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## **LEVERAGING AI-POWERED PERSONAL ASSISTANTS TO ENHANCE MANADO STATE POLYTECHNIC LECTURERS' PRODUCTIVITY**

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### ***Abstract***

One of the concerns of students at Manado State Polytechnic is the presence of lecturers in the learning process. The over workload in carrying out tri dharma of higher education, namely teaching, research, and community service, often causes lecturers at Manado State Polytechnic struggles and have difficulties in managing times and priorities at the same time. It gives a significant impact on the lecturer's effectiveness, productivity and class attendance. This research aims to examine the potential of Google Assistant as a personal assistant based on artificial intelligence to support the work efficiency and effectiveness of Business Administration lecturers in Manado State Polytechnic. Literature study is conducted by reviewing literature related to the application of AI-based personal assistant technology in various work contexts and how it can be implemented specifically in lecturers' duties and responsibilities. The results showed that Google Assistant as an AI-based personal assistant has great potential in helping lecturers manage schedules, administrative tasks, communication, and priorities more effectively. The implementation of this technology is expected to increase lecturers' productivity, allowing them to focus more on their core academic activities. This research provides practical recommendations for the implementation of Google Assistant as a work support tool for lecturers, particularly in the context of vocational education at Manado State Polytechnic.

**Keywords:** Artificial intelligence, Google assistant, Personal assistant, Vocational education, Work efficiency

### **INTRODUCTION**

Based on the law no. 12, 2012 about higher education, it is stated that three pillars of higher education (*tri dharma perguruan tinggi*) are obligations that must be conducted, they are education, research, and community service. These responsibilities are integrated into university lecturers' duties. Lecturers are professional educators and scientists whose main mission is to transform, develop, and disseminate science, technology, and art through educational activities, research, and community service (Irawan & Anwar, 2023). Lecturer's workload involved in fulfilling these Tri Dharma obligations many times requires lecturers to manage, attend, and participate in multiple activities simultaneously, sometimes at the the expense of other important tasks, including attending classroom sessions. This issue has become a concern for students in many higher education institutions, especially in vocational education.

Vocational education provides a significant opportunity for students to improve their practical skills instead of theoretical knowledge. Febrianti *et al.*, (2023) added that vocational education is considered as an investment that helps socio-economic development in the future by increasing productivity, knowledge, skills, attitudes, and abilities. This makes vocational education focus on practical experience and skill in the workplace unlike conventional education, which tends to emphasize theoretical learning. Therefore, the role and presence of lecturers in the teaching and

learning process are crucial and receive special attention from educational institutions, including Manado State Polytechnic.

The importance of lecturers' attendance in class, especially at Manado State Polytechnic, has been a concern for institutional leaders recently. For some reasons, observations conducted by the leaders. It was indicated that lecturers' presence in the classroom deserved more attention. Several factors contribute to this issue, including the heavy workload lecturers face in fulfilling the *Tri Dharma* of higher education: teaching, research, and community service.

In carrying out Tri Dharma responsibilities, lecturers at Manado State Polytechnic frequently find themselves engaged in multiple activities that demand simultaneous attention. This situation necessitates the lecturers' prioritizing tasks and compromise of classroom attendance. Therefore, there is a need to find solutions that can assist and help lecturers in managing administrative and technical workloads, such as scheduling, message management, prioritization analysis, and communication with various stakeholders. The goal is to support productivity and enhance the efficiency of lecturers' work at Manado State Polytechnic.

In a corporation, the role of ensuring smooth administrative, managerial, and operational tasks is typically handled by a secretary. Khairun (2023) said that the function of a secretary in a company is to help continuity in the implementation of the leader's tasks. Secretaries are responsible for facilitating overall efficiency and productivity by performing duties that support managerial and operational activities, making work processes more effective and efficient. Although lecturers are not corporate employees, they similarly require support to handle their tasks and responsibilities more effectively and efficiently.

