International Journal of Social Science Research and Review

http://ijssrr.com
editor@ijssrr.com
Volume 6, Issue 11
November, 2023
Pages: 26-36

AI-Based Decision-Making on Business Strategy: A Review

Nurdin Hidayah; Agus Rahayu; Puspo Dewi Dirgantari; Lili Adi Wibowo

Universitas Pendidikan Indonesia & Politeknik Pariwisata NHI Bandung, Indonesia

E-mail: nurdin.hidayah@upi.edu

http://dx.doi.org/10.47814/ijssrr.v6i11.1598

Abstract

This scientific article discusses the role of artificial intelligence (AI) in business decision-making and current challenges. The study used systematic literature review methods from reputable databases to review the latest developments in AI-based decision-making and their impact on current business strategies. The results of this study show that AI-based decision-making can improve the efficiency and effectiveness of business strategies, and businesses need to consider implementing them carefully. The risks of AI-based decision-making are related to ethical, openness, and fairness issues in managing the impact of decisions taken by businesspeople. This article examines some of the challenges and opportunities businesses face in implementing AI-based decision-making that researchers have not previously explored. A practical implication of this study is that companies that use AI in business decision-making can gain significant competitive advantages, such as increasing efficiency and productivity, reducing operational costs, and increasing customer satisfaction.

Keywords: *Artificial Intelligence; Business Strategy; Decision-Making; Strategic Management; Systematic Literature Review*

Introduction

Information technology drives business organizations to develop faster and cost-effective development plans through efficient technology analysis as the key to gaining a competitive advantage in today's business paradigm (Stone et al., 2020; Rabah, 2018; Heisterberg & Verma, 2014; Patria et al., 2023). It is very important to perform each task meticulously to ensure the availability of the necessary information to achieve its business goals. Business organizations have used data management mechanisms that involve merging, consolidating, adding, analyzing, cleaning, identifying, packaging, accessing, and maintaining (Rahman et al., 2021). This phenomenon is known to have become increasingly complex in the era of Big Data, so many organizations are starting to exclusively use AI and machine learning to help manage the complexity of the strategic environment.

Published research shows that the business world has been interested in Artificial Intelligence (AI) since the late 1970s. Technological advances have made AI more accessible and have begun to be applied to various business processes (Min, 2009; Chen & Biswas, 2021; Davenport & Ronanki, 2018). AI-enabled systems are critical in today's competitive landscape, where globalization and technology are rapidly disrupting. Various industries, such as finance, healthcare, and retail, have embraced advanced analytics and are working to expand the use of AI and machine-learning applications. Key sectors, including manufacturing, supply chain, logistics, and utilities, are also beginning to adopt the technology (Schmitt, 2023). AI can improve human decision-making processes and productivity in various business ventures because it can recognize business patterns, study business phenomena, search for information, and analyze data intelligently (Koehler, 2018; Soni et al., 2020; Jarrahi, 2018; Shepherd & Majchrzak, 2022; Shrestha et al., 2019).

In practical terms, AI is increasingly used in many business functions, including marketing, customer service, cost reduction, and product improvement (Caner & Bhatti, 2020). The interaction of AI and humans is now in a state of daily routine and is increasingly widespread, but the relationship of trust between these different elements needs to continue to be developed (Kahr et al., 2023). Trust and fairness have been identified as important factors in human-machine interaction. However, the black box-model nature of AI makes it difficult for users to understand how decisions are made (Angerschmid et al., 2022). AI and human interaction, especially at the early adoption stage, as ported in Diffusion of Innovation Theory (Rogers, 1962), challenges a relationship of trust based on the level of knowledge and skills of innovative technology users, so humans cannot immediately give full trust to AI to provide recommendations for business decisions. While AI has the potential to deliver fast, accurate, and reproducible decisions, stakeholders need to understand its capabilities and limitations. This includes ensuring that AI algorithms are designed and audited to be free of bias, and that there are mechanisms in place for stakeholder accountability for decisions made (Rajagopal et al., 2022).

