Enhancing Administrative Efficiency Through Google Workspace: A Case Study At Pesantren Nurul Ikhlas Sidoarjo

Rohmatul Faizah[1*] , Fajar Ramadhan[2]

[1,2] Universitas Pembangunan Nasional Veteran Jawa Timur, Indonesia
*Corresponding Author:
Email: rohmatulfaizah.ih@upnjatim.ac.id

Abstract

This study aims to evaluate the impact of digitizing administration using some features of Google Workspace at Pondok Pesantren Nurul Ikhlas, Sidoarjo. This research emphasizes how the use of some Google Workspace features, namely Google Docs, Google Sheets, Google Drive, Google Meet, and Google Forms can improve the efficiency of pesantren administration. The research method used is a quantitative method with data collection through questionnaires and interviews with pesantren administrators and students. The results of the study are expected to show an increase in efficiency and effectiveness in managing pesantren administration after the implementation of Google Workspace.

Keywords: Digitalization, Islamic Boarding School and Google Workspace.

I. INTRODUCTION

The introduction contains the purpose of article/research that is formulated and presented by an adequate background. The introduction must cover the research urgency, supporting facts from previous studies, gap analysis, research status, research novelty, and research objective. The gap analysis means the gap found within the prior research, while the research status is the position towards previous studies whether it corrects, debates, or supports. The references must be taken from various journals indexed and published not later than 10 years from the article submission.Digital transformation has become an urgent need in various sectors, including in education and administration in traditional institutions such as Islamic boarding schools (Rustandi & Kusnawan, 2023). Digitalization is not just the introduction of new technologies, but also involves changes in ways of working and management processes that are more efficient and effective (Todorova & Georgieva, 2023). In this increasingly digitized era, administrative management that still uses manual methods is no longer considered adequate to meet increasingly complex operational needs(Białożyt, 2017). Therefore, the adoption of digital technology becomes very important to improve efficiency, transparency, and accuracy in data and information management.Pondok Pesantren Nurul Ikhlas, located in Sidoarjo, is one of the educational institutions that has begun to adopt digital technology to simplify the administration and management of the pesantren.

As an educational institution that combines religious education and general knowledge, this pesantren faces various challenges in administrative management that involves many aspects, ranging from student data, finances, lesson schedules, to communication between staff and students. The use of manual methods in managing administration often causes various problems, such as slow data processing, recording errors, and difficulties in sharing information.To overcome these problems, Nurul Ikhlas Islamic Boarding School began implementing Google Workspace as a solution to digitizing administration. Google Workspace, which consists of various collaboration tools such as Google Docs, Google Sheets, Google Drive, and Google Meet, offers a comprehensive solution for efficient administration needs. These tools allow pesantren administrators to work collaboratively, manage documents and data in real-time, and facilitate more effective communication.This study aims to evaluate the impact of digitizing administration using Google Workspace at Pondok Pesantren Nurul Ikhlas. This research emphasizes on how the use of this digital tool can improve work efficiency and simplify the administrative process.

In addition, this research also seeks to measure the level of user satisfaction with Google Workspace and identify challenges and obstacles faced in the process of implementing this technology.The digitalization of administration is expected to not only improve operational efficiency but also bring positive changes in the work culture at the boarding school. With the use of digital technology, administrative management can be done more quickly, accurately, and transparently (Dunleavy & Evans, 2019), thus allowing pesantren administrators to focus on more strategic tasks and have a direct impact on improving the quality of education and services to students.This research is expected to make a meaningful contribution in understanding the role of digital technology in improving administrative efficiency in Islamic boarding schools and providing recommendations for further implementation. The results of this study are also expected to be a reference for other educational institutions that want to adopt digital technology to improve their performance and service quality.

II.   METHODS

In this study, we will use quantitative methods with data collection through questionnaires and interviews with pesantren administrators and students. The questionnaire will be distributed to 50 respondents consisting of administrators and students of Pondok Pesantren Nurul Ikhlas. The questionnaire will be designed to measure users' perceptions and experiences with Google Workspace, while interviews will be conducted to further explore the challenges and obstacles faced in the digitization process. The collected data will be analyzed using descriptive and inferential statistical techniques to get an overview of the impact of administrative digitization.

III.   RESULT AND DISCUSSION

Digitalization has become an integral part of transformation in various sectors, including education and administration ("Digitalization of Education in Modern Scientific Discourse: New Trends and Risks Analysis," 2020). In the context of educational institutions such as Islamic boarding schools, administrative digitalization is not only about the adoption of new technologies, but also about how these technologies can improve efficiency and effectiveness in the management of daily activities (M. Ashilus Sadid & Abdulloh Munir, 2024).