In this digital era, all human aspects of life are connected by technology. Artificial Intelligence (AI) has been developed rapidly and had a significant impact on various sectors and fields, such as education, industry, and productivity (Natasya Dwi Ratna, 2023). Recently AI has significantly simplified human tasks, making them more effective and efficient. The presence of AI-based personal assistants, such as Google Assistant, can help individuals perform their tasks, including the work of lecturers at Manado State Polytechnic. According to Freed *et al.*, (2008) personal assistant technology can automate several administrative tasks, such as reducing the overload of email messages.

The capability of Google Assistant as an AI-based personal assistant can be developed to support the productivity and efficiency of lecturers' workloads at Manado State Polytechnic. Implementing Google Assistant as an AI-based personal assistant is expected to positively impact lecturers, particularly in the Business Administration Department, by enhancing productivity and workload efficiency. This would allow lecturers to prioritize their tasks without neglecting their students. This research entitled *Leveraging AI-Powered Personal Assistant To Enhance Manado State Polytechnic Lecturers Productivity* aims to provide empirical insights, guidelines, and practical recommendations for lecturers at Manado State Polytechnic to maximize the utilization of AI-based personal assistants in improving their work productivity in the digital era.

## LITERATURE REVIEW

### Intelligent Personal Assistant (IPA)

Since a long time ago personal assistants were known as a person responsible for managing personal correspondence or confidential documents, named a secretary. A secretary is a trusted individual who assists leaders in streamlining their work, particularly in organizing administrative

activities that support managerial tasks, operational functions of the company, and fostering communication between management, subordinates, and other stakeholders (Yatimah, 2013)

In this digital era, the role of personal assistants has undergone a significant transformation, driven by advancements in technology and the rise of artificial intelligence (AI) era. Traditionally, personal assistants were individuals responsible for managing schedules, organizing tasks, handling communication, and ensuring the smooth operation of daily activities for executives or professionals. However, with the integration of AI, many of these tasks can now be efficiently automated or supported by intelligent systems. This technology can help people who need assistance to make their workspace more efficient and effective with a low cost and minimum risks. While AI offers a lot of advantages, it does not totally replace the unique qualities of human personal assistants, such as emotional intelligence, creativity, and nuanced decision-making. Instead, AI can serve as a complementary tool that enhances the capabilities of human PAs by handling routine tasks, allowing them to focus on more strategic responsibilities.

### **Google Assistant**

Google assistant is an artificial intelligence-powered virtual assistant developed by google. It is designed to perform a wide range of tasks and provide assistance through voice commands, text inputs, and contextual understanding. Google Assistant is integrated into various devices and platforms, including smartphones, smart speakers, and many more for everyday use. Based on the survey conducted by tempo.co.id in 2021, Google Assistant is the most favorite IPA used recently.

Key features of google assistant such as a) voice interaction: google Assistant responds to voice commands to execute tasks, answer questions, and provide information; b) smart home integration: it can control compatible smart home devices like lights, thermostats, and security systems; c) search and information: the assistant can perform web searches, provide news updates, and retrieve information on a variety of topics; d) task management: setting alarm, managing calendars and schedule, sending notifications, etc; e) entertainment: playing music, podcast, providing jokes, games, and many more; f) navigation and travel: assisting with directions, traffic updates, and flight information; g) third-party app integration: extending functionality by interacting with apps like Spotify, Uber, and other third-party services.

### **Lecturers' Productivity**

Sedarmayati (2009) said that productivity is the ratio between the effectiveness of producing outputs and the efficiency of utilizing the input resources. Productivity has two dimensions, they are effectiveness and efficiency. In higher education lecturer productivity is interesting to be observed. Lecturers productivity refers to the work outcomes achieved by the lecturers in conducting their professional duties (Sutrisno, 2012). Lecturers' productivity in higher education is related to organizational behaviour. It is influenced by both internal and external factors. Internal factors refer to lecturers' competence and motivation. However, external factors encompass organizational climate, job satisfaction, and inter-institutional; relationship.

### **Manado State Polytechnic**

Manado State Polytechnic is a state polytechnic located in Manado, North Sulawesi since 1987. The institution offers vocational and applied education in various fields of study, focusing on equipping students with practical skills and technical knowledge to meet the demands of the professional workforce.

