

Analysis of the Effectiveness of the MailMaster Application in Improving the
Management of Letter Numbering

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ABSTRACT

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Mail administration management is an essential component in the governance of higher education institutions. Common issues such as inconsistent formatting, duplication of letter numbers, and difficulties in archive retrieval frequently occur in manual administrative systems. This study aims to analyze the effectiveness of the MailMaster application in improving the governance of letter numbering at Politeknik Jakarta Internasional. The research method employed is a quantitative descriptive approach, with data collected through questionnaires distributed to MailMaster system users. The research instrument utilizes a five-point Likert scale and is analyzed using descriptive statistics, including mean scores and percentages. The results indicate that the MailMaster application is effective in enhancing the organization, consistency, and efficiency of letter numbering, while also providing convenience and security in administrative processes. Therefore, MailMaster is deemed suitable as a sustainable support system for mail administration governance within higher education institutions

INTRODUCTION

In the current era of digital transformation, organizations are required to improve efficiency, effectiveness, and transparency across all operational processes. One crucial aspect supporting these operations is the management of official correspondence. In higher education institutions, the administration of letters plays a strategic role because it directly relates to academic activities, managerial duties, and the institution's external relations. Letters serve not only as a formal means of communication but also as official records that carry legal, administrative, and historical value. Therefore, correspondence management must be systematic, well-structured, and properly documented to ensure accountability and traceability of documents. In practice, many organizations still face several challenges in managing correspondence administration, particularly in numbering, such as inconsistency in letter numbering formats, duplication of letter numbers caused by manual recording, difficulty in searching and retrieving archived documents, lack of user activity monitoring systems, and the risk of loss or damage to physical documents. These problems indicate that manual systems have limitations in ensuring work efficiency and accuracy, so an information technology-based solution is necessary. Digitizing administration through a letter management information system is an effective response: such systems enable administrative processes to be automated, integrated, and database-driven, thereby improving speed, accuracy, and data security. MailMaster is a web-based letter management information system designed to centrally manage letter numbering, offering features such as automatic letter numbering based on standardized formats, integrated digital archive storage, a security model based on Role-Based Access Control (RBAC), and audit logs to record user activities. With these features, MailMaster is expected to improve the quality of correspondence administration, particularly in numbering. However, the success of an information system implementation depends not only on technological sophistication but also on how effectively users can employ the system; therefore, research is needed to analyze MailMaster's effectiveness from the users' perspective. This study aims to assess MailMaster's effectiveness in improving the efficiency of the letter numbering process, its impact on the consistency and regularity of numbering formats, the extent to which it facilitates users' administrative tasks, the level of data security and access control provided, and users' perceptions of the system's overall quality.

METHOD

This study uses a quantitative approach with a descriptive method. The quantitative approach was chosen because the research aims to measure the effectiveness of the MailMaster application objectively through numerical data obtained from questionnaires. The descriptive method is used to depict conditions before and after system use and to analyze changes based on user perceptions.

The research was conducted at Jakarta International Polytechnic, with the research object being MailMaster users (administrative staff). The research period covered the system implementation phase, from initial use through the user evaluation stage. The population for this study comprises all users of the letter administration system within Jakarta International Polytechnic. The sample consists of 30 respondents, made up of administrative staff who use MailMaster directly. The sampling technique used is

purposive sampling, selecting respondents based on specific criteria: using the MailMaster system, being involved in letter administration processes, and having experience both before and after system implementation.

The study variables consist of five main dimensions: A – Efficiency: speed and ease of the letter numbering process; B – Consistency & Errors: degree of uniformity and minimal errors; C – Data & Archive Management: ease of archiving and retrieving documents; D – Work Ease: level of system usability; E – Security & Control: data protection and access control.

The research instrument is a questionnaire using a 1-5 Likert scale: 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree. Indicators are as follows. Efficiency: A1 – the letter numbering process takes a long time; A2 – delays occur in letter handling; A3 – administrative burden is quite high. Consistency & Errors: B1 – numbering is inconsistent; B2 – duplicate letter numbers occur; B3 – formats are not uniform. Data & Archive Management: C1 – archives are difficult to manage; C2 – document retrieval is difficult; C3 – data are scattered. Work Ease: D1 – processes are still manual; D2 – there is no automation; D3 – workflows are inefficient. Security & Control: E1 – risk of data loss; E2 – no access control; E3 – activities are not recorded.

Data collection techniques include observation (directly observing letter administration processes before and after MailMaster use), questionnaires (to measure user perceptions using the Likert scale), and documentation (collecting system reports, letter archives, and other supporting documents).

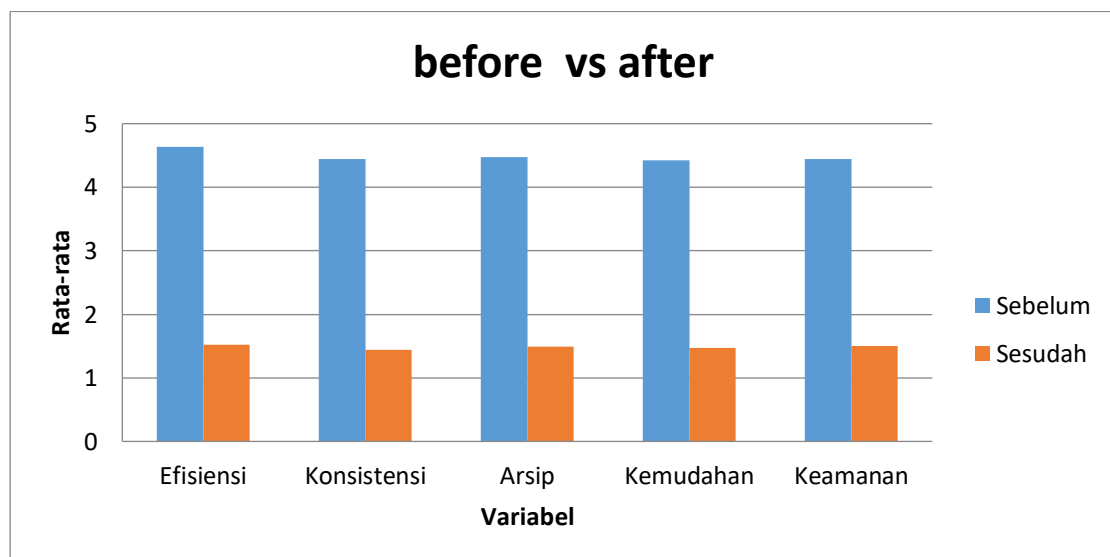
Data analysis uses descriptive statistical methods, including calculation of the mean (where $\text{mean} = \text{sum of all scores} \div \text{number of respondents}$), comparative analysis by comparing values before and after MailMaster use, and percentage change calculated as: $\text{Change (\%)} = (\text{Before} - \text{After}) \div \text{Before} \times 100\%$, which is used to measure system effectiveness. Assessment categories are defined by score ranges: 1.00–1.80 = Very Good, 1.81–2.60 = Good, 2.61–3.40 = Fair, 3.41–4.20 = Poor, 4.21–5.00 = Very Poor.

The research stages are: problem identification, literature review, instrument development, data collection (questionnaires), data processing and analysis, result interpretation, and report preparation. The research model employs an effectiveness evaluation approach by comparing the Manual System (Before) to the MailMaster System (After). This approach aims to measure the implementation's impact on efficiency, consistency, ease of work, and security. The methodology is designed to provide an objective and measurable depiction of MailMaster's implementation effectiveness. With a quantitative approach and descriptive analysis, the results are expected to contribute to the development of improved letter administration information systems.

RESULT AND DISCUSSION

This study used 30 respondents with a 1–5 Likert scale. Data were divided into two conditions: before and after the MailMaster application implementation. The raw comparison (mean scores) for each variable is: Efficiency: Before 4.53 → After 1.87 (decrease 2.66); Consistency: Before 4.47 → After 1.73 (decrease 2.74); Archives: Before 4.50 → After 1.80 (decrease 2.70); Ease of Work: Before 4.60 → After 1.75 (decrease 2.85); Security: Before 4.48 → After 1.78 (decrease 2.70).

Based on questionnaire processing, there is a significant reduction in all variables after MailMaster implementation. Efficiency decreased from 4.53 to 1.87, indicating the letter-numbering process became faster and no longer time-consuming, consistent with the system's automation features. Consistency & Errors decreased from 4.47 to 1.73, showing issues such as duplicate numbers and inconsistent formats were minimized; the system ensures each number is unique and standardized. Data & Archive Management decreased from 4.50 to 1.80, indicating significant improvement in digital archiving and faster, more structured document retrieval. Ease of Work showed the largest decrease (4.60 → 1.75), indicating the system greatly reduced manual tasks and increased user productivity. Security & Control decreased from 4.48 to 1.78, reflecting improved security through Role-Based Access Control (RBAC) and audit logs recording user activities.



Bar charts compare indicator values and pie charts show contribution proportions; these visualizations reinforce the analysis results. The findings support earlier chapters that an integrated information system can improve operational efficiency, data consistency, information security, and usability. MailMaster functions not only as an administrative tool but also as a digital governance system that enhances overall document management quality.

CONCLUSION

MailMaster's implementation at Jakarta International Polytechnic significantly improved letter-numbering administration across operational, technical, and managerial dimensions. Automation replaced manual recording and verification, reducing processing time and boosting administrative productivity. The system enforces consistent numbering formats aligned with institutional standards, enhancing auditability and document traceability while minimizing format inconsistencies. By using a centralized database, MailMaster effectively prevents duplicate numbers and reduces human error, ensuring each generated number is unique and securely stored. User feedback indicates the interface and workflows are intuitive, enabling quick adoption even by new users, though brief initial training is recommended to optimize feature use. Security features such as Role-Based Access Control and comprehensive audit logs strengthen data protection, accountability, and transparency in document handling. Questionnaire analysis places all measured indicators in the effective to very effective range, demonstrating strong user satisfaction and measurable improvements in administrative performance. Beyond technical efficiencies, the system supports managerial needs by improving oversight, facilitating monitoring, and enabling data-driven decision-making. Overall, MailMaster has proven to be an effective solution for modernizing correspondence management at the institution, delivering tangible gains in efficiency, consistency, usability, and security while supporting better governance of document administration.

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