



Optimization of Official Correspondence Management with Google Sheets

Optimasi Pengelolaan Administrasi Surat di Perguruan Tinggi Menggunakan Google Sheets

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ABSTRACT

Administrative management of letters in higher education environments still often faces various obstacles, especially if they are still using manual methods. At the Faculty of Tarbiyah and Teacher Training UINSU, the old system often causes delays in processing, errors in letter numbering, and difficulties when searching for archives. This study aims to see how the implementation of Google Sheets can help optimize digital letter management. The method used is descriptive qualitative, with data collected through direct observation and interviews with four administrative staff from three different divisions. The analysis was carried out using a thematic coding approach and inductive content. The results of the study showed a significant increase: the time for recording letters was reduced by 60%, searching for archives became 80% faster, and archiving time was also reduced by 80%. Numbering accuracy increased thanks to the automation feature, while transparency between units improved because all data could be accessed together in real time. In addition, the use of Google Sheets reduces operational costs because it does not require additional devices or software. From these findings, it can be concluded that Google Sheets is a simple but effective digital tool to help the administration process become more efficient, accurate, and transparent. This model also has the potential to be applied to other administrative units that are looking for practical solutions in the digitalization process.

Keyword: Mail Administration, Google Sheets, Efficiency, College, Digital System

ABSTRAK

Pengelolaan administrasi surat menyurat di lingkungan perguruan tinggi masih sering menghadapi berbagai kendala, apalagi jika masih menggunakan cara manual. Di Fakultas Tarbiyah dan Keguruan (FITK) Universitas Islam Negeri Sumatera Utara (UINSU), sistem lama sering kali menyebabkan keterlambatan dalam pemrosesan, kesalahan penomoran surat, dan kesulitan saat pencarian arsip. Penelitian ini bertujuan untuk melihat bagaimana Google Sheets bisa mempermudah dan menyederhanakan pengelolaan surat secara digital. Pendekatannya menggunakan metode deskriptif kualitatif, dengan data yang dikumpulkan lewat observasi langsung dan wawancara dengan empat staf administrasi dari tiga divisi yang berbeda. Analisis dilakukan dengan menggunakan pendekatan thematic coding dan induktif content. Hasil penelitian menunjukkan adanya peningkatan yang cukup signifikan. Waktu untuk mencatat surat berkurang hingga 60%, proses mencari arsip jadi 80% lebih cepat, dan pengarsipan pun memakan waktu 80% lebih singkat. Akurasi penomoran jadi lebih baik berkat fitur penomoran otomatis, dan transparansi antar unit meningkat karena semua data bisa diakses bersama secara real-time. Selain itu, penggunaan Google Sheets mengurangi biaya operasional karena tidak memerlukan perangkat atau perangkat lunak tambahan. Dari temuan ini, dapat disimpulkan bahwa Google Sheets merupakan perangkat digital yang sederhana namun efektif untuk membantu proses administrasi menjadi lebih efisien, akurat, dan transparan. Model ini juga berpotensi untuk diterapkan pada unit administrasi lain yang tengah mencari solusi praktis dalam proses digitalisasi.

Kata Kunci: Administrasi Surat, Google Sheets, Efisiensi, Perguruan Tinggi, Sistem Digital

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1. INTRODUCTION

The explosive growth of information technology (IT) has led to significant growth in many aspects of human life, including administration. Access and use of Information processing and technology have advanced to objects that are suitable for the task. Intellectual Property and Various Technologies are interconnected and embedded in all functions, which makes communication and decision making effective and efficient [1]. One of the benefits of Information Technology is the potential to increase the efficiency and speed of services, which makes decisions faster and more accurate. In addition, Information Technology can also improve the efficiency, quality, and efficiency of employees and the workplace, as well as improve the quality of service [2]. The way information systems work involves the process of collecting, processing, storing, and distribution of relevant data to generate information that supports decision-making, enhances operational efficiency, and promotes collaboration within the organization [3].