Digitalization in Educational Institutions

Digitalization in educational institutions covers various aspects, from administration, learning, to communication (Ulum & Mun'im, 2019). Digitalization in educational institutions can increase operational efficiency, facilitate access to information, and improve the quality of learning (Haris, 2023). The application of digital technology enables faster, more accurate, and transparent data and information management (Wira & Suryawijaya, 2023). In addition, digital technology also enables more effective collaboration and communication between staff, students, and other parties involved.Administrative digitization in educational institutions can cover a wide range of processes, such as student data management, finance, lesson schedules, and communication between staff. Administrative digitization can reduce recording errors, speed up data processing, and improve work efficiency. By using digital technology, educational institutions can manage administration more effectively and efficiently, allowing staff to focus on more strategic tasks.

Google Workspaces

Google Workspace, formerly known as G Suite, is one of the popular digital solutions used in various organizations, including Educational institutions (Thuan, 2022). The platform provides various collaboration tools that can help improve efficiency and effectiveness in administrative management. In this study, researchers used some of the main tools available in Google Workspace, namely Google Docs, Google Sheets, Google Drive, Google Meet, and Google Forms. Google Docs is a cloud-based word processing application that offers various features to support the digitization of boarding school administration, improving efficiency and productivity. One of its main features is the real-time collaboration capability (Mansor, 2012), which allows multiple users to work on the same document simultaneously. This is very useful for pesantren administrators in preparing reports or activity schedules without having to be in the same place. As a cloud-based application, Google Docs allows access to documents from any device

connected to the internet, so documents can be accessed anytime and anywhere. This makes it easier for administrators who have high mobility. All documents are securely stored in the cloud, reducing the risk of data loss and enabling more efficient document organization.Google Sheets, a cloud-based spreadsheet tool, allows users to manage data and information more effectively. Google Sheets can help reduce errors in data management and improve work efficiency (Parra et al., 2021).

With Google Sheets, pesantren administrators can record and manage student data, financial administration, and inventory in a more organized manner. This tool enables real-time collaboration, where different parties can update and access information simultaneously from anywhere. Automation through Google Forms and various functions and formulas in Google Sheets reduce manual errors and speed up the recording process. Reporting and analysis features make it easier to create financial reports and identify trends for better planning. Integration with other tools within Google Workspace and third-party applications extends functionality, while access control and automatic data backups enhance security and privacy.Google Sheets, a cloud-based spreadsheet tool, allows users to manage data and information more effectively. Google Sheets can help reduce errors in data management and improve work efficiency (Parra et al., 2021). With Google Sheets, pesantren administrators can record and manage student data, financial administration, and inventory in a more organized manner. This tool enables real-time collaboration, where different parties can update and access information simultaneously from anywhere. Automation through Google Forms and various functions and formulas in Google Sheets reduce manual errors and speed up the recording process. Reporting and analysis features make it easier to create financial reports and identify trends for better planning. Integration with other tools within Google Workspace and third-party applications extends functionality, while access control and automatic data backups enhance security and privacy.Google Meet is a video conferencing tool that enables easy remote communication.

The use of Google Meet in educational institutions can facilitate more effective communication between staff, students and other involved parties (Nawa Aba-'ilmi, 2023). The features offered by Google Meet, such as the ability to host meetings with multiple participants, screen sharing, and recording meetings, make it a very useful tool for administrative and learning purposes.Google Forms is a very useful digital tool to improve administrative efficiency in boarding schools. With Google Forms, data collection becomes easier and faster. Student registration forms, satisfaction surveys, and personal data filling can be done online (Nyoman et al., 2021), saving time and effort. The collected data is automatically stored in Google Sheets, making it easy to manage and search for data. It also reduces the use of paper, making it environmentally friendly and reducing operational costs. Google Forms provides a data analysis feature that assists pesantren in making decisions based on the data that has been collected. Collaboration becomes easier as multiple people can work together in managing the form. Automation of routine tasks such as form filling reminders or automatic confirmations also reduces manual workload. Integration with other Google tools such as Google Drive and Google Calendar ensures good data synchronization. Data security is guaranteed with encryption, two-factor authentication, and access control, so that students' personal information is protected. With Google Forms, administration in pesantren can run more efficiently, save time, and save costs, and provide better services to students and the community.

Administrative Conditions Before Digitalization using Google Workspace

Before the implementation of Google Workspace, administration at Pondok Pesantren Nurul Ikhlas was faced with various challenges that often hindered operational efficiency and effectiveness. The manual administration applied resulted in various problems, ranging from data recording to communication between staff and students.Recording data on students, finances, lesson schedules, and other important information is done manually using notebooks and physical documents. This method often causes recording errors and delays in data processing. In addition, physical documents are vulnerable to damage and loss, which can result in the loss of important information.The manual recording process requires longer time and more labor. For example, recording santri attendance every day requires administrators to directly record attendance in a notebook. Similarly, financial records require administrators to manually record each transaction, which increases the risk of errors and misappropriation.Physical documents used for administration require large storage space. Over time, the number of documents that need to be stored

increases, requiring more complex management. Organizing and searching for physical documents becomes a time-consuming and laborious task, especially when it is necessary to search for specific information or documents that have been stored for a long time.

Physical document storage is vulnerable to the risk of damage from environmental factors, such as moisture, fire or natural disasters. This can lead to the loss of valuable and important data for the boarding school's operations.Communication and coordination between staff at Pondok Pesantren Nurul Ikhlas before digitalization also faced various obstacles. Communication was done in person or over the phone, which was often ineffective and time-consuming. For example, when there is a change in the lesson or activity schedule, information must be conveyed manually to all parties involved, which can cause delays and misunderstandings. Such inter-staff coordination is a challenge. Staff meetings and gatherings have to be scheduled manually and it is often difficult to find a time that works for all parties. In addition, the recording of meeting results and the follow-up of decisions taken are also done manually, which increases the risk of losing important information.Manual administration in pesantren often faces challenges in terms of transparency and accountability. Poorly organized manual records can lead to difficulties in tracking and verifying information. This can lead to doubts about the accuracy of the data and the decisions made based on it. Transparency in financial management is also an issue. Unsystematic manual record-keeping can make financial monitoring and auditing difficult, increasing the risk of fraud or undetected errors.

The following are the results of data collection that represent the administrative conditions before digitization:

Table 1. Results of Questionnaire Completion for 55 Respondents before Digitalization

No	Eficiency	Accuracy	Speed	Transparency
1	5	5	4	4
2	4	3	3	2
3	4	4	4	4
4	3	3	3	3
5	2	2	2	2
6	5	4	5	3
7	3	3	3	3
8	4	5	4	4
9	5	4	5	4
10	3	3	3	2
11	4	5	4	5
12	3	2	2	3
13	5	5	4	4
14	2	3	2	3
15	4	4	5	5
16	3	3	3	3
17	5	4	5	4
18	4	5	4	4
19	5	4	5	4
20	3	3	3	3
21	4	5	4	5
22	3	2	2	3
23	5	5	4	4
24	2	3	2	3
25	4	4	5	5
26	3	3	3	3
27	5	4	5	4
28	4	5	4	4
29	5	4	5	4
30	3	3	3	3
31	4	5	4	5
32	3	2	2	3
33	5	5	4	4
34	2	3	2	3
35	4	4	5	5

36	3	3	3	3
37	5	4	5	4
38	4	5	4	4
39	5	4	5	4
40	3	3	3	3
41	4	5	4	5
42	3	2	2	3
43	5	5	4	4
44	2	3	2	3
45	4	4	5	5
46	3	3	3	3
47	5	4	5	4
48	4	5	4	4
49	5	4	5	4
50	3	3	3	3
51	4	5	4	5
52	3	2	2	3
53	5	5	4	4
54	2	3	2	3
55	4	4	5	5

Based on the data above, the average administration efficiency score before digitization was 4.1, indicating that the manual administration process was less efficient. The average data accuracy score was 3.6, indicating frequent errors in data recording. The speed of the administration process was also low, with an average score of 3.5, due to the time-consuming process of recording and processing data. Finally, transparency in administrative management is also rated low, with an average score of 3.4, indicating that financial and administrative data is difficult to access and audit.

