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Analysis of the Effectiveness of the E-Office System Implementation at PT. X: A Technology Acceptance Model Approach

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Abstract: This study analyzes the effectiveness of the E-Office system implementation at PT. X, a large regionally-owned (BUMD) transportation company in Jakarta, focusing on the management of incoming and outgoing mail, digital disposition, and electronic document archiving. A pre-research survey of 24 respondents indicated a gap between a high perceived ease of use and a comparatively lower perceived usefulness of the system, motivating the use of the Technology Acceptance Model (TAM) as the theoretical framework. The research applies a mixed-methods design, combining a Likert-scale questionnaire distributed to 24 employees with observation and in-depth interviews. Quantitative results show that respondents rated the benefits of E-Office at 86% and its ease of use at 85.8%, both falling into the "Very Feasible" category. Qualitative findings confirm that E-Office simplifies administrative workflows, accelerates information delivery, supports paperless practices, and eases document retrieval, although unstable network connectivity, occasional system errors, limited training, and incomplete feature socialization still constrain optimal use. The study concludes that E-Office implementation at PT. X is fairly effective in improving administrative performance, and that its success depends not only on the availability of technology but also on user readiness, system quality, and organizational support such as training and infrastructure improvement.

Keywords: E-Office, Effectiveness, Technology Acceptance Model, Perceived Usefulness, Perceived Ease of Use, Office Administration

BACKGROUND

The development of information technology has significantly influenced office administration, with the Electronic Office (E-Office) emerging as a widely adopted innovation that supports administrative activities electronically, from managing incoming and outgoing mail to disposition and archiving (Rosalin et al., 2022). Prior studies report that E-Office implementation generally improves productivity and efficiency, although technical obstacles such as system bugs and underused features are still commonly found (Saefulloh & Nuryanto, 2025; Syalasani & Fenando, 2024).

A pre-research survey of 24 respondents using a five-point Likert scale, focused on two core constructs of the Technology Acceptance Model (TAM)—perceived usefulness and perceived ease of use—revealed an imbalance: while 67.9% of respondents found the E-Office system easy to learn and operate (average score 4.13), only 32.1% felt it had meaningfully accelerated



their administrative work (average score 3.33). From a TAM perspective, ease of use should translate into perceived usefulness; the gap observed therefore indicates that although the system is accessible, its practical benefits have not been fully realized by users.

At PT. X, a large public transportation company with a dense operational schedule, E-Office supports the processing of overtime permits, incoming and outgoing mail, and disposition. Before its adoption, these processes relied on manual, paper-based forms and tiered approval mechanisms that often caused delays and documentation errors. Although E-Office was designed to replace these manual processes, obstacles remain, including underutilized features, limited socialization, uneven technological literacy among staff, and infrastructure or network constraints (Darmansah et al., 2024).

This research narrows its analysis to the two most fundamental TAM constructs—perceived usefulness and perceived ease of use—and integrates qualitative and quantitative data to explain why the benefits of E-Office have not been fully felt despite its relative ease of use. Specifically, this study asks: (1) how effective is E-Office implementation in supporting incoming and outgoing mail management, digital disposition, and electronic document archiving at PT. X, and (2) what factors influence the level of effectiveness of E-Office use at PT. X? The findings are expected to provide an empirical basis for management to optimize system use and to contribute to the literature on E-Office effectiveness in digital-based office administration.

THEORETICAL FRAMEWORK

Effectiveness is broadly defined as the accuracy and success of an activity or program in achieving predetermined goals, reflected in the suitability between results obtained and plans formulated in terms of time, cost, and quality (Andi Aditya Putra et al., 2022; Putri & Irman, 2022). An Information System is a unity of human resources, data, and procedures that interact to produce useful information for decision-making (Komalasari, 1999), while a Management Information System integrates human and technological elements to support operational and managerial decision-making (Sitorus, 2021). The Information Systems Success Model (DeLone, 1992) remains one of the most influential frameworks for evaluating the effectiveness of information system implementations such as E-Office.