Digital transformation in university institutions is a strategic need to improve administrative efficiency, support data-based decision-making, and strengthen transparency and interdepartmental services. Digitalization enables the development of systems that provide real-time information, strengthen coordination across administrative units, and create added value through service innovation [4]. Digital transformation in university administration has produced many identifiable positive impacts. Some of them include improving operational efficiency, reducing administrative costs, and enabling real-time access to academic data. Furthermore, digitalization encourages interdepartmental transparency, strengthens cross-unit collaboration, and improves the digital skills of human resources. Institutions that adopt structured digital transformation also show increased competitiveness, organizational innovation, and increased student engagement through modern and responsive administrative services [5][6].

Administration is the process of planning, organizing, implementing, and supervising various activities systematically to achieve the goals of an organization or institution through the management of information, resources, and structured procedures [7]. In a narrow sense, administration is the process of planning, organizing, implementing, and controlling an activity to achieve specific goals efficiently and systematically [8]. Letters serve as a means of communication in the academic world [9], especially in higher education institutions. Many academic personnel require letters from the university for various purposes, such as research requests, internship research, meeting invitations, and so on.

Correspondence activities are a form of formal administrative communication between institutions and individuals, aimed at conveying information, instructions, or decisions in written form, either physically or digitally [10]. Mail administration is a systematic and standardized process for handling official documents, starting from creation, receipt, storage, distribution, use, to disposal, with the aim of ensuring their security, efficiency, and traceability within an organizational environment [11]. The smoothness of administration in general can be understood as the efficiency of administrative processes taking place in higher education institutions. This smoothness is not only related to the speed and fluency of administrative procedures, but also involves reducing waste, improving service quality, and better resource management [12]. At the Faculty of Tarbiyah and Teacher Training, Universitas Islam Negeri Sumatera Utara (FTTT UINSU), correspondence activities are a routine part of operations involving various parties, including staff, lecturers, and students. The high volume of incoming and outgoing letters demands a neat, structured, and efficient management system.

Google Sheets is a Google's web-based collaborative tool that allows multiple users to input, edit, and share data in real-time in spreadsheet format [13]. The main advantages of Google Sheets are its low cost since it can be used for free, its accessibility which allows users to update and access data in real time from any device, and its ease of storing and retrieving data using the filter feature [14]. Google Sheets is a practical and reliable tool for educational institutions and administrative purposes in organizing information collaboratively and transparently [15].

Before the implementation of a more organized system, mail management at FTTT UINSU was conducted manually. This method, though long-standing, proved to be inefficient, time consuming in its execution, error prone in document numbering, and difficult in terms of archive retrieval [16]. Each administrative unit maintained its own records, with little coordination across divisions, which often led to duplicated or missing entries and inconsistent document formatting. The absence of a centralized, real-time platform significantly hampered workflow integration.

Moreover, while advanced digital systems such as ERP are available to address these issues, their complexity and high cost often render them unsuitable for smaller units or institutions with limited technical capacity. Thus, a gap remains for practical, low-cost tools that can deliver the benefits of digitization without requiring major infrastructure investment.

To address this gap, Google Sheets was introduced as a collaborative platform to streamline letter management processes. Chosen for its accessibility, zero licensing cost, and ease of use, Google Sheets allows multiple users to view and edit records in real time, which enhances coordination between administrative

divisions. Its features including automatic numbering, searchable filters, cloud-based access, and permission-based controls, make it a suitable entry level tool for digitizing administrative workflows [17].

This study examines how the adoption of Google Sheets impacts efficiency, accuracy, and transparency in correspondence management at FTTT UINSU. The focus is on its practicality in an academic administrative context, where a balance between technological accessibility and functionality is crucial. Accordingly, the central research question posed in this study is: How does the implementation of Google Sheets impact time efficiency, data accuracy, and transparency in official correspondence management?

