Study On The Effectiveness Of Whatsapp Usage Among Staff Of The Department Of Mechanical Engineering, Politeknik Kota Bharu

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Abstract- **This study was conducted to evaluate the effectiveness of WhatsApp usage among staff at the Department of Mechanical Engineering, Politeknik Kota Bharu. In the current era of communication technology, instant messaging applications have become an important medium for delivering information quickly and efficiently, particularly within higher education institutions. WhatsApp is not only used for daily communication but also plays a significant role in task coordination, information sharing, and the management of departmental activities. This study adopted a quantitative approach by distributing questionnaires to both academic and support staff in the department. The collected data were analyzed using descriptive statistical methods, including mean scores, percentages, and standard deviation, to determine the level of effectiveness of WhatsApp usage. The findings indicate that WhatsApp has a positive impact on internal communication within the department. Information delivery has become faster, easier, and more organized, thereby enabling staff to perform their daily tasks more effectively. However, the study also identified several challenges arising from the use of the application, including excessive message overload, intrusion into personal time, and confusion between formal and informal communication. Therefore, this study suggests that clear guidelines for digital communication applications should be established to ensure more structured, professional, and productive use of WhatsApp among staff.**

Keywords: WhatsApp, digital communication, polytechnic, academic staff, communication effectiveness.

I. INTRODUCTION

Advancements in communication technology in the digital era have significantly transformed how organizations manage their daily operations, including those in higher education. In the past, information dissemination largely depended on formal letters, telephone calls, and face-to-face meetings. However, the development of the internet and widespread use of smartphones have made communication processes more convenient, faster, and more efficient. Educational institutions are now increasingly adopting digital communication applications to enhance management efficiency and ensure that information is delivered to institutional members in a more organized and timely manner.

One of the most widely used communication applications is WhatsApp (or Wasap). This application has become a primary communication tool due to its wide range of features, including instant messaging, voice and video calls, document sharing, and group discussions. Its user-friendly interface allows communication to take place without limitations of time and location. In educational institutions, WhatsApp is commonly used to disseminate academic information, coordinate departmental activities, share reference materials, and facilitate communication between management, lecturers, and support staff.

Politeknik Kota Bharu is a technical education institution offering various engineering and technology-related programs. The Department of Mechanical Engineering plays a vital role in producing skilled technical workforce. In line with current digital developments, the use of WhatsApp among departmental staff has become increasingly widespread to support administrative tasks and daily coordination. This application is seen as an effective tool in accelerating communication and simplifying the management of academic and organizational activities.

However, excessive use of WhatsApp may also lead to several issues, such as message overload, interruptions outside working hours, and confusion between formal and informal information. If not properly managed, these situations may negatively affect staff productivity and well-being. Therefore, this study was conducted to evaluate the effectiveness of WhatsApp usage in improving communication and work management among staff of the Mechanical Engineering Department at Politeknik Kota Bharu, as well as to identify challenges and propose improvements in the use of digital communication applications within educational organizations

II. PROBLEM STATEMENT

WhatsApp, commonly known as "Wasap," is one of the most widely used digital communication platforms today. Advances in smartphone technology and improved internet accessibility have made this application a primary medium for daily communication among users. Initially, WhatsApp was mainly used for personal purposes such as staying connected with family and friends. However, its usage has gradually expanded to formal settings, including education, administration, and organizational management. The popularity of this application is driven by its user-friendly interface, low cost of use, and its ability to deliver information quickly and efficiently regardless of location.

In the education sector, WhatsApp plays an important role in facilitating communication and information management. It is commonly used to disseminate academic updates, share teaching materials, organize schedules, and strengthen communication between lecturers, staff, and students. In addition, the use of digital communication applications has been shown to improve organizational efficiency and accelerate the delivery of information within educational institutions (Bouhnik & Deshen, 2014).

At Politeknik Kota Bharu, particularly in the Department of Mechanical Engineering, WhatsApp has become a primary communication tool for both academic and administrative matters. The department covers various fields such as mechanical engineering, automotive, mechatronics, and agriculture, all of which require continuous coordination and communication. Through this application, staff are able to share information quickly, distribute documents, and manage tasks through established group communications. However, excessive use of the application may also lead to several issues such as message overload, interruptions outside working hours, and increased pressure on work-life balance if not properly managed (Rosen et al., 2013).

III. RESEARCH OBJECTIVES

This study was conducted to achieve the following objectives:

1. To identify the level of WhatsApp usage among staff of the Department of Mechanical Engineering.
2. To evaluate the effectiveness of WhatsApp in the delivery of information.