AI has faced several barriers in its adoption as a technology system, such as the fear of organizations doing business online, the company's lack of experience in e-business, and privacy concerns (Rose et al., 1999). Therefore, AI has the potential to revolutionize the business world, but its adoption requires careful consideration of its benefits and limitations. Furthermore, the limitations of AI in AI-based decision-making are increasingly widespread driving consideration of the ethical implications of its use in the business environment. As a machine created with logical commands, AI cannot replace the role of ethical and moral considerations in the business recommendations it provides. SomeAI systems have been found to exhibit bias, which can lead to discriminatory results (Mehrabi et al., 2021). It argues for the importance of transparency and accountability in the AI decision-making process and ongoing monitoring and evaluation to identify and address biases (Gualdi & Cordella, 2021). However, as a mechanized artificial system, AI works based on assumptions given by the commanding giver and is enriched with knowledge developed on the internet so that the human aspect becomes biased in its recommendations. AI with engineering and reproductive cognition approaches cannot be matched with the development of human intelligence (Lavazza & Farina, 2023).

Previous research on human interaction and AI has focused on factors such as system properties, user characteristics, and the context of decision-making tasks, but the results have been inconclusive, providing an opportunity for open review (Kahr et al., 2023). There is a need to explore complex decision-making processes in real-world settings further to improve understanding of human-AI interaction. By utilizing various published studies on the role and impact of AI-based decision-making, this study aims to illustrate the application and challenges of AI-based decision-making in business through a systematic literature review approach to various relevant and credible studies. It is hoped that the results of this study can be used as insight into the theoretical enrichment of decision-making in the information-technology era and provide a practical picture to interested stakeholders.

This study is presented in four parts, namely the first part in the form of study background as described in several paragraphs above. The second part explains AI in business, the third part discusses methods, and the fourth part discusses results and conclusions.

AI in Business Organizations

AI-based decision-making uses artificial intelligence technology to support or automate decision-making. AI has been around for more than six decades, but recent advances in supercomputers and Big Data technology have revitalized AI-based systems for decision-making by expanding knowledge into machine learning (Duan et al., 2019). AI-based decision-making is used in various industries, including healthcare, business, and government (Leggat & Yap, 2020), and has proven to change the structure of organizational decision-making (Shrestha et al., 2019).

AI-based decision-making algorithms have been used in various business applications. Machine learning algorithms have been used in financial decision-making to predict stock prices, identify fraudulent transactions, and optimize investment portfolios (Qureshi et al., 2022). AI-based decision-making algorithms have been used in marketing to analyze customer data and personalize marketing campaigns (Al-Surmi et al., 2022). In human resource management, AI-based decision-making algorithms have been used to identify the best candidates for job positions and predict employee turnover (Leggat & Yap, 2020). However, there are challenges related to the use and impact of AI-based systems for decision-making, including human privileges and AI-based decision-making, specificity of decision-seeking space, interpretability of decision-making processes and results, size of alternative sets, speed of decision-making, and replication (Shrestha et al., 2019).

AI-based decision-making can be classified into two categories: supervised and unsupervised learning (Islam & Chang, 2021; Iqbal et al., 2021). Supervised learning algorithms use labeled data to make predictions, while unsupervised ones use unlabeled data to identify patterns and relationships (Qureshi et al., 2022). AI-based decision-making is an algorithmic process that cannot be interpreted easily and finds bias in decision-making (Lee-Geiller, 2023). Therefore, transparency and fairness are needed in AI-assisted decision-making (Angerschmid et al., 2022). The adoption of AI-based decision-making in business involves several stages. The first stage is to identify the problem that needs to be solved. The second stage is data collection and preparation. The third stage is the selection of the appropriate algorithm. The fourth stage is algorithm training using the collected data. The fifth stage is testing the algorithm to ensure its accuracy. The final step is to deploy the algorithm on the business process (Al-Surmi et al., 2022).

Method

This study uses a Systematic Literature Review approach to discuss the role and impact of AI-based decision-making in business through trend assessment and gap research among the literature studied. Study activities are carried out using PRISMA procedures (Pati & Lorusso, 2018) which include several steps: 1) determining the purpose of the SLR; 2) identifying concepts; 3) constructing search terminology; 4) determining the source of the data; 5) conduct data collection activities; 6) selecting data; 7) apply inclusion and exclusion criteria; and 8) analyze data.

First, this study aims to examine the application of AI-based decision-making for business purposes and the challenges faced in the application. The focus of the study is set on publications that specifically review these issues systematically and have support for theoretical and practical enrichment. Second, AI-based decision-making in business is determined based on the framework as studied (Al-Surmi et al., 2022), which places it as a strategy for aligning business organizational resources that rely on information-technology competencies.

Third, to achieve the effectiveness of the data search process, search terminology with syntax is used: "AI-based decision making,"; "AI-based decision making,"; and "artificial intelligence-based decision making." This process will provide data accuracy to help in the next process. Fourth, this study uses Scopus metadata sources with a range of publications from 2017 to 2022, obtained through Publish or Perish search.