Manado State Polytechnic's vision is to establish Manado State Polytechnic as an excellent vocational higher education institution with international standards. They have several departments and study programs focused on engineering, business, and tourism. Some of the available study programs include Civil Engineering, Mechanical Engineering, Electrical Engineering, Accounting, Business Administration, and Hospitality.

## RESEARCH METHOD

This research used library research methods by using library data in the form of books as its resource (Hadi, 2000). This research was conducted by reading, reviewing, and analyzing various literature in the form of books, journals, paper, and other scientific articles. Data collection techniques that were used in this research was documentation to trace historical data. Documentation about people or groups, events, or incidents in social situations are very useful in qualitative research (Yusuf, 2014). The data analysis techniques used in this study consist of four criteria, namely the degree of trust (credibility), transferability (transferability), dependability (dependability), and certainty (confirmability). In this study, the main focus is given to the credibility test using the triangulation technique. Triangulation was chosen because its purpose is not only to achieve the truth about some phenomena, but also to increase the effectiveness of the process and the desired results (Lexy, 2007). The triangulation used is triangulation with sources. Triangulation with sources involves, comparing and verifying the level of trustworthiness of information obtained through different times and tools in qualitative research.

## RESULTS AND DISCUSSION

The research conducted by (Berdasco *et al.*, 2019) said that google assistant has a positive impact on supporting human activities both in work and daily life. Google assistant achieved the highest score for its responsiveness and accuracy. Google assistant is the best option for personal assistants used in daily life.

Google assistant, as an Intelligent Personal Assistant (IPA) offers multiple features that can significantly help to improve lecturers' workload more effectively and efficiently. Some features that can assist:

### 1. Scheduling And Time Management

Scheduling and time management is the most crucial part for a lecturer to list the schedule and manage the time wisely. Most people only write in their notes or just put the reminder on their mind. However, sometimes they missed some schedule because of lack of attention. Google Assistant as an IPA can help lecturers for scheduling and time management. Some feature that Google Assistant can do such as:

- Calendar Integration: Google Assistant is synchronised with all google products. Google Calendar which is mostly connected to the smartphone can help to organise and manage the class schedule, meetings, and deadline.
- Reminders: Google Calendar has a reminder function. The lecturers can set reminders for tasks like grading, preparing materials, or attending meetings and many more. The reminders can be with a voice or a note based on the settings.
- Voice Commands: as an IPA, Google Assistant, can be commanded by using voice commands. It helps the lecturer who can not type the command at that time. This voice command also can be used to modify events, time, and many more.

## 2. Lecturers Preparation and Delivery

Lecturers' preparation and delivery are the key in effective teaching. Mostly preparing good materials for students takes time. Some feature in Google Assistant can help the lecturers to:

- Search the content and summarization: Google Assistant can help to search teaching ideas, materials, or generate summarize an article. This can help the lecturers to do the preparation in a short time.
- Present support: recently there are so many presentations based on artificial intelligence to help the lecturer present the slide. Google Assistant can help the lecturer to explore and find out a suitable topic and template for presentation. Google Assistant can also use voice to control the slide during the presentation so the lecturers don't have to click the mouse.
- Suggest up to date topic: all materials that lecturers provided to their students must be completed with all the resources. To get an up to date topic related to the materials and explore more resources to get more insight, the lecturers can use Google Assistant help.

## 3. Administrative Task Automation

Automating administrative tasks can significantly improve the efficiency and productivity of lecturers, allowing them to focus more on teaching and student engagement. Below are some common administrative tasks that can be automated using Google Assistant:

- Email assistance: Google Assistant which has been synchronised with gmail can assist with composing, sending, and scheduling emails, making email communication faster and more efficient. They can use it easily in the smartphone, not only by typing it, but also by giving a voice command. Goksel Canbek & Mutlu (2016) said that Google Assistant help the user to make calls, send messages, set reminders, create notes, recognize music, and find the best restaurant nearby.
- To-do-list: Google Assistant helps lecturers stay organized by creating, tracking, and managing task lists. Easily they can handle it by giving a voice command in the smartphone. Google Assistant will directly show the to-do-list and do the voice command given. This helps lecturers to make sure all the lists will be done at the end of the day.
- Attendance and reminders: Google Assistant can automate the process of tracking attendance and sending reminders to students by integrating the tools with Google Sheets or Google Classroom attendance.

