Role And Trends of Artificial Intelligence In Business: Literature Review

Najiatun[1*], Bambang Sugiyono Agus Purwono[3], Ahmad Syauqi, Kusnul Ciptanila Yuni K[5]

[1,2,3,4,] Faculty of Economics and Business, Bahaudin Mudhary University, Sumenep, 69451, Indonesia.
[5,] Sharia Economics, Hasyim Asy'ari Islamic University, Jombang, 61471, Indonesia.

Correspondence:
Najiatun, Faculty of Economics and Business, Bahaudin Mudhary University, Sumenep, 69451, Indonesia.
Email: kusnulciptanila@unhasy.ac.id

Abstract

Artificial intelligence (AI) has significantly transformed the business landscape in recent decades. This article aims to review the role and current trends in the application of AI in the business world, based on existing literature. AI has been widely used to enhance operational efficiency, automate business processes, and facilitate decision-making through deeper data analysis. This technology has also accelerated innovation in customer service, with the use of increasingly sophisticated chatbots and virtual assistants. Furthermore, recent trends indicate a rise in AI usage for personalizing customer experiences, optimizing marketing, and managing supply chains. Although AI offers numerous benefits, challenges such as ethics, data privacy, and the need for new skills in the workforce also require attention. This article concludes that the application of AI in business not only improves efficiency but also opens up opportunities for competitive advantage in the global market. Wise and sustainable implementation will be the key to success for companies in this digital era.

Keywords: Role, Trends, Artificial intelligence.

Introduction

In today's digital era, the development of information and communication technology has significantly impacted various fields, including the world of business and organizational management. One of the technologies that is developing rapidly is artificial intelligence (AI), which has great potential to change various aspects of human life. This technology has been applied in multiple sectors, including business activities (Pakpahan, 2021).

Business development in Indonesia has shown tremendous growth. With increasingly tight competition and advances in technology and information, business actors are required to adjust services and meet consumer needs. Rapid advances in technology and information have changed various aspects of life, including in the business world (Fatihah and Saidah, 2021); one of the fruits of technological development is the presence of Artificial Intelligence (AI).

Artificial Intelligence (AI) is intelligence added to a system that can be arranged in a scientific context (Siahaan et al.,2020). AI has existed since the emergence of modern computers, namely in the 1940s and 1950s. The ability of new electronic machines to store large amounts of information and process it at very high speeds rivals human capabilities (Baihaiqi, 2022).
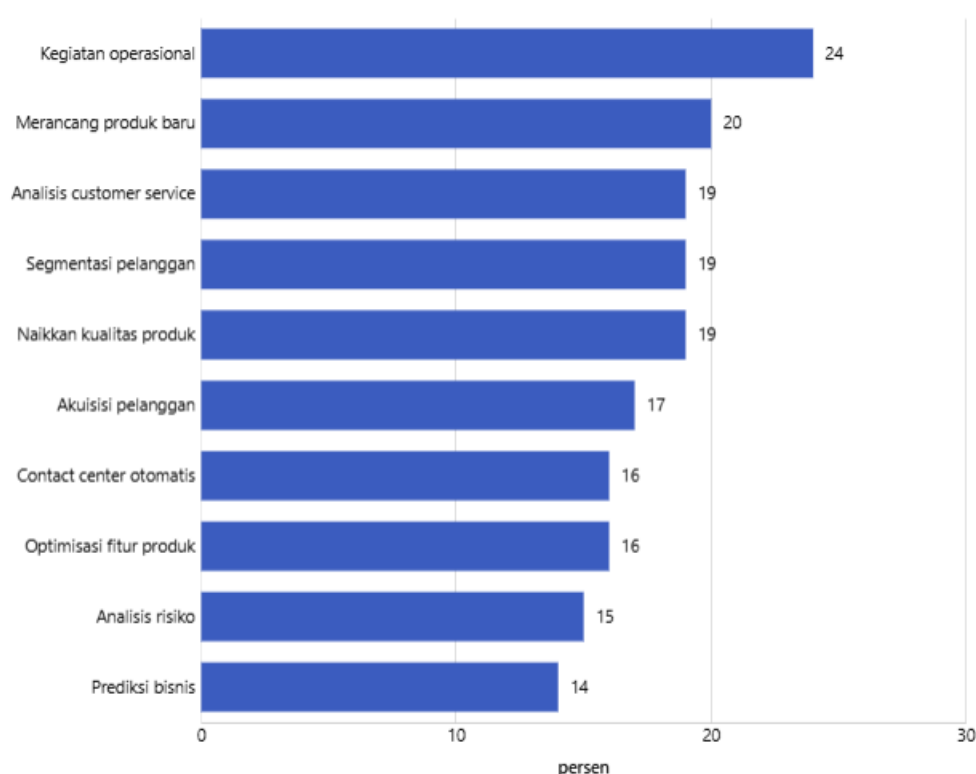

Figure 1. *Artificial Intelligence* (AI) Users in the Business Sector

The table above explains that the trend of using artificial intelligence technology or *Artificial Intelligence* (AI) in the global business world tends to strengthen. This is recorded in the McKinsey survey entitled *The State of AI in 2022*. Of the 1,492 global survey respondents, in 2022, 50% of respondents have adopted AI in at least one of their business units. The number has more than doubled compared to 2017 when respondents using AI only reached 20%. The AI referred to

in this report is all technologies that can perform cognitive functions related to the mind humans (such as language comprehension) and physical activity (such as robotic automation and manufacturing tools).

The use of AI in various aspects of business requires multiple business strategies in its development. Business strategy is a series of integrated and coordinated actions used as the primary basis for thinking in making strategies to gain competitive advantage (Febrianti etal., 2021). Business strategies include geographic expansion, diversification, acquisition, product development, market penetration, tightening, divestment, liquidation, and joint ventures (Djufri and Lukman, 2020).

Artificial intelligence (AI) makes various sectors drastically dependent, which develops business opportunities and growth, especially in innovation and competitiveness in international business (Pasaribu et al., 2024). Artificial Intelligence (AI) is essential for business transformation because it allows companies to develop more effective marketing strategies, thus enabling problem-solving and improving risk management. Artificial intelligence also makes it possible to accelerate business processes. Artificial intelligence platforms, such as Google and Microsoft, have helped businesses search for information and improve their operations more efficiently (Fidaus, 2023).

From the background above, this study aims to identify the role and trends of Artificial Intelligence (AI) used to make business processes more efficient and accurate.

Research Methods

This research is a qualitative study with a literature research approach (Snyder, 2019), which was chosen because the researcher wanted to explore and thoroughly understand complex and dynamic phenomena. According to Sugiyono, qualitative methods focus on the meaning, reasons, and in-depth understanding of social phenomena from the participants' perspective. This study focuses on collecting, analyzing, and reviewing literature on using artificial intelligence in a business. In particular, this study discusses how AI is used for the role and trends of AI use in Business (Sugiyono, 2023).

Results and Discussion

Business Process Automation

AI also automates repetitive and time-consuming business processes, freeing up more space for managers to focus on more strategic activities (Devenport and Ronanki, 2018). AI-driven automation can reduce administrative workloads, allowing managers to spend more time on strategic decision-making. This suggests that AI not only increases efficiency but also drives innovation in the decision-making process (Sari 2024).

Personalization of Experience and Business Strategy

AI enables more personalized decision-making, especially in marketing and customer relationship management. AI algorithms can analyze customer preferences in depth, helping managers make more accurate decisions about target markets (Sari, 2024). According to Chui et al., companies can use AI to make their business strategies more tailored to the needs and preferences of each customer. By understanding customer behavior, AI can help companies create better marketing strategies and increase customer loyalty (Chui et al., 2018). According to Ramadhana and Nasution, AI data and information analysis results allow managers to make more objective and data-driven choices. It also helps managers gain new skills to use new technologies (Ramadhan and Nasution, 2024).

Opportunities for Innovation and Product Development

AI enables managers to innovate faster and more efficiently, especially when developing new products and services. This can be achieved by identifying market trends and unmet customer needs through in-depth data analysis so that companies can create products more in line with market demand (Sari, 2024). Rai et al. said that AI enables data-based information to accelerate innovation. This allows product development to be more efficient. This provides an advantage for businesses in rapidly growing industries Ramadhan and Nasution, 2024). According to Ramadhana and Nasution, using AI in management opens up opportunities for innovation, allowing companies to gain a competitive advantage and maximize their business strategies (Rai and Jha, 2020).

The Role of Artificial Intelligence (AI) in Business Development

Business strategies include geographic expansion, diversification, acquisition, product development, market penetration, tightening, divestiture, liquidation, and joint ventures (Wahyuningsih, et al., 2019). In business development, AI can analyze data, identify patterns and trends, make predictions, and provide intelligent recommendations. The ability of AI to know, analyze, and even decide on its own choices is one of the reasons for using this technology. Before AI can perform analysis and decision-making, data, facts, and information are input into an AI system. This data and information allows AI to work like human intelligence (Idiyanti, 2023).

Business development strategies that utilize AI technology involve using AI capabilities to optimize operations, increase efficiency, and create added value for the company. Artificial Intelligence offers excellent advantages in business development. Some business development strategies that can be implemented by utilizing AI technology include:(Idiyanti, 2023).