Result and Discussion

From the metadata search activity with a predefined framework, metrics data, as presented in Table 1, are generated.

Table 1. Publication Metrics for 2018-2022

	2018	2019	2020	2021	2022
Articles	2	7	18	12	30
Cites	4	142	111	214	73
Authors/Paper	1	1	1	1	1
H-index	1	5	6	6	4

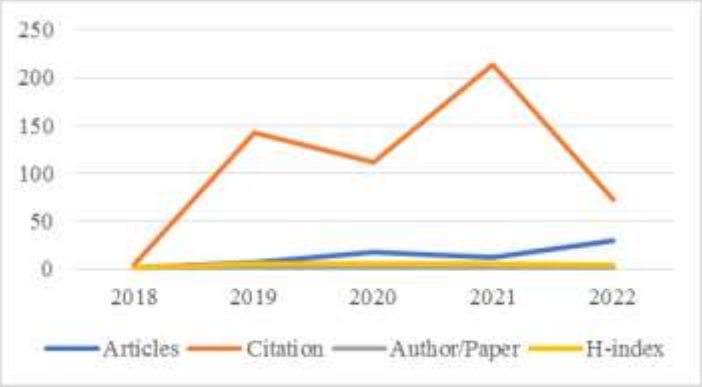

Figure 1. 2018-2022 Publication Metric Diagram
Source: Scopus Database on Publish or Perish, 2023

The data in Table 1 and Figure 1 shows that there has been a growth in publication interest in the topic of AI-based decision-making over the last five years. The growth in the number of citations peaked in 2021, with an exponential increase from 2020.

From these metadata parameters, mapping is carried out with the help of open-knowledge maps, as shown in Figure 2. The results show that AI-based decision-making studies have many links to various subjects. AI-based decision-making metadata is related to environmental science studies, social sustainability, and consumer autonomy. Furthermore, it was also related to more technical studies in the form of AI system algorithms, machine and engineering, and programming. The map also shows that AI-based decision-making studies provide diversity in studying human-computer relationships and interaction behavior, where aspects of trust, justice, psychology, and human behavioral tendencies are discussed.