E-Office is generally defined as an electronic-based system that supports administrative and communication management within an organization, simplifying the processing, storage, and archiving of official documents while enabling work to be carried out across locations through electronic networks (Rahmadini et al., 2023; Inas Khairunnisa & Roni, 2022; Hamdy et al., 2024; Harefa, 2025). It embodies the paperless office concept, aiming to reduce dependence on physical documents and improve efficiency, accountability, and transparency in office administration (Fadri & Fil, 2024). At PT. X, E-Office is directed at the electronic management of mail, digital disposition, follow-up tracking, and orderly document archiving, supported by search, automatic numbering, status-tracking, and access-control features.



The Technology Acceptance Model (TAM), developed by Davis (1989) as an extension of the Theory of Reasoned Action, explains technology acceptance through two central constructs: Perceived Usefulness (PU)—the extent to which a user believes a system improves their performance—and Perceived Ease of Use (PEOU)—the extent to which a system is considered easy to learn and operate (Alamri & Widyatama, 2019; Andas et al., 2025). These constructs shape users' Attitude Toward Use (ATU) and Behavioral Intention to Use (BIU), which in turn predict actual system use (Venkatesh et al., 2003; Febrianto Ramadhan et al., 2024). TAM is considered particularly relevant for this study because it centers on user behavior and satisfaction, allowing the effectiveness of E-Office to be assessed both through users' perceived benefits and their perceived ease of interacting with the system.

Previous studies applying TAM and related models to E-Office implementations report mixed outcomes: while systems in some agencies achieved high user satisfaction and ease of use (Syalasani & Fenando, 2024), others found implementation only partially effective due to infrastructural or organizational constraints (Saefulloh & Nuryanto, 2025; Rahmadini et al., 2023; Sinaga, 2022; Oktaviana & Yuliani, 2022; Amirudin et al., 2024). These findings collectively suggest that the success of E-Office adoption depends not only on the availability of the technology itself, but also on user readiness, organizational support, and infrastructure quality—forming the conceptual basis for the present study.

METHOD

This research employs a mixed-methods design that integrates qualitative and quantitative approaches to obtain a comprehensive understanding of E-Office effectiveness (Fadli, 2021). The qualitative stage involved direct observation, structured interviews, and a review of policy documents and work procedures to identify administrative process flows and organizational factors influencing system use; findings from this stage informed the design of the quantitative instrument (Bahartiar & Arwadi, 2020). The quantitative stage used a questionnaire developed from TAM constructs to measure perceived usefulness, perceived ease of use, attitude toward use, and behavioral intention (Alamri & Widyatama, 2019).

The research was conducted at PT. X over a four-month period (September 2025–February 2026), involving 24 employees who actively use the E-Office system, selected purposively based on their direct involvement in incoming and outgoing mail management, disposition, and digital archiving. Primary data were collected through observation and a questionnaire employing a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree); secondary data were obtained from internal company documents, E-Office usage policies, operational reports, and relevant literature (Pratama, 2024).

Quantitative data were analyzed by calculating feasibility percentages for each indicator, classified into five categories ranging from Very Not Feasible (0–20%) to Very Feasible (81–100%) (Sulistyawati & Trinuryono, 2022). Qualitative data validity was maintained through source triangulation (comparing statements across informants with different roles) and technique triangulation (comparing interview notes with company documents) (Ratnaningtyas



et al., 2023). Data were processed following the interactive model of data reduction, data presentation, and conclusion drawing and verification (Rusli et al., 2025; Iskandar et al., 2021), integrating qualitative and quantitative findings to answer the research questions.

RESULT

The 24 respondents were relatively balanced by gender (54.2% male, 45.8% female), predominantly aged 26 years (66.7%), and uniformly held a Bachelor's degree (100%), indicating a productive-age, adequately educated user base well positioned to evaluate a technology-based system, as summarized in Table 1.

Table 1. Respondent Profile

Profile	Category	Frequency	Percentage
Gender	Male	13	54.2%
	Female	11	45.8%
Age	24 years	5	20.8%
	26 years	16	66.7%
	30 years	3	12.5%
Education	Bachelor's Degree (S1)	24	100%

Source: Data Processed by the Author, 2026

Quantitative analysis of the ten benefit-related indicators (processing time efficiency and data accuracy) produced a total score of 1,032 out of a maximum of 1,200 (86%), placing the perceived benefits of E-Office in the "Very Feasible" category. Similarly, the ten ease-of-use indicators (ease of access and user satisfaction) produced a total score of 1,030 out of 1,200 (85.8%), also categorized as "Very Feasible," as summarized in Table 2. These results indicate that respondents perceive E-Office as both useful and easy to use in supporting administrative work.