1. Deeper data analysis: Just like virtual assistants used in everyday life, artificial intelligence allows communication between humans and controlled machines in the business world. In general, this will reduce potential losses and ensure the accuracy of the data obtained.

2. Business process automation: Businesses can automate frequently performed processes, such as order processing, inventory management, data analysis, and administrative work. By reducing human involvement in routine tasks, companies can improve operational efficiency, reduce costs, and allow human resources to focus more on strategic activities.

3. Personalization and Better Customer Experience: AI allows companies to collect and analyze customer data better to understand their preferences, needs, and behaviors. This will enable companies to provide personalized customer experiences, tailored services, and relevant recommendations.

4. Trend prediction uses AI, which allows machines to analyze images, understand speech, interact naturally, and make predictions using data. The accuracy of the forecast is directly proportional to the amount of data fed into the system.

5. Chatbots and automated customer service: Chatbot is a software that allows interaction with humans through text or voice messages. Its principal function is to assist users by answering questions or solving problems they face through text or voice communication. In addition, chatbots can also be used to provide information, provide services, or carry out transactions automatically. A chatbot's primary purpose is to assist users according to the goals set by its developer. Chatbots are often used in customer service to provide fast and efficient answers. Virtual assistants that use artificial intelligence (AI) can respond to customer interactions automatically, improving business service and sales (Kamal, 2022).

6. Improvement of Decision-making Process, AI technology can process large amounts of data and produce better insights in business decision-making. This can help organizations in making smarter and more effective decisions (Sia, 2023).

Artificial Intelligence (AI) Trends in Business Development

These trends include developments in machine learning and artificial intelligence, distributed analytics and cloud computing, and data visualization and descriptive analytics (Laksono).

1. The main trend today is the increasing use of machine learning techniques and artificial intelligence (AI) in Big Data analysis. With this approach, organizations can extract hidden insights from large and complex data, and automate the decision-making process (Gandomi and Haider, 2015). For example, it can benefit from personalizing marketing strategies and increasing customer retention rates (Chen et al., 2019).

2. There has been increased adoption of distributed analytics and cloud computing. As the volume of data continues to increase, the ability to process and analyze it efficiently becomes critical.

3. Another important trend is the increasing role of data visualization and descriptive analytics in supporting data-driven decision-making. On the other hand, providing a comprehensive picture of what has happened in the business helps organizations understand performance (Delen and Zolbanin (2018).

With these trends, organizations can leverage the full potential of Big Data analytics to support better business. For example, machine learning algorithms can be used to predict customer behavior.

Conclusions and Practical Implication

Artificial intelligence (AI) has become a major driving force in transforming the business world. AI plays a vital role in improving operational efficiency, facilitating decision-making, and delivering a better customer experience. Across sectors, AI is being used to automate business processes such as order processing, inventory management, data analysis, and customer service through chatbots. This not only reduces costs and human involvement in routine tasks but also allows human resources to focus on strategy and innovation.

Recent trends show that companies are increasingly relying on AI to gain deeper insights from big data, develop personalized solutions, and automatically improve customer service. As AI develops, businesses can respond to market dynamics more quickly and accurately. However, the use of AI also requires companies to pay attention to challenges related to ethics, data privacy, and sustainable technology management.

Overall, AI plays a major role in the modern business revolution, and its application is expected to grow further as technology advances. Companies that can wisely harness AI's potential will gain a significant competitive advantage in the global market.

Acknowledgement

References

Baihaiqi, MR (2022). Legal Review of the Implementation of Smart Contracts in Indonesia as a Form of Artificial Intelligence Development (Doctoral dissertation, Sultan Agung Islamic University).

Chen, C.L.P., Zhang, C.Y., & Chen, C. (2019). Using big data analytics to explore behavior patterns for improving customer lifetime value. *Information Systems and e-Business Management,* 17(2-4), 585-603.

Chui, M., Manyika, J., & Miremadi, M. (2018). What AI can and can't do (yet) for your business. *McKinsey Quarterly*, 1(97-108), 1.

Davenport, T.H., & Ronanki, R. (2018). Artificial intelligence for the real world. Harvard business review, 96(1), 108-116.

Delen, D., & Zolbanin, H.M. (2018). The analytics paradigm in business research. *Journal of Business Research,* 90, 186-195.

Djufri, W., & Lukman, S. (2020). PT Semen Padang Workshop Development Strategy (SWOT Analysis Approach and Canvas Business Model). Menara Ilmu, 14(2).

Fatihah, D., and Saidah, I. (2021). Artificial Intelligence (AI) Based Marketplace Promotion Model in Indonesia. *Scientific Journal of Business Management and Innovation, Sam Ratulangi University (JMBI UNSRAT).* 8(3), 806-817.