1.0 RESEARCH QUESTIONS

1. What is the level of WhatsApp usage among staff?
2. Does WhatsApp help improve the effectiveness of communication?

IV. LITERATURE REVIEW

Previous studies show that the use of digital communication applications provides numerous benefits to educational organizations, particularly in terms of management efficiency and information delivery. Advances in communication technology have enabled educational institutions to carry out administrative tasks more efficiently, systematically, and quickly. In the context of polytechnics, applications such as WhatsApp, Telegram, and other communication platforms have become increasingly important in facilitating communication between management, lecturers, and support staff. In addition, digital communication technology helps reduce delays in information delivery and improves the effectiveness of daily task implementation. It also allows information to be conveyed directly without the need for face-to-face meetings, thereby saving time and simplifying organizational processes. According to Bouhnik and Deshen (2014), the use of WhatsApp in educational institutions can enhance communication effectiveness and improve interaction among members of the academic community.

Furthermore, studies in the field of digital education in technical and higher education institutions also

indicate that instant communication applications play a significant role in enhancing collaboration and interaction within educational organizations. The use of applications such as WhatsApp facilitates document sharing, task coordination, and the rapid and systematic delivery of instructions. In teaching and learning contexts, these applications also enable lecturers and students to communicate more easily, especially in matters related to assignments, class schedules, and academic activities. Rambe and Chipunza (2013) found that the use of mobile communication applications can improve collaboration and information sharing among students and institutional members. In addition, Cetinkaya (2017) stated that the use of WhatsApp in education can enhance the effectiveness of the learning process and academic communication.

However, excessive use of digital communication applications may also lead to negative effects on users. Previous studies have shown that constant communication through digital platforms can cause emotional stress, mental fatigue, and disruption to the balance between work and personal life. Message overload and the pressure to respond immediately may cause users to feel overwhelmed and reduce their rest time. In addition, continuous use of communication applications can alsoaffect work focus and reduce face-to-face interaction. Rosen, Carrier, and Cheever (2013) explain that excessive use of digital media can disrupt attention and negatively affect user well-being. Therefore, the use of digital communication applications should be managed properly to maximize benefits without compromising individual and organizational well-being.

V. METHODOLOGY OF THE STUDY

2.1 Research Design

This study adopted a quantitative research approach using a survey method to collect data from respondents systematically. The quantitative approach was selected because it allows the researcher to obtain numerical data that can be analyzed statistically to identify patterns, relationships, and trends related to the study. In addition, this approach is suitable for measuring respondents' perceptions, opinions, and experiences in a structured and objective manner.

The survey method was used as the main technique for data collection through the distribution of questionnaires to the selected respondents. The questionnaire consisted of structured items based on the objectives of the study and was designed using a Likert scale to measure the level of agreement among respondents. The collected data were then analyzed using appropriate statistical methods to ensure that the findings were accurate, reliable, and able to answer the research objectives effectively.

2.2 Population And Sample

The study population consisted of academic staff and support staff from the Department of Mechanical Engineering at Politeknik Kota Bharu. A total of 30 respondents were selected using simple random sampling.

3.3. Research Intrument

The research instrument used was a questionnaire consisting of three sections:

- Section A: Respondents' demographic information
- Section B: Level of WhatsApp usage
- Section C: Effectiveness of WhatsApp usage

3.4 Data Analysis Method

The collected data were analyzed using descriptive statistics, including:

- Percentage
- Mean
- Standard deviation

VI. FINDINGS OF THE STUDY

Respondents' Demographic Profile Gender Distribution of Respondents

TABLE 1

GENDER DISTRIBUTION OF RESPONDENTS

Item	Frequency	Percentage
Male	20	66.7%
Female	10	33.3%

The demographic data shows that the majority of respondents are male, representing 66.7% (20 respondents), while female respondents account for 33.3% (10 respondents). This indicates that the sample of the study is dominated by male staff within the Department of Mechanical Engineering, Politeknik Kota Bharu.

2.3 Level of WhatsApp Usage

Most respondents reported using WhatsApp on a daily basis for several work-related purposes, including:

TABLE 2

LEVEL OF WHATSAPP USAGE

No.	Purpose of WhatsApp Usage	Mean Score
1	Information dissemination	4.42
2	Meeting management	4.28
3	Schedule coordination	4.31
4	Document sharing	4.39
	Overall Mean Score	4.35

The mean score for the level of WhatsApp usage is high, with an average value of

4.35. This result shows that WhatsApp is widely adopted among staff in carrying out their daily responsibilities. It has become a common platform for communication due to its ease of use and quick accessibility. Staff members rely on WhatsApp to distribute information, arrange meetings, coordinate work schedules, and share important documents. The application also helps to speed up communication processes, allowing messages to be delivered and received in real time. Furthermore, the consistent use of WhatsApp indicates that staff are familiar and comfortable with integrating it into their work routines. Overall, WhatsApp functions as an important communication medium that supports the efficiency of administrative and operational activities within the department.