This study employs a qualitative descriptive method. Therefore, this approach is essentially to provide a detailed and in-depth portrayal of a phenomenon or experience, seen from the perspective of the participants, without excessive manipulation or interpretation [18]. The primary objective is to gain a deeper understanding of how someone experiences or interprets something in the context of their daily lives [19]. The implementation begins with the purposive selection of participants, followed by the collection of data through semi-structured interviews. The collected data is analyzed using an inductive content analysis approach, which involves arranging the data from the bottom up, from specific details to broader patterns. To verify the validity of the results, member checking and triangulation techniques are also utilized. All of these processes are intended to provide an authentic and fairly in-depth representation of the participants' experience [20].

2. METHODOLOGY

This study uses a qualitative descriptive approach to illustrate the implementation of an administration system based on Google Sheets. Several stages of the research are presented in Figure 1.

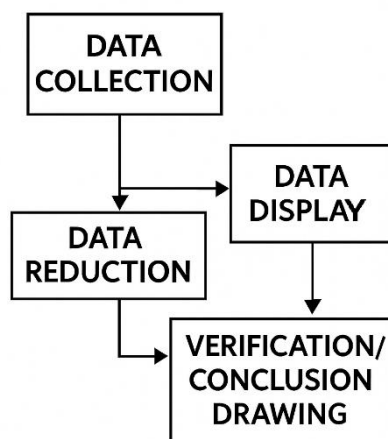


Figure 1. Research Stages

1. Data collection

Participants were purposively selected based on their roles and experiences in managing official correspondence at the Faculty of Tarbiyah and Teacher Training, State Islamic University of North Sumatra (FTTT UINSU). Four administrative staff participated in this study. All participants had at least three years of experience in managing official correspondence, ensuring relevant insights into both manual and Google Sheets-based systems. Data were collected through semi-structured interviews conducted individually with each participant. The interview guide covered topics such as time efficiency, accuracy, transparency, and challenges faced during the transition to the Google Sheets system. The complete interview guide is included in Appendix A.

2. Ethics Statement

This study was conducted with respect for the rights and privacy of participants. All interviewees voluntarily participated and were informed about the purpose of the study prior to the interviews. The information provided was kept confidential, and participant identities were anonymized to protect their privacy.

3. Data Reduction

The collected interview transcripts were systematically coded to identify key themes related to time efficiency, accuracy, transparency, and operational challenges. The coding process was performed solely by the researcher using NVivo software version 15, which facilitated data organization and thematic analysis. To ensure the consistency and reliability of the coding, a self reliability check was conducted by recoding a subset of the data after a three day interval. The comparison of the two coding sessions revealed consistent patterns, indicating that

the coding was reliable and reproducible. Through this inductive thematic coding, the data were reduced from raw transcripts to meaningful categories that informed the study's findings.

4. Data Display

Data presentation was done by organizing and presenting the data in the form of narratives and tables.

Table 1. Comparison of Letter Management Time Before and After the Implementation of Google Sheets

Process	Before Implementation (Minutes)	After Implementation (Minutes)
Letter Recording	5	2
Letter Archive Retrieval	5	1
Letter Filing	15	3

Table 2. Comparison of Efficiency and Accuracy in Letter Administration: Manual Method vs. Google Sheets

Aspect	Before Implementation (Manual)	After Implementation (Google Sheets)
Letter Numbering Accuracy	Prone to numbering errors such as duplication, omissions, or incorrect sequences	Highly accurate due to automatic and integrated numbering
Number Duplication	High potential for errors due to manual numbering repetition	No duplication, numbers are generated automatically
Missed Letter Entries	More time-consuming to track letters that were missed or not recorded	Easy to track unrecorded letters through the search feature
Letter Number Changes	Requires manual adjustments across all documents	Automatic and consistent number changes across all documents
Storage and Data Backup	Prone to loss or damage	Data is automatically stored in the cloud and can be accessed anytime