Febrianti, D., Rahmadani, L., Ramadhani, S., Hidayah, SAL, & Sari, DPP (2021). Analysis of Bread Business Strategy at Nadhira Napoleon Pekanbaru. *Tambusai Education Journal*, 5(2), 3593-3599.

Firdaus, TI (2023). Representation of the Hedonism of the Main Character in Kevin Kwan's Chinese Novel Rich Girlfriend. *Idea Syntax*, 5(7), 883–892. https://doi.org/10.46799/syntaxidea.v5i7.2416

Gandomi, A., & Haider, M. (2015). Beyond the hype: Big data concepts, methods, and analytics. *International Journal of Information Management*, 35(2), 137-144.

https://databoks.katadata.co.id/technology-telekomunikasi/statistik/91ea4fbc9577b82/tren-cepatan-ai-dalam-bisnis-majoritas-untuk-kegiatan-operational

Idiyanti, Febby. Asep Rifky Subagja, Rakean Pridharma Wachyu, Harries Madiistriyatno. (2023). Business Development Strategy Analysis Using Artificial Intelligence Technology. *Journal of Comprehensive Science p*-ISSN: 2962-4738 e-ISSN: 2962-4584 Vol. 2 No. July 7, 2023.

Idiyanti, Febby. Asep Rifky Subagja, Rakean Pridharma Wachyu, Harries Madiistriyatno. (2023). Business Development Strategy Analysis Using Artificial Intelligence Technology. *Journal of Comprehensive Science* p-ISSN: 2962-4738 e-ISSN: 2962-4584 Vol. 2 No. July 7, 2023

Kamal, K. (2022). Chatbot: A Guide for Beginners and Business Owners in Indonesia. Botika.

Laksono, Agung. Emerging Trends in Big Data Analysis: Opportunities for Business Intelligence. *Journal of Cahaya Mandalika* (JCM)

Pakpahan, R. (2021). Analysis of the Impact of Artificial Intelligence Implementation in Human Life. *JISICOM (Journal of Information System, Informatics and Computing)*, 5(2), 506-513.

Pasaribu, Marco Yeremia. Rizki Alif Fathin, Savira Aulia Hasan, Ananda Triutami. (2024) THE ROLE OF Artificial Intelligence in Driving Product Innovation and Competitiveness in International Business in the Industrial Era 5.0. *Scientific Journal of Science and Technology* 2 (7): 248–254

Rahman, H., Abidin, R. Z., & Hidayat, N. (2025, February). Analysis of The Economic Potential of The Marine Capture Fisheries Sector in Sumenep Regency with Gordon-Schaefer Model Approach. In IOP Conference Series: Earth and Environmental Science (Vol. 1454, No. 1, p. 012038). IOP Publishing. https://doi.org/10.1088/1755-1315/1454/1/012038

Rahman, H., Hidayat, N., Arifin, F., & Al Aziz, M. S. K. (2025). AI-Driven Insights into the Determinants of Leadership, Compensation, and Organizational Culture on Employee Work Discipline: A Case Study of NU Gapura Supermarket, Sumenep. Jurnal Bina Manajemen, 13(2), 73-84. https://doi.org/10.52859/jbm.v13i2.745

Rai, A., Lang, J., & Jha, M. (2020). "Artificial Intelligence in Business: From Hype to Reality." Business Horizons

Ramadhana, RZ, & Nasution, MIP (2024). Analysis of the Impact of the Application of AI Technology on Strategic Decision Making in Management Information Systems. Scientific *Journal of Research and Development Student*, 2(1), 161-168.

Sari, Rafika Meilia. 2024. Utilization of Artificial Intelligence (Ai) in Management Decision Making Process: Examining Trends, Opportunities and Challenges. *Journal of Innovation Research and Knowledge* Vol.4, No.5, October 2024.

Sia, V. (2023). Application of Artificial Intelligence (AI) in the Business World. *Mekari Journal*.

Siahaan, M., Jasa, CH, Anderson, K., Rosiana, MV, Lim, S., & Yudianto, W. (2020). Application of Artificial Intelligence (AI) to a Blind Person with Disabilities. *Journal of Information System and Technology (JOINT),* 1(2), 186-193.

Snyder, H. (2019). Literature review as a research methodology: An overview and guidelines. *Journal of Business Research*, 104, 333-339.

Sugiyono. (2023). Qualitative Research Methodology. Bandung: CV. ALFABETA

Wahyuningsih, W., Husnah, H., Rahmatu, RD, Rahmatu, RD, & Niluh Putu Evvy Rosanty, NPER (2019). STRATEGY MANAGEMENT "Implementation of the Resources Base View (RBV) Concept in MSMEs".