



APPLICATION OF GOOGLE BARD AS A LIBRARY SERVICE INNOVATION: LITERATURE REVIEW

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Abstract

This research discusses the innovation of library services by using google bard as Artificial Intelligence. The purpose of this research is that the features offered by Google Bard make it easier for libraries to develop library services. The research method used is a literature review on Artificial Intelligence, Google Bard and library development innovations by utilizing technology with data obtained from articles and journals as literature. The findings obtained are the application of Google Bard as an innovation of library services considered that as a relevant and more effective tool that can improve library services, improve librarian performance, and make it easier for users to access services provided by libraries. Keywords: Google Bard, library services, artificial intelligence, innovation.

Abstrak

Penelitian ini membahas tentang inovasi layanan perpustakaan dengan menggunakan salah satu produk kecerdasan buatan yaitu Google Bard. Tujuan dari penelitian ini adalah fitur yang ditawarkan oleh Google Bard yang memberikan kemudahan bagi perpustakaan untuk mengembangkan layanan perpustakaan. Metode penelitian yang digunakan adalah kajian literatur tentang Kecerdasan Buatan, Google Bard dan inovasi pengembangan perpustakaan dengan memanfaatkan teknologi yang datanya diperoleh dari berbagai sumber artikel dan jurnal sebagai literatur. Temuan yang diperoleh adalah penerapan Google Bard sebagai inovasi layanan perpustakaan dianggap bahwa sebagai alat yang relevan dan digunakan secara lebih efektif yang dapat meningkatkan layanan perpustakaan, memudahkan kinerja pustakawan, dan memberikan kemudahan pemustaka untuk mengakses layanan yang disediakan oleh perpustakaan.

Kata Kunci: Google Bard, layanan perpustakaan, kecerdasan buatan, inovasi

A. INTRODUCTION

Google Bard is a language model in language processing and understanding that can be used with quick and easy access to understand with specific goals and the use of certain tools. Google bard is one of the information search engines that is very popular with information users because it is easy to access and utilize. Google Bard can help in working on tasks, explaining complex topics, and generally extracting information from various sources on the internet (Aydin, 2023). Artificial intelligence is utilized in various fields and the number of its users continues to increase. The use of artificial intelligence can be utilized in academic, social, cultural and other activities.

Implementing technologies such as the Google Bard on library services is an opportunity for libraries to update their services. The library must be accessible to everyone which can be realized with diverse collections, service mode intelligence, and library management intelligence as library achievements. Smart libraries provide more efficient and high-quality services to users, build a more attractive information interconnection environment, and create a more diverse information sharing space (Yu et al., 2019)(Yu et al., 2019). Libraries must also analyze trends in the use of technology that is widely used by information users. Hopefully, this will get a positive response from information users in the library.

Applying technologies such as artificial intelligence in libraries is more applicable to library transformation and improvement, realizing innovative library services. Library management systems that have utilized technology will be superior to conventional libraries. The application of artificial intelligence is used to develop library services and expand the target scope of services, reducing the possibility of service errors caused by conventional services.

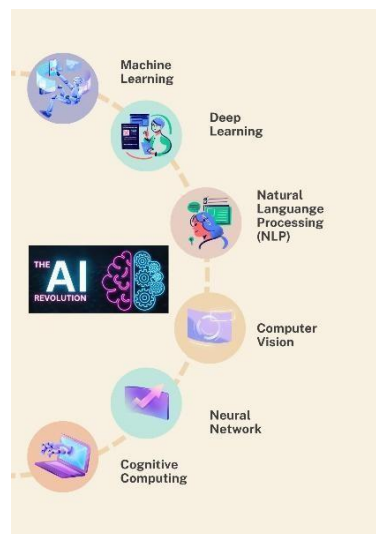
B. LITERATURE REVIEW

1. Artificial Intelligence

New applications such as Artificial intelligence have created great opportunities for information researchers, such as multimedia systems, digital libraries, GIS, and e-commerce. Problems in finding information can be resolved because of basic technical skills in the use of technology. Artificial intelligence that is currently very popular is the advantage of artificial intelligence in natural

language processing and automatic indexing used to distinguish meaningful words (Oyetola et al., 2023). Identify images through artificial intelligence using texture, color or shape-based indexing and segmentation techniques and identify applications such as audio, video, speech recognition, and scene segmentation. This technology is a good alternative for summarizing, analyzing, and processing large amounts of multimedia messages on all search engines for text, images, and video that can increase user expectations in presenting and manipulating information (Vijayakumar & Sheshadri, 2019).