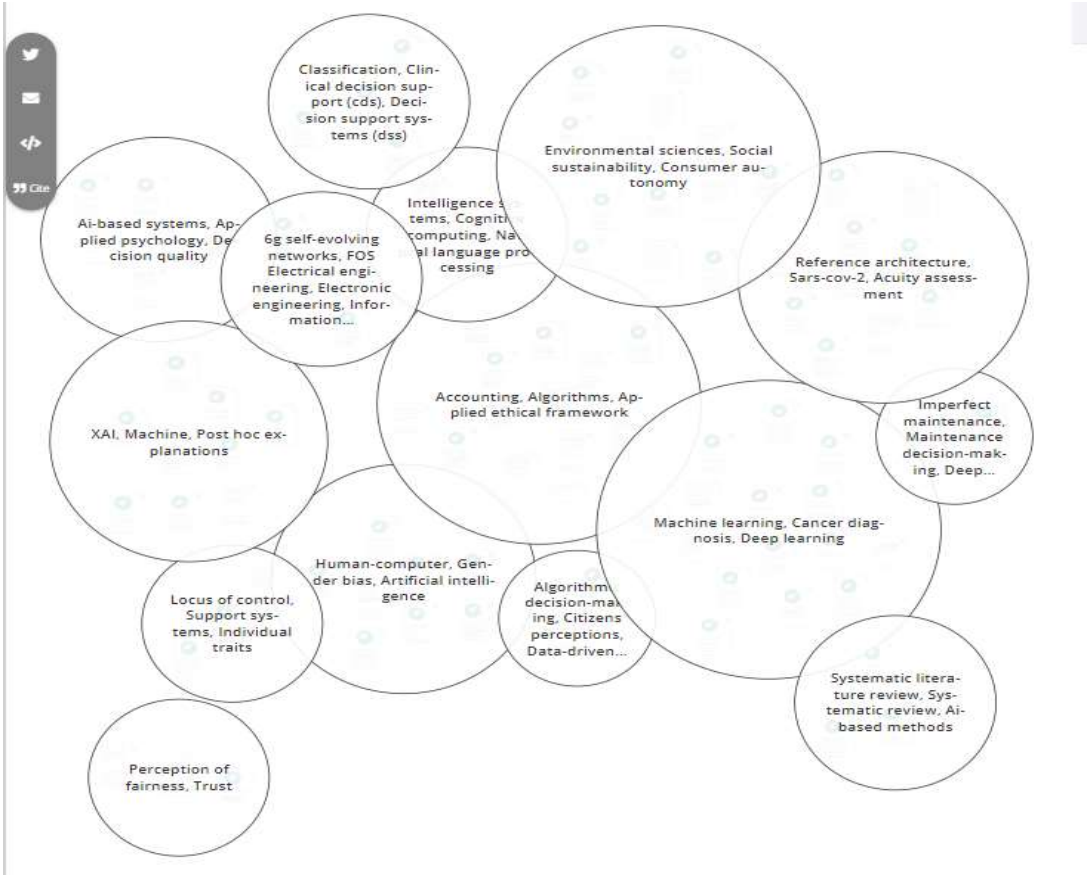

Figure 2. Knowledge Maps on selected metadata
Source: processed open-knowledge maps, 2023

Furthermore, eight relevant articles were obtained from the qualitative data selection to be reviewed in the content analysis process. Table 2 shows the focus, objectives, and methods selected articles use in AI-based decision-making in business.

Table 2. Metadata Focus, Purpose, and Method

Authors	**Focus and Objectives of Study**
(Vagin et al., 2022)	Uncover whether high technologies (Big Data and AI) contribute to improving environmental development and decision-making processes and how this contribution can be maximized for optimizing environmental business management.
(Al-Surmi et al., 2022)	Production and operations decision-making processes through AI-based marketing strategies to improve operational performance.
(Ali et al., 2020)	Analyze and present the latest challenges in adopting disruptive AI technologies in business processes.
(Metcalf et al., 2019)	Explore collaborative Artificial Swarm Intelligence (ASI) technologies that address limitations associated with group decision-making, strengthen human group intelligence, and facilitate better business decisions.
(Talamo et al., 2021)	General analysis of debates about the application of AI in decision-making processes and proposals for AI-based financial services modeling.

(Angerschmid et al., 2022)	To investigate the effects of AI explanation and fairness on AI-human trust and perception of justice, respectively, in AI-based decision-making scenarios.
(Anton et al., 2021)	To examine the moral intentions of individuals in accepting AI-based surveillance technology used in public scenarios.
(Stone et al., 2020)	Review the literature on artificial intelligence (AI) application in strategic situations and identify the necessary research in applying AI to strategic marketing decisions.

Source: study processed data, 2023

The existence of AI in business decision-making is believed to continue to develop along and in line with the dynamics of the strategic environment surrounding it. There is a systemic causality relationship between AI-based decisions in business organizations to the dynamics of resources and business strategies, including HR, financial, asset, and marketing management models. AI changes organizational resources' performance and is believed to change how organizations achieve these goals. Big Data makes it possible to automatically collect, systematize, and provide all the information the company needs. Various empirical shreds of the evidence conclusively support better data in the era of artificial intelligence in business practices (Wamba-Taguimdje et al., 2020). High technology allows for improved business performance and other advantages realized through a complex transition from conventional business to automation. However, developing high-tech AI is costly; even with state support, it is not fully accessible to small and medium-sized enterprises (Lutfi, 2022). High technology allows for improved business performance and other advantages realized through a complex transition from conventional business to automation. However, the development of high-tech AI is costly; even with state support, it is not fully accessible to small and medium-sized enterprises (Hermann, 2021). In other industries, particularly general business, the focus of development is on economic efficiency using high technology in entrepreneurship.

Human/AI integration can be achieved by developing systems that have two different functions (Talamo et al., 2021), i.e., automation/augmentation: processing Big Data from the market determined by the manager of the business organization, and human integration / AI: creating alert systems that support managers in making decisions coherently with the criteria of the business organization. By integrating AI with human decision-making, business organizations can leverage the automation of data collection and analysis, standardization of investment criteria, and automation of customer interaction services. However, the acceptance of AI-based solutions in decision-making by management is still an open issue in financial organizations.

A study by (Vagin et al., 2022) stated that the use of AI in providing intelligent predictions of weather changes leads to agricultural engineering business in Russia, thus driving the improvement of the results of this industry. Such is the case with the role of AI in finding new resources, accelerating the development of new technologies and ways of preserving environmental sustainability. The AI-based decision-making model in this study utilizes big data and machine learning to provide intelligent recommendations to stakeholders aimed at considering business decisions that favor environmental sustainability. The challenge of AI-based decision-making in this study is the limited access of small businesses to high technology, especially for financial investment reasons.