2.4 Effectiveness of WhatsApp Usage

TABLE 3

EFFECTIVENESS OF WHATSAPP USAGE

No	Statement	Mean Score
1	Accelerates information delivery	4.60
2	Facilitates staff communication	4.45
3	Assists in task management	4.30
4	Saves time	4.40
	Overall Mean Score	4.43

The findings indicate that all measured items obtained high mean scores, reflecting a strong level of agreement among respondents regarding the effectiveness of WhatsApp usage. This suggests that most staff members view WhatsApp as a useful and reliable communication platform in their daily work activities. The highest mean score of 4.60 was recorded for the ability of WhatsApp to accelerate information delivery, showing that it is highly effective in ensuring messages are shared quickly and efficiently. Meanwhile, the lowest mean score of 4.30 was for assisting in task management, although it still falls within the high category, indicating positive acceptance among respondents.

In addition, the overall mean score of 4.43 demonstrates that WhatsApp is generally perceived as an effective communication tool within the workplace. The results also highlight that the application plays an important role in improving communication efficiency among staff members. It helps to ensure that important information can be delivered without delay, especially in fast-paced work environments. Furthermore, WhatsApp contributes to better coordination of tasks by enabling clear and direct communication between colleagues. Overall, the findings confirm that WhatsApp is widely recognized as a valuable tool that supports time-saving, efficiency, and smooth administrative operations among staff

VII. DISCUSSION

The findings of this study indicate that the use of WhatsApp provides various benefits to the communication system in the Department of Mechanical Engineering. The application helps staff receive instructions, information, and notifications more quickly compared to conventional communication methods. In addition, WhatsApp also facilitates the coordination of daily tasks such as schedule management, implementation of departmental activities, document sharing, and dissemination of academic and administrative information. Faster and more systematic communication indirectly improves work efficiency and reduces delays in information delivery within the organization. This situation is in line with the ongoing digital transformation in the higher education sector, which emphasizes the use of communication technology to strengthen management effectiveness and service delivery.

However, continuous and uncontrolled use of WhatsApp may also create several challenges for staff. Among the identified issues are message overload, communication disruptions outside working hours, and pressure to respond within a short time frame. These situations can interfere with work focus and disrupt the balance between personal life and job responsibilities. In addition, unregulated use of communication applications may also lead to confusion between formal and informal communication within the organization. Therefore, the establishment of clear guidelines for the use of digital communication applications is essential to ensure more structured, professional, and systematic usage. This measure will help ensure that communication technology is utilized optimally without compromising staff well-being and the harmony of the working environment.

VIII. CONCLUSION

Overall, this study found that the use of WhatsApp among staff of the Department of Mechanical Engineering at Politeknik Kota Bharu is at a satisfactory level and has a positive impact on the organizational communication system. The application serves as a primary communication medium as it enables faster, easier, and more effective interaction among staff. In addition to being used for information dissemination, WhatsApp also supports task coordination, instruction delivery, and the sharing of academic and administrative information. This indirectly contributes to improved work efficiency and smoother daily operations within the department in carrying out various organizational responsibilities.

However, the use of this digital communication application also presents several challenges that require attention from management. Among the identified issues are message overload, communication disruptions outside working hours, and the potential occurrence of digital stress among staff. These situations may affect the balance between work responsibilities and personal life if not properly managed. Therefore, the use of WhatsApp should be implemented in a more ethical, structured, and systematic manner to ensure that communication effectiveness is maintained without negatively affecting users. With clear guidelines and proper control, WhatsApp can continue to be optimally utilized in supporting efficient management and communication within technical education institutions.

REFERENCES

[1] Kasim, N. M., Fauzi, M. A., Yusuf, M. F., & Wider, W. (2022). *The effect of WhatsApp usage on employee innovative performance at the workplace: Perspective from the stressor–strain–outcome model*. Behavioral Sciences, 12(11), 456. https://doi.org/10.3390/bs12110456

[2] Abdul Aziz, F. F., Salwan, G. N., Isa, R., Md Amin, N., et al. (2024). *The effectiveness of WhatsApp in disseminating work-related information: The case of UPTM*. International Journal of Religion, 5(1), 523–534.

[3] Omar, N., Mustaffa, C. S., & Abu Talib, Z. (2018). *Receiving and responding to WhatsApp official group messages among employees: An early interpretation analysis*. International Journal of Engineering and Technology, 7(4.38), 1030–1033.

[4] Mustaffa, C. S., Che Soh, C. H., Abu Bakar, H., & Mohamad, B. (2018).

[5] *Understanding the usage of WhatsApp among Malaysian employees through the lens of social influence theory*. International Journal of Engineering and Technology, 7(4.38), 1039–1043.

[6] Lee, C. E., Chern, H. H., & Azmir, D. A. (2023). *WhatsApp use in a higher education learning environment: Perspective of students of a Malaysian private university on academic performance and team effectiveness*. Education Sciences, 13(3), 244.

[7] Ulhaq, F. D., Dharmawan, L., & Ulya, E. D. (2025). *Effectiveness of using WhatsApp social media as an organizational communication media*. IJESS International Journal of Education and Social Science.