## 4. Grading and feedback

Grading and providing feedback for each student's activity, test, or assignment are essential and important, but consuming a lot of time for lecturers. Google Assistant which integrated with some AI can simplify this process by:

- Assignment tracking: Google Assistant can help assignment tracking by integrating with google learning management system (LMS) such as Google Classroom. Some features in Google Classroom enable automated tracking of students' submission and give additional notification if the students submit the assignment late.
- Grading template: AI tools like Google Workspace and integrations can assist in generating preliminary feedback or automating repetitive grading tasks. Some features in Google Classroom also can help lectures to provide a rubric for grading templates. The grading template in Google Classroom has been provided with examples and guidance to help the lecturer create the grading template or rubric.

## 5. Research Assistance

Research is a part of the lecturing in conducting *Tri Dhama*. A good research must be provided with a good data organization and elaboration based on the facts. Google Assistants can be the best research assistance option in conducting the research. Some research activities that Google Assistant can help such as:

**Literature review:** Google Assistant can help locate and provide all scholarly journals, articles, ebooks, documentations, and other resources with a good reputation quickly. By integrating the Google Assistant with Google Scholar. The lecturers can access all of the resources from the database. The lecturer can give a voice command in Google Assistant then the search engine will provide all the information needed. (Berdasco *et al.*, 2019) stated that Google Assistant and Alexa are IPA with good search engine accuracy.

**Note-taking:** voice-to-text features in the smartphone allow for quick and easy note-taking during brainstorming sessions or meetings. The lecturers' can dictate everything that comes up to their mind directly to Google Docs or Google Keep without typing it. While doing research, the idea sometimes can come out of the sudden. It is very important for the lecturers to access notes across devices for more convenience. Not only when conducting research, but this feature also can be used during seminars to ensure all critical information is captured.

**Data organization:** Google Assistant which integrated with Google Drive and Google Workspace can help to store, categorize and manage research data efficiently. Folders, labels, and filing are used to organize documents, dataset, and papers.

## 6. Improved Communication

Google Assistant can enhance communication by streamlining announcements, providing language translation, or managing Q&A sessions

- Broadcast message: Send announcements to students or colleagues efficiently using email or connected platforms, such as Google Classroom. The lecturer can compose and send a group message using voice command also. This is very crucial because sometimes there is a changeable schedule, time or venue from the lecturer that forces them to broadcast the message directly. This AI can help lecturers to inform the students instantly through an automated broadcast by using a voice command.
- Language translation: translate content or messages to communicate effectively with international students or collaborators since English is still a foreign language in Indonesia. Many lecturers can understand written English, but speaking English is another challenge. Google Assistant which is integrated with Google Translate can help to translate content or messages. Another advantage using AI in this case is that Google Assistant can provide a text as a feedback if the lecturers want to speak in a foreign language. Habeeb (2020) also states in his research that Google Assistant which is supported with Google Translate can help to translate the text fast and free. This feature also can be accessed easily.

## CONCLUSION

Based on the research conducted, it can be concluded that Google Assistant as Intelligent Personal Assistants has proven effective in supporting the lecturers productivity and efficiency both in professional and personal necessity. By synchronizing or integrating Google Assistant with another Google feature offers responsiveness and accuracy to enhance lecturers' work productivity. Google Assistant enhances efficiency through scheduling and time management, lecturers' preparation and delivery, administrative task automation, grading and feedback, research assistance, and improving communication. Google Assistant significantly allows lectures to minimize the time and focus on core teaching and research responsibilities by demonstrating the potential of Intelligent Personal Assistant.

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