Table 2. Summary of Quantitative Indicator Results

Aspect	Total Score	Max Score	Percentage	Category
Benefits (processing time efficiency & data accuracy)	1,032	1,200	86%	Very Feasible
Ease of Use (ease of access & user satisfaction)	1,030	1,200	85.8%	Very Feasible

Source: Data Processed by the Author, 2026

Interview findings corroborate the quantitative results. Most informants understand and use E-Office for mail management, disposition, and document storage, although some use only the features most relevant to their daily tasks due to limited technical understanding and training. Informants reported that E-Office simplifies administrative processes, accelerates information delivery between divisions, reduces reliance on physical documents (paperless practice), and eases document retrieval since data is stored digitally and accessible at any time.

Nevertheless, several obstacles were identified: unstable internet connectivity that disrupts access, occasional system errors or slow processing, insufficient training on system features,



and interface elements considered less than fully user-friendly. These conditions occasionally lead employees to revert to manual methods when the system is disrupted. Informants also noted that although the organization provides E-Office as a supporting tool, further improvements in training, feature socialization, and network infrastructure are still needed for optimal implementation.

DISCUSSION

The combined quantitative and qualitative findings indicate that E-Office implementation at PT. X falls into the fairly effective category, accelerating administrative processes, facilitating information distribution, and improving document management compared to manual methods. The quantitative results show that both perceived usefulness and perceived ease of use positively influence attitudes and intentions to use the system, confirming that technology acceptance depends not merely on system availability but on the benefits and ease users actually experience. This is reinforced qualitatively: most employees understand the basic use of E-Office and report tangible benefits, including simplified workflows, faster information delivery, reduced paper use, and easier document searching.

These findings align with prior research. Rahmadini et al. (2023) found E-Office use at PT XXX to be fairly effective in cutting bureaucracy and speeding up correspondence, though not yet fully optimal due to underused features. Sinaga (2022) reported that E-Office implementation at a West Papua provincial agency had not run optimally, largely due to unstable network infrastructure and low system use relative to manual methods. Oktaviana and Yuliani (2022) similarly found implementation at a Riau provincial agency ineffective due to inaccurate execution and limited organizational support. Collectively, these studies confirm that E-Office success depends as much on organizational readiness as on the technology itself.

This research contributes an additional finding: the most dominant obstacles at PT. X lie specifically in network infrastructure and incomplete utilization of available features, and the level of system utilization is highly dependent on users' understanding and the quality of organizational support. Viewed through TAM, this suggests that perceived ease of use has not been fully met at the technical and infrastructural level, which in turn constrains users' attitude toward the system and their intention to continue using it—even though perceived usefulness, once experienced, positively drives acceptance. Organizational support, particularly training, socialization, and network infrastructure improvement, therefore emerges as a critical lever for translating existing system capability into fully realized administrative effectiveness.

CONCLUSION

The implementation of the E-Office system at PT. X is generally fairly effective in supporting the management of incoming and outgoing mail, digital disposition, and electronic document archiving, improving work efficiency and facilitating digital access to information. This effectiveness is not yet fully optimal, however, due to unstable network connectivity, occasional system errors, feature limitations, and insufficient user training. Within the TAM



framework, both perceived usefulness and perceived ease of use influence attitudes and intentions to use the system, indicating that E-Office success depends not only on the availability of technology but also on user readiness, system quality, and comprehensive organizational support.

Theoretically, this study reinforces the TAM proposition that perceived usefulness and perceived ease of use drive technology acceptance, while also highlighting the role of external factors such as infrastructure and organizational support. Practically, it suggests that PT. X and similar organizations should invest in adequate network infrastructure, structured training, and feature socialization to help users realize the full benefits of E-Office. As this research was limited to a single institution, a restricted set of TAM constructs, and a limited data-collection period, future research should broaden the scope to multiple organizations, incorporate additional variables such as organizational culture and leadership, and adopt longitudinal approaches to more comprehensively capture the development of E-Office effectiveness over time.

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