Table 3. Comparison of Data Transparency Between Units: Manual Method vs. Google Sheets

Aspect	Before Implementation (Manual)	After Implementation (Google Sheets)
Data Access	Limited to each individual unit	Accessible in real time by all administrative units
Access Control and Data Security	Each unit must manage its own data separately, increasing the risk of data loss	Access can be controlled (e.g., view or edit rights) for each unit
Data Version Control	No version control, risking data inconsistencies between units	Google Sheets offers automatic version control, making it easy to track changes
Inter-Unit Coordination	Takes more time to share information	Facilitates coordination between units with always up-to-date data

5. Verification/ Conclusion Drawing

The researcher drew conclusions regarding the extent to which the use of Google Sheets optimized mail administration management at FTTT UINSU, including its benefits and recommendations for further implementation.

Data validation was achieved through member checking with participants and triangulation with institutional records. The observed improvements were consistent with administrative needs and prior studies. These findings align with Díaz-García et al. and Benavides et al., who emphasize the role of digital platforms in enhancing administrative effectiveness and transparency in higher education [4][5].

3. RESULTS AND DISCUSSION

1. Mail Management at FTTT UINSU

FTTT UINSU handles several types of letters on a daily basis. These letters originate from or are addressed to three main groups: first, employees (including administrative staff and educational personnel); second, lecturers;

and third, students. Administrative letters at FTTT UINSU include assignment letters, student status certificates, internship applications, meeting invitations, and research request letters. These diverse document types reflect the faculty's critical administrative role in supporting academic operations. However, the high volume and varying formats of these letters made manual management especially prone to duplication and delays, highlighting the urgent need for a centralized digital solution.

Mail administration at FTTT UINSU is divided into three main units

- a. General Administration and Staffing
- b. Academic Administration
- c. Study Programs

Each unit is responsible for a specific type of letter and plays a role in the overall correspondence process. Before the implementation of Google Sheets, letter recording was still done manually using physical notebooks. Incoming and outgoing letters were recorded based on the date and type of publication, while each unit ran its own separate recording system.

This manual system resulted in various problems. Letter numbering was often incorrect, and duplication or missed entries were not uncommon due to the lack of real-time coordination between units. Retrieval of archived documents was also difficult because storage was done haphazardly and not centralized. Repeated data entry was also common, and differences in workflow between units resulted in isolated work conditions.

These problems not only reveal weaknesses from a technical perspective, but also clearly show inefficiencies in the way the organization works. The lack of infrastructure that can be used in conjunction makes the administrative response at the faculty level slow. The administrative system that is still separate between units in higher education also has a direct impact on the quality of service and makes the institution less agile in responding to various needs that arise.

At FTTT UINSU, delays in compiling or retrieving official documents can slow down the service process for students, disrupt lecturer mobility, and coordination between departments does not run well. In addition, because each unit runs independently, transparency is almost invisible, and managing document versions is also very difficult. Conditions like this indicate a greater challenge in the process towards mature digitalization on campus, where work patterns between units are still separate due to old habits or organizational structure constraints. This kind of work environment is very prone to causing administrative matters to be delayed, tasks to overlap, and communication often not connected, which ultimately makes the institution's work less than optimal.

Recognizing these issues, the faculty introduced Google Sheets as a collaborative platform to digitize and integrate mail administration processes. The tool is used as a live-access database with two worksheets categorizing:

- a. Single-Number Letters
- b. Multiple-Number Letters

Each administrative unit has controlled access to the shared file. Only the General Administration and Staffing unit assigns Single-Number codes, while all units may input Multiple-Number Letters.

The choice of Google Sheets was strategic: its accessibility, real-time editing, and low cost provided a feasible solution without requiring a full enterprise resource system. Successful digital transformation in universities often begins with simple, scalable tools that meet core operational needs. In this case, the spreadsheet serves not just as a data repository, but as a platform that promotes coordination, traceability, and standardization across units.

