utilization—such as better system navigation, faster internet connectivity, and enhanced user training—can lead to measurable improvements in employee output. Moreover, the digital platform enhances transparency by tracking each administrative step, from document creation to approval, reducing the likelihood of document loss, duplication, or procedural errors. Such transparency strengthens coordination among departments and minimizes delays that often occur in manual administrative environments.

Observations during the study indicated that employees who consistently used e-office experienced fewer difficulties in managing correspondence and retrieving archived documents. However, employees who were less familiar with the system encountered challenges such as difficulty accessing certain features, slow system navigation, or uncertainty about digital document procedures.

These issues highlight the importance of continuous technical guidance, user-support mechanisms, and regular evaluation to ensure smoother adaptation. The literature emphasizes that successful digital transformation requires not only technology but also human resource development.

Another prominent factor revealed in the results is the flexibility provided by the e-office system. Employees reported that the ability to access documents remotely, process tasks

outside physical office hours, and coordinate electronically provided greater convenience and improved their time management. This reinforces the idea that digital systems—when integrated properly—enhance not only productivity but also job satisfaction. When employees feel supported by efficient tools, they can work more confidently and with less stress, contributing to overall organizational effectiveness.

Despite these advantages, several constraints remain. Some employees faced difficulties related to internet instability and limited technological infrastructure. In certain units, the adoption of e-office was not yet optimal, and some processes were still conducted manually. These inconsistencies can reduce the overall impact of the system and contribute to variations in work effectiveness. Therefore, strengthening infrastructure, ensuring wider system penetration, and providing routine training programs are critical for maximizing the benefits of e-office.

In summary, the discussion shows that the electronic office system has a measurable and statistically significant influence on employees' work effectiveness. The system enhances workflow efficiency, accelerates document processing, supports time management, and improves coordination across units.

However, the effectiveness of e-office is shaped by human factors, infrastructure readiness, and organizational support. Strengthening these factors will ensure greater optimization of the system and potentially increase the correlation and impact on future employee performance.

## **CONCLUSION**

This study concludes that the electronic office system has a significant and positive effect on employees' work effectiveness at the Regional Office of the National Land Agency of Bengkulu Province. The correlation coefficient of 0.409 indicates a moderate relationship, suggesting that employees' effectiveness improves as the use of the e-office system becomes more consistent and optimized. The regression analysis shows that 16.8% of the variation in work effectiveness is explained by the use of the e-office system, demonstrating that digital administration contributes meaningfully to performance outcomes. The t-test results, in which the calculated t-value (3.204) exceeds the t-table value (2.006), confirm that this influence is statistically significant.

In summary, the e-office system enhances administrative efficiency, reduces manual workload, improves accuracy, and supports faster decision-making processes. However, its overall impact is moderated by factors such as employees' digital competencies, adequacy of supporting infrastructure, and consistency of system usage across units. Strengthening training programs, improving technological facilities, and enhancing user support services are necessary to maximize the benefits of digital administration.

## **LIMITATION**

Although this study provides valuable insights, several limitations should be acknowledged. First, the research relied solely on quantitative survey data, which may not fully capture the depth of employee experiences, perceptions, and challenges in using the electronic office system.

Qualitative methods such as interviews or focus group discussions could provide richer contextual understanding. Second, the study was conducted within a single government office, which limits the generalizability of the findings to other institutions with different organizational structures, technological readiness, or administrative cultures.

Third, technological factors such as system stability, infrastructure availability, and internet connectivity—although influential—were not analyzed in detail, potentially limiting the understanding of external variables affecting system performance. Finally, since the study

employed cross-sectional data, it captures only a snapshot of employee perceptions at one point in time; longitudinal research would offer better insights into changes over time and long-term system effectiveness.

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