Fig. 1 Component AI



Artificial Intelligence (AI) is a technology that will continue to evolve. Natural Language Processing (NLP) has the ability to generate human-like text and engage in conversation, making it useful for a variety of applications, such as customer service, content creation, and personal assistants available with clear synthesis and language skills. This will affect research and public discourse in library services. Google Bard is a language model developed by OpenAI. Google Bard is a text-based artificial intelligence chatbot. Google Bard generates real-time answers using natural language processing and machine learning that can help accomplish tasks, explain complex topics, and generally extract information from many sources on the internet (Ram, Bal & Verma, Pratima, 2023).

2. Google Bard

Google Bard is based on the Pathways Language Model 2 (PaLM 2), a language model released at the end of 2022. PaLM and earlier, the Language

Model for Google Dialog Applications (LaMDA) technology, which is a language model released by Google in 2017. Google Bard was created with search in mind, creating natural language search queries. The Google Bard provides a list of answers and provides context for the answers. Google Bard extracts information from the web to generate answers like structuring responses in the form of conversational interactions of others. Google Bard was introduced on March 21, 2023, after which Google allowed a number of users in the US and UK to use Bard. Another important aspect in how Google works bard explained for beginners will point to usability.

Google Bard supports more than 40 languages and plans to introduce new languages in the future. Google Bard wants to ensure that users can access Google Bard functionality in their native language. In addition, the usability factor of Google Bard is improved with the help of recent updates, which help to include images in answers. The image was taken from Google and shared with the Google Bard's response to provide a better explanation (Affum, 2023). The use of Google Bard has developed an innovative approach to interacting with information. Google is working on introducing this AI model's functionality into its Search feature. Google wants to harness the power of AI to better understand information while turning it into useful and efficient insights. People all over the world search for answers on Google to their questions in life (Afgiansyah, 2023).

C. RESEARCH METHOD

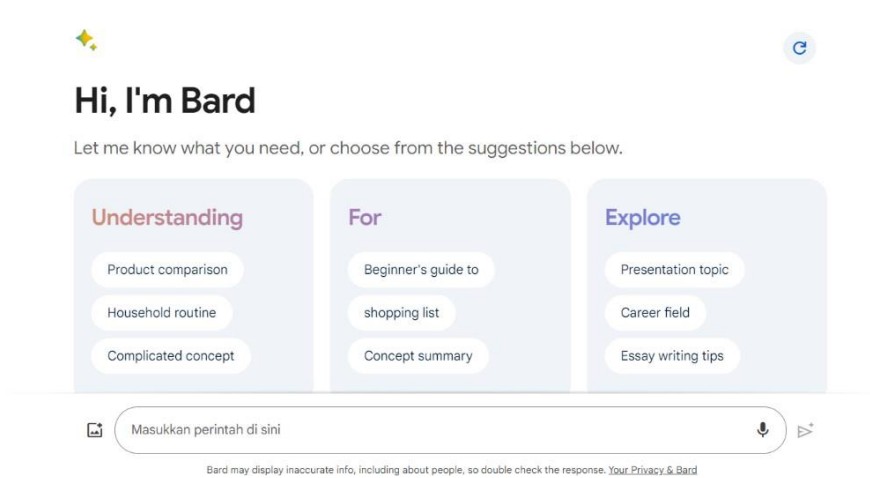
Researchers use literature reviews with a qualitative approach as a research method. The source and data collection of the literature review method is carried out by reading various articles, journals, and other publications related to the research topic, to produce conclusions related to the topic under study by taking data in the literature, reading, recording, and processing research materials (Moleong, 2007). This research discusses the presence of Google Bard can be a valuable tool in library services, making the role of the library will be helped or there are other things related to the duties of librarians and librarians, especially in handling routine and simple questions by library users. The results of the literature review analysis in this study are presented in accordance with the data obtained descriptively (Aliwijaya & Suyono, 2023). But research on the application of

Google Bard has not been found by many researchers. This resulted in limited sources of literature studied.