2. Implemented Google Sheets Features

Each unit, General Administration and Staffing, Academic Administration, and Study Programs, has an account to access the same spreadsheet file. Google Sheets was implemented as a collaborative platform to support real-time letter administration at FTTT UINSU. Several features of the platform were utilized to streamline and secure the process across administrative units.

Several Google Sheets features that are utilized include:

- a. Access Control and Custom Password Prompt

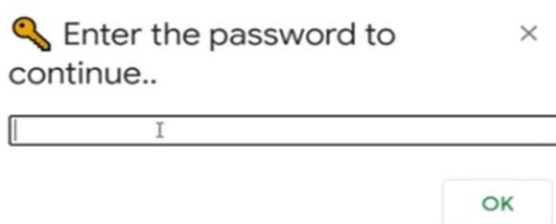


Figure 2. Custom Password Prompt Created Using Google Apps Script in Google Sheets

Access to the shared spreadsheet was managed using Google Drive's built-in permission settings, which allow file owners to restrict editing or viewing access to specific institutional Google accounts. This ensures that only authorized personnel can input or modify data. To add an extra layer of protection, a basic interface prompt was created using Google Apps Script to simulate a password input pop-up before accessing the content. While Google Sheets does not natively support password authentication outside of Google account logins, such custom scripts can provide a soft barrier that discourages casual access by unauthorized users. However, it should be noted that this method is not equivalent to enterprise-grade security and can be bypassed by users with script.

b. Auto Numbering

Using the formula =TEXT(ROW(A1),"000") for automatic numbering based on sequence.

c. Conditional Formatting

Marking letters that are incomplete or require follow-up action.

d. Filter & Sort

Facilitates the search for letters based on date, name, or type of letter when there is a need to retrieve previously issued documents.

e. Limitations and Security Considerations

While Google Sheets offers several advantages such as accessibility, simplicity, and no licensing cost, its use in institutional settings also presents limitations. Most notably, it lacks advanced security features such as role-based access control, comprehensive audit logs, and data encryption beyond what is provided by Google's cloud infrastructure. Moreover, if file sharing settings are misconfigured, there is a risk of unauthorized access. Institutions planning to use Google Sheets for administrative purposes should implement strong access policies, regularly audit file permissions, and consider more secure alternatives for handling highly sensitive information.

3. Identified Benefits Analysis

Following the implementation of the Google Sheets-based letter management system along with its features, several immediate benefits were experienced by the administrative staff at FTTT UINSU, including:

a. Time Efficiency

As shown in Table 1, it is very clear that using Google Sheets makes time management much faster in FTTT UINSU. For example, the time to record a letter is only 2 minutes, whereas previously it was 5 minutes with an increase of 60%. Then, to search for archives is also only 1 minute, much lower than previously which was 5 minutes with an increase of 80%. The time to archive letters has also decreased drastically, from 15 minutes to only 3 minutes with an increase of 80%. Based on the explanation of the data, using Google Sheets makes administrative work easier and is completed very quickly.

b. Improved Accuracy

As illustrated in Table 2, the use of Google Sheets dramatically improved numbering accuracy by virtually eliminating duplication and omissions through automated numbering. This improvement enhanced the reliability of official correspondence management and reduced administrative workload significantly. Although exact error counts were not quantitatively recorded, participant feedback suggests a near 100% improvement in accuracy and consistency compared to the manual system.

c. Fast and Easy Archive Search

The filter and sort features in Google Sheets allow users to quickly search for letters based on date, type, or sender/recipient name. This feature also speeds up access to older letter archives, enhancing document retrieval efficiency.

d. Data Transparency Across Units

Table 3 demonstrates a significant enhancement in data transparency and inter-unit coordination after implementing Google Sheets. Real-time data access reduced coordination delays by approximately 90%, facilitating faster decision making. Additionally, features such as version control and controlled access permissions improved data security and integrity across administrative units, fostering better collaboration and trust among staff.

e. Low Operational Costs

The use of cloud-based Google Sheets reduces the need for additional hardware or software. Letter management can be carried out using existing devices (computers, browsers, and Google accounts), saving the faculty's operational expenses.

f. Security and Controlled Access

Security features such as password protection in Google Sheets help maintain the confidentiality of letter data. In addition, access rights settings allow control over who can edit or view the file.