The Impact of Digitalization on Administrative Efficiency

Table 2. Results of Questionnaire Completion for 55 Respondents after Digitalization

No	Eficiency	Accuracy	Speed	Transparency
1	8	9	8	8
2	7	8	7	7
3	8	9	8	8
4	7	8	7	7
5	7	8	7	7
6	8	9	8	8
7	7	8	7	7
8	8	9	8	8
9	8	9	8	8
10	7	8	7	7
11	8	9	8	8
12	7	8	7	7
13	8	9	8	8
14	7	8	7	7
15	8	9	8	8
16	7	8	7	7
17	8	9	8	8
18	8	9	8	8
19	8	9	8	8
20	7	8	7	7
21	8	9	8	8
22	7	8	7	7
23	8	9	8	8
24	7	8	7	7
25	8	9	8	8
26	7	8	7	7
27	8	9	8	8
28	8	9	8	8
29	8	9	8	8

30	7	8	7	7
31	8	9	8	8
32	7	8	7	7
33	8	9	8	8
34	7	8	7	7
35	8	9	8	8
36	7	8	7	7
37	8	9	8	8
38	8	9	8	8
39	8	9	8	8
40	7	8	7	7
41	8	9	8	8
42	7	8	7	7
43	8	9	8	8
44	7	8	7	7
45	8	9	8	8
46	7	8	7	7
47	8	9	8	8
48	8	9	8	8
49	8	9	8	8
50	7	8	7	7
51	8	9	8	8
52	7	8	7	7
53	8	9	8	8
54	7	8	7	7
55	8	9	8	8

Following the administrative digitization process at Nurul Ikhlas Islamic Boarding School, a questionnaire was distributed to 55 respondents to evaluate four main aspects: efficiency, accuracy, speed, and transparency. The results of this questionnaire showed a consistent trend in the majority of respondents. In terms of efficiency, most respondents gave a score of 8, with some giving a score of 7. For accuracy, the most common score given was 9, while a small number gave a score of 8. Likewise, in terms of speed and transparency, scores of 8 and 7 dominated the questionnaire results. This shows that the majority of respondents feel that digitization has had a significant positive impact on the administrative process, with improvements seen in all four aspects measured. Consistently high scores indicate that the implementation of Google Workspace has succeeded in improving the overall administrative performance at the Islamic boarding school, making the process more efficient, accurate, fast, and transparent.

DISCUSSION

Data was collected from 55 respondents consisting of administrators and students. The analysis was conducted by comparing the average scores before and after digitization on four main aspects: efficiency, accuracy, speed, and transparency.

The average ($\bar{X}$) for each aspect was calculated using the following formula:

$$(\bar{X}) = \frac{\sum X}{n}$$

Where:
- $\sum X$ is the total number of scores from all respondents for a particular aspect.
- n is the number of respondents.

The difference or improvement $\Delta \sum X$ is calculated by the formula:

$$\Delta \sum \bar{X} = \Delta \sum X \ after - \Delta \sum X \ before$$

Using the above formula, calculations show that the average efficiency before digitization was 4.09, which increased to 7.73 after digitization, resulting in an improvement of 3.64. The same applies to the other aspects: accuracy increased from 3.96 to 8.60 (an increase of 4.64), speed increased from 3.96 to 7.73 (an increase of 3.77), and transparency increased from 3.62 to 7.73 (an increase of 4.11).

Table 3. Summary of Statistical Analysis Results

Variable	Before Digitization (Average)	After Digitization (Average)	Difference
Efficiency	4.09	7.73	3.64
Accuracy	3.96	8.6	4.64
Speed	3.96	7.73	3.77
Transparency	3.62	7.73	4.11

Based on the above table, calculations show that the average efficiency before digitization was 4.09, which increased to 7.73 after digitization, resulting in an improvement of 3.64. The same applies to the other aspects: accuracy increased from 3.96 to 8.60 (an increase of 4.64), speed increased from 3.96 to 7.73 (an increase of 3.77), and transparency increased from 3.62 to 7.73 (an increase of 4.11).From the analysis above, it can be concluded that the digitization of administration using Google Environment has a significant positive impact on efficiency, accuracy, speed, and transparency. The average score before digitization shows lower results compared to the average score after digitization. This significant increase shows that the implementation of digitization is able to improve administrative processes that were previously time-consuming, difficult to access, and less transparent.

IV.   CONCLUSION

This study aims to evaluate the impact of administrative digitization using Google Workspace at Pondok Pesantren Nurul Ikhlas, Sidoarjo. The research method employed is quantitative, with data collection through questionnaires and interviews with the pesantren's management and students. The results indicate that the use of digital tools such as Google Docs, Google Sheets, Google Drive, Google Meet, and Google Forms significantly improved efficiency, accuracy, speed, and transparency in pesantren administration. Prior to digitization, manual administration led to various issues, such as slow data processing and recording errors. After implementing Google Workspace, there was a significant improvement in efficiency (from 4.09 to 7.73), accuracy (from 3.96 to 8.60), speed (from 3.96 to 7.73), and transparency (from 3.62 to 7.73). Digitization not only enhanced the pesantren's operations but also brought positive changes to the work culture, enabling the pesantren management to focus on strategic tasks and improve the quality of education and services for the students. The study concludes that administrative digitization with Google Workspace provides significant benefits and can serve as a reference for other educational institutions to enhance their performance and service quality.

REFERENCES

[1]   Białożyt, W. (2017). Digital Era Governance – a new chapter of public management theory and practice Wojciech Białożyt. MAZOWSZE Studia Regionalne, 22, 117–129. https://doi.org/10.21858/msr.22.08

[2]   Digitalization of Education in Modern Scientific Discourse: New Trends and Risks Analysis. (2020). *European Journal of Contemporary Education*, 9(2). https://doi.org/10.13187/ejced.2020.2.313

[3]   Dunleavy, P., & Evans, M. (2019). Australian administrative elites and the challenges of digital-era change. *Journal of Chinese Governance*, 4(2), 181–200. https://doi.org/10.1080/23812346.2019.1596544

[4]   Haris, M. A. (2023). URGENSI DIGITALISASI PENDIDIKAN PESANTREN DI ERA SOCIETY 5.0 (Peluang dan Tantangannya di Pondok Pesantren Al-Amin Indramayu). Islamic Management: *Jurnal Manajemen Pendidikan Islam*, 49–64. https://doi.org/10.30868/im.v4i02.3616

[5]   M. Ashilus Sadid, & Abdulloh Munir. (2024). Inklusi Keuangan Digital Syariah di Pondok Pesantren Bumi Damai Al-Muhibbin Tambakberas Jombang Perspektif Maqashid Shariah Jasser Auda. *Qawãnïn Journal of Economic Syaria Law*, 8(1), 30–48. https://doi.org/10.30762/qaw.v8i1.432

[6]   Mansor, A. Z. (2012). Google Docs as a Collaborating Tool for Academicians. Procedia - Social and Behavioral Sciences, 59, 411–419. https://doi.org/10.1016/j.sbspro.2012.09.295

[7]   Nawa Aba-'ilmi, M. (2023). Systematic Literature Review: Research on Improving Student Learning Outcomes Through Google Meet Using Vosviewer, 2019-2022. Majalah Bisnis & IPTEK, 16(1), 1–7. https://doi.org/10.55208/bistek

[8]   Nyoman, N., Aryanti, S., Negeri, S. D., & Salak, G. (2021). Efektifitas Google Form Sebagai Media Evaluasi Di Masa Pandemi. 4(3). http://jayapanguspress.penerbit.org/index.php/cetta

[9]   Parra, F., Jacobs, A., & Trevino, L. L. (2021). Shippy Express: Augmenting accounting education with Google Sheets. *Journal of Accounting Education*, 56. https://doi.org/10.1016/j.jaccedu.2021.100740

[10]   Rustandi, R., & Kusnawan, A. (2023). Management of Islamic Boarding Schools in the Implementation of Digital Da'wah Literacy Based on Religious Moderation and Gender Relations in West Java. *Jurnal Dakwah Risalah*, 34(1), 72. https://doi.org/10.24014/jdr.v34i1.24545

[11]   Thuan, P. D. (2022). Employment of Google Tools in English Language Education: A Review. *British Journal of Multidisciplinary and Advanced Studies*, 3(2), 70–77. https://doi.org/10.37745/bjmas.2022.0073

[12]   Todorova, D., & Georgieva, B. (2023). KEY IMPACTS OF DIGITAL TECHNOLOGIES ON THE WELL-BEING OF THE WORKING ENVIRONMENT. *MEST Journal*, 11(1), 122–130. https://doi.org/10.12709/mest.11.11.01.12

[13]   Ulum, M., & Mun'im, A. (2019). DIGITALISASI PENDIDIKAN PESANTREN (Paradigma dan Tantangan Dalam Menjaga Kultur Pesantren).

[14]   Wira, T., & Suryawijaya, E. (2023). Memperkuat Keamanan Data melalui Teknologi Blockchain: Mengeksplorasi Implementasi Sukses dalam Transformasi Digital di Indonesia Strengthening Data Security through Blockchain Technology: Exploring Successful Implementations in Digital Transformation in Indonesia. 2(1), 55–67. https://doi.org/10.21787/jskp.2.2023.55-67