D. FINDING AND DISCUSSION

The concept of library development previously discussed a lot about the use of the Internet of Things (IoT) which also helps in the ease of service systems. Now libraries are increasingly developing skills in utilizing technology such as the use of Google Bard in library services. Some skills can be acquired by other technologies that may be needed to develop information retrieval systems that are requested in each case differently, for example in social media data analysis or scientific data. Another important application of relevance is in the excavation of published literature. Artificial intelligence competencies are likely to be added as necessary skills suggesting that there is reason to think that there will be long-term movement in knowledge discovery, so it is important to think about how this might impact the library profession (Cox, 2023).

Fig 2. Search View in Google Bard



Google Bard is one of the latest AI products from Google that can provide new knowledge to users by using search technology on Google. Google Bard is a diverse language model that has been trained on very large data sets consisting of developed text and code. Google Bard is capable of generating contextually relevant text, has the ability to translate multiple languages with high accuracy and Google Bard can help users search for information, develop ideas, or learn new things. Google Bard is designed to provide informative and well-structured answers to many questions, capable of structuring different types of

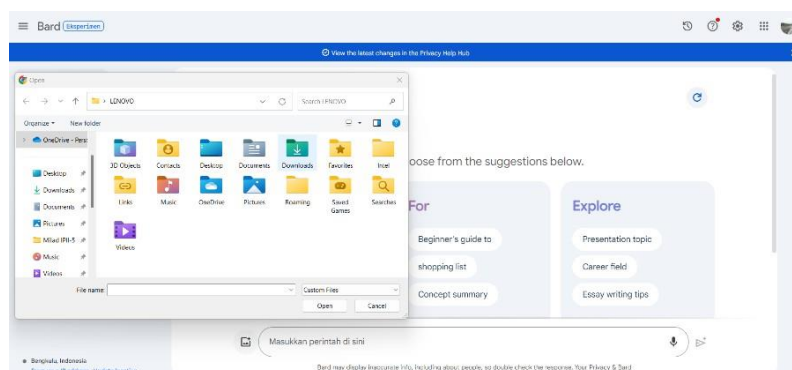
creative content, from poems and stories to more technical works (Afgiansyah, 2023). Google Bard can be a valuable resource for users looking for reliable information or insights.

Ease of access to information can be obtained with the help of technology. Libraries as one of the relevant sources of information are expected to take advantage of technological developments to access information easily and quickly. Libraries need to ensure that their collections remain relevant, up-to-date, expanding the range of library services so that libraries will not be abandoned by their users (Oname & Alex-Nmecha, 2019). Google Bard can be a new innovation that can be applied in libraries as a new method of library services providing responsive services and increasing interaction between users and libraries (Wahyudi, 2023). Google Bard as a source of information has many uses and is easily accessible. Users only need to ask questions and will get different responses according to the user's request. Google Bard can be used to provide library services online. This can increase library accessibility for people who cannot physically access the library. For example, Google Bard can be used to provide online reading services, online library material lending services, and online library information services.

Google Bard can be a new innovation in libraries to make it easier for users to find and get information. This is not a threat to professional librarians in their work. Librarians and technology can collaborate to become libraries in realizing a modern library (Mali & Deshmukh, 2023). Librarians can also provide convenience for library users of information literacy. Library systems can apply new innovations by applying potentially good technology for user management, for example through learning analysis or marketing using social media analytics. The use of technological innovation can generally be done by people who are professionals in their fields or at least have done training before. Because not all librarians can master the field of technology, this will help ensure the resulting service is useful for users. Careful preparation is carried out apart from the ability of librarians who can operate technology, funding budgets must also be provided so that they can match the capabilities of libraries (Huang et al., 2023). The library can also analyze data from the results of frequently asked questions by Google

Bard users. So that the library can find out what information is most needed by users and as library evaluation material.

Fig 3. Google Bard Content



The advantages of Google Bard are very diverse, not just limited to natural language conversations or answering questions asked by users. The feature offered by Google Bard is that it can identify different types of content in the library can include books, articles, PDFs, images, videos, and audio files this will make it easier for users to find the content they are looking for later quickly and easily. In addition, audio descriptions of visual content or to provide transcripts of video content may be used by accessibility services for customers with disabilities. Google Bard can be used to automatically tag content with keywords. This can save you a lot of time, especially in large libraries. Google Bard can be used to create an index of digital libraries that can be used to search for content based on keywords, dates, or other criteria. Useful if you want to get a quick overview of a piece of content without having to read the whole thing. Google Bard can also be used to translate content into other languages if you have content in another language that you want to read or learn.

Google Bard can be used to improve the quality of library services. For example, it can be used to:

1. Answer library users' questions more accurately and informatively.
2. Find information relevant to the needs of library users.
3. Provide recommendations for library materials that are relevant to the interests of library users.

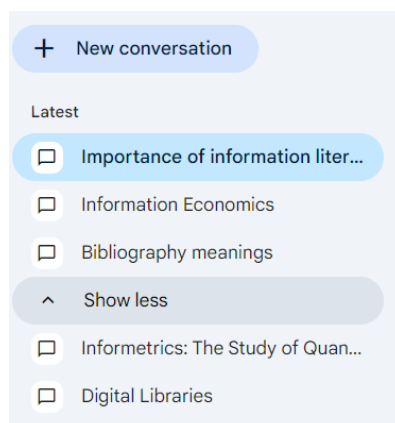
4. Generate summaries of specific topics or create reference lists.
5. Organize learning activities in the library.
6. Create quizzes or educational games.
7. Provide information services to library users by answering library users' questions about various topics, including science, history, technology, and culture, or to provide tutoring to library users.

Google Bard can also be used to provide library services online. This can increase the accessibility of libraries for people who cannot access libraries physically. For example, it can be used to provide online reading services, online library materials lending services, and online library information services. An examples of implementing Google Bard in Libraries at a university can use Google Bard to provide information services to students, lecturers and researchers. For example, Google Bard can be used to answer questions about courses, research, or projects, can be used to search for information on specific topics, summarize that information, and create graphs or diagrams, can be used to help people write poetry, short stories or manuscripts.

Google Bard can be used to provide information services to library users. Google Bard can be used to answer library users' questions about a variety of topics, including science, history, technology, and culture. Google Bard can also be used to generate summaries of specific topics or create reference lists. Some other library services can also take advantage of Google Bard innovation as a convenience offered by libraries. For example, consulting services for users who want to do research or do assignments in the library, Google Bard can help to recommend reading books, articles and ways to access literature in libraries or literature sources that are relevant to the field of research quickly and relevantly. Library users can use the chatbox and get answers directly without a librarian, this feature will be very suitable for use in academic libraries which in fact researchers or research are often carried out in libraries. Previous user results can also be utilized for later users because they can see the history of questions, readings or preferences that can be reading recommendations that may be useful to them as well. Google Bard can be used to help library users conduct research. For

example, Google Bard can be used to search for information relevant to a user's research topic, summarize that information, and create graphs or diagrams. Google Bard can also be used to help users find relevant sources of information.

Fig 4. Reading history, Questions, and Preferences



Google Bard supports more than 40 languages that can be used to provide language translation services to users with translation tools, visitors can communicate with libraries in their native language, and chatbots can respond in their preferred language to practice speaking and writing in a new language. Besides being able to offer convenience for users, the benefits of applying Google Bard in the library are as a consideration for collection development by analyzing questions according to topics and subjects that are of great interest. Google Bard is a product of Google as a new form of artificial intelligence that is easily accessible and interesting. The advantage offered by Google Bard is to access the internet in real time. Google Bard is able to offer answers to according to the latest information developments. The implementation of Google Bard in libraries will of course be adjusted to the needs and goals of each library. However, in general, Google Bard can be a useful tool for improving library services and functions. But Google Bard is still in the early stages of development so there is still a possibility of Google Bard experiencing even more complex developments.

E. CONCLUSION

The library as a place of relevant information sources must be able to respond to future challenges and be able to adapt quickly. Increase interaction between users and libraries and can improve services by utilizing technological and information developments. Google Bard is one of the innovations for the

advancement of library service development. Google Bard is a product from Google offering several features that can be accessed for library users such as consulting or asking for recommendations on literature sources that suit their needs and in various languages. The benefits that can be obtained through Google Bard in accessing this information make it easier for users and libraries to interact intensely as well as can be a tool to promote library services. Although Google Bard is still in the development stage but the features offered can help users in getting information.

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