The implementation of this system indeed has many benefits. However, there are still some obstacles that arise in the field. First, not all staff in the administration division fully understand how to use spreadsheets. Like making formulas, understanding their functions, and many are still confused about formatting. Initially, there were always incorrect inputs or wrong edits to the data. For the solution, there must be training on how to use Google Sheets, plus clear step-by-step guidance so that they can work more smoothly and not keep making mistakes.

The second problem is about the internet. This system relies on a stable connection. In some offices where the signal frequently drops and reconnects, collaboration is actually hindered. Sometimes it gets even more complicated. Google Sheets is indeed very easy to access, but because it is connected to the entire Google ecosystem, concerns also arise about accounts and data. Especially if staff are still using personal accounts, not institutional accounts. That could be a problem later.

Finally, the issue of who can access the data is getting more complicated. Google Sheets does not have advanced permission features or an admin dashboard to manage access. So, the risk of data being edited or deleted accidentally is very big. This is very important to pay attention to. Therefore, technical support for users must continue, so that everything remains safe and the system does not fall apart even though it is becoming more complex.

4. Comparison with Previous Studies

The results of this study are in line with the findings of Díaz-García et al.[4], which showed that cloud-based digital tools are very helpful in improving administrative efficiency and data transparency in higher education. The difference is, their study focused on a complete digital platform, while this study highlights Google Sheets as a practical solution that is cheap and easily accessible, but still provides similar results without the hassle and high costs of an ERP system. Compared to manual methods that often experience data input errors and delays, the use of Google Sheets in this study managed to significantly reduce process time and errors, showing its effectiveness in simplifying the management of official letters. Thus, Google Sheets could be the right choice for institutions that want to transform digitally but have limited resources.

This study has several limitations that need to be considered when looking at the results. First, the number of participants was only four administrative staff, so the results may not be directly applicable to other faculties or universities. Therefore, further studies are recommended to involve more and more diverse participants to get stronger results. Second, because the data used came from direct reports from participants, it is possible that they slightly overstated the benefits or understated the challenges. Using other, more objective data would help strengthen the findings. Third, this study was highly dependent on a smooth internet connection, and of course not all places have such conditions, which could affect how effectively Google Sheets can be implemented. Finally, some staff did not receive specific training on how to use spreadsheets, so there were initially input errors that could affect the results. Therefore, more comprehensive training is needed so that this system can run optimally.

4. CONCLUSION

In the midst of the ever-growing digital era, the use of an information technology-based administration system has become an irreplaceable need, such as in matters relating to letter management in universities. At FTTT UINSU, the use of Google Sheets has proven to have a major impact on the efficiency and effectiveness of the letter administration process. With the help of features such as automatic numbering, search filters, and password protection, letter management becomes neater, faster, and easier to monitor by various units involved.

This application not only helps reduce errors in the letter numbering process, but also reduces the time needed to search for archives and encourages data openness between administrative sections. In addition, Google Sheets have other advantages, the most highlighted of which are its low cost and can be accessed from various devices, so it is very suitable for use in a campus environment.

Based on these results, this digital letter management model can be used as an example for other units in universities so that administrative performance is smoother and more focused. In the future, it would be better if this system continues to be developed, for example by adding advanced features such as graphs or automatic reports. Long-term evaluations can also be conducted to compare with other digital systems used in similar institutions.

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