The use of AI in decision-making depends on the management of knowledge generated by this intelligent system. Studies (Metcalf et al., 2019) provide explicit and tacit knowledge information. Explicit knowledge refers to knowledge that can be easily articulated and codified, such as facts, figures, and procedures. Tacit knowledge, on the other hand, refers to knowledge that is difficult to articulate or codify, such as personal experience, intuition, and expertise. Businesses need to consider explicit and tacit knowledge when making strategic decisions because of the characteristics of explicit knowledge that can

provide a foundation of information and data to be analyzed and used to inform decisions. Tacit knowledge can provide valuable insights and perspectives that explicit knowledge alone may not be able to capture. Combining explicit and tacit knowledge can result in more informed and thorough decisions considering objective and subjective factors. Therefore, businesses that can utilize explicit and tacit knowledge effectively tend to make better decisions and achieve better results.

AI in business decision-making has a significant role in aligning the resources of a business organization to its internal and external strategic environment (Al-Surmi et al., 2022). This study postulates the alignment of marketing resources and AI that can improve business performance. Information technology strategies used in the decision-making process have the impact of increasing the chances of marketing success by presenting complete and systematic assumptions of environmental dynamics. This data is then interpreted through the support of AI into supporting information in business decision-making.

To construct an AI-based decision-making model that is in accordance with the characteristics of the industry, the study (Ali et al., 2020) provides its findings by offering IoT and machine learning utilization models. The model consists of stages of activities that must be carried out sequentially to provide efficiency and a good level of return on investment, including the activities of 1) Connecting devices and receiving transmitted data, 2) Data collection through filtering and aggregation, 3) Analysis using algorithms; and 4) Visualization and intelligent decision making. The practical application of this stage has challenges in the form of technological complexity; data and network security; compatibility issues; bandwidth; customer expectations; green IoT; and design for interoperability, adaptability, and upgradeability.

A study (Stone et al., 2020) reviews the literature on applying artificial intelligence (AI) in strategic situations and identifies research needs in applying AI to strategic marketing decisions. The study highlights AI's implications, especially for big businesses in competitive industries, where failure to apply AI in the face of competition can increase business risk. Some potential challenges businesses may face when implementing AI in the strategic decision-making process need attention. This is related to several issues followed up with steps: ensuring that the AI model is transparent and explainable so that decision-makers can understand how the model arrived at their recommendations. Then organizations need to address ethical issues related to the use of AI, such as bias in the data used to train models. Business organizations must also ensure that AI models are safe and secure from cyber threats and manage AI's impact on the workforce, including potential job transfers and the need for new skills and training. To shape readiness for the use of AI in strategic decision-making processes, business organizations can take the following steps: 1) Identify business areas where AI can be applied to improve decision-making; 2) Develop strategies to implement AI in this area, including identifying the necessary resources and expertise; 3) Squeeze data tools used to train AI models are accurate and relevant to the decision-making process; 4) Monitor the performance of the AI model and make changes as necessary.

Humanist aspects of human interaction and AI are discussed in the study (Angerschmid et al., 2022), where fairness to access information in AI-based decision-making affects user trust. The openness of assumptions used and the opportunity to engage fairly in building decision-making constructs with AI can influence user trust. The study also highlights the importance of considering transparency/explanation and fairness in AI-based decision-making for responsible use of socio-technical systems.

5. Limitations

The limitations of this study are first, this study only uses data for 5 years from 2017 to 2023. Second, the database used only comes from the Scopus database. Therefore, it is recommended for future researchers to refine this LSR research by using data starting from the first time AI-based decision-making research was conducted and to add data other than from Scopus databases such as Web of Science,

DOAJ (Directory of Open Access Journal), Proquest, Ebsco Host, Google Scholar, or other reputable journal publishers, etc.

5. Conclusion & Implications

Artificial intelligence (AI) in business decision-making is becoming increasingly important and relevant to support current business strategies. AI can process data quickly and accurately, provide valuable insights, and help improve business efficiency and productivity. However, implementing AI in business decision-making also has challenges, such as data security and errors in AI algorithms. Therefore, there is a need for appropriate policies and careful risk handling in the use of AI in business. The use of AI in business decision-making is expected to grow and become increasingly integrated with daily business activities.

Several theoretical and practical implications of using AI in business decision-making can be identified from the results of this review. AI can help improve the quality of business decision-making by providing more accurate and real-time information. In addition, AI can also help improve overall business performance through more effective and efficient data processing. A practical implication of this study is that companies that use AI in business decision-making can gain significant competitive advantages, such as increasing efficiency and productivity, reducing operational costs, and increasing customer satisfaction. Nevertheless, the use of AI also has risks, such as data security and errors in AI algorithms, so companies must take appropriate measures to address these risks. Companies need to consider several practical factors in implementing AI in business, such as costs, the ability of human resources to operate AI, and the technology infrastructure needed. Therefore, companies need to conduct risk evaluations and develop appropriate strategies to ensure the successful use of AI in their business.

References

Ali, M. A. M. d., Bashar, A., Rabbani, M. R., & Abdulla, Y. (2020). Transforming Business Decision Making with Internet of Things (IoT) and Machine Learning (ML). 2020 International Conference on Decision Aid Sciences and Application, DASA 2020, Ml, 674–679. https://doi.org/10.1109/DASA51403.2020.9317174.

Al-Surmi, A., Bashiri, M., & Koliousis, I. (2022). AI based decision making: combining strategies to improve operational performance. International Journal of Production Research, 60(14), 4464–4486. https://doi.org/10.1080/00207543.2021.1966540.

Angerschmid, A., Zhou, J., Theuermann, K., Chen, F., & Holzinger, A. (2022). Fairness and Explanation in AI-Informed Decision Making. Machine Learning and Knowledge Extraction, 4(2), 556–579. https://doi.org/10.3390/make4020026.

Anton, E., Kus, K., & Teuteberg, F. (2021). Is ethics really such a big deal? The influence of perceived usefulness of AI-based surveillance technology on ethical decision-making in scenarios of public surveillance. Proceedings of the Annual Hawaii International Conference on System Sciences, 2020-January(January), 2121–2130. https://doi.org/10.24251/hicss.2021.261.

Banerjee, S., Singh, P. K., & Bajpai, J. (2018). A comparative study on decision-making capability between human and artificial intelligence. In Nature Inspired Computing: Proceedings of CSI 2015 (pp. 203-210). Springer Singapore. https://doi.org/10.1007/978-981-10-6747-1_23.

Caner, S., & Bhatti, F. (2020). A Conceptual Framework on Defining Businesses Strategy for Artificial Intelligence. Contemporary Management Research. https://doi.org/10.7903/cmr.19970.

Chen, Y., & Biswas, M. I. (2021). Turning crisis into opportunities: how a firm can enrich its business operations using artificial intelligence and big data during COVID-19. Sustainability, 13(22), 12656. https://doi.org/10.3390/su132212656.

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

Gualdi, F., & Cordella, A. (2021). Artificial Intelligence and Decision-Making: The Question of Accountability. https://doi.org/10.24251/hicss.2021.281.

Heisterberg, R., & Verma, A. (2014). Creating business agility: How convergence of cloud, social, mobile, video, and big data enables competitive advantage. John Wiley & Sons. https://doi.org/10.1002/9781118918241.

Hermann, E. (2021). Artificial Intelligence in Marketing: Friend or Foe of Sustainable Consumption? Ai & Society. https://doi.org/10.1007/s00146-021-01227-8.

Iqbal, M. J., Javed, Z., Sadia, H., Qureshi, I. A., Irshad, A., Ahmed, R., ... & Sharifi-Rad, J. (2021). Clinical applications of artificial intelligence and machine learning in cancer diagnosis: looking into the future. Cancer cell international, 21(1), 1-11. https://doi.org/10.1186/s12935-021-01981-1.

Islam, A., & Chang, K. (2021). Real-time AI-based informational decision-making support system utilizing dynamic text sources. Applied Sciences, 11(13), 6237. https://doi.org/10.3390/app11136237.

Jarrahi, M. H. (2018). Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making. Business horizons, 61(4), 577-586. https://doi.org/10.1016/j.bushor.2018.03.007 .

Kahr, P. K., Rooks, G., Willemsen, M. C., & Snijders, C. C. P. (2023). It Seems Smart, but It Acts Stupid: Development of Trust in AI Advice in a Repeated Legal Decision-Making Task. International Conference on Intelligent User Interfaces, Proceedings IUI, 1(1), 528–539. https://doi.org/10.1145/3581641.3584058.

Koehler, J. (2018). Business Process Innovation With Artificial Intelligence: Levering Benefits and Controlling Operational Risks. European Business & Management. https://doi.org/10.11648/j.ebm.20180402.12.

Lavazza, A., & Farina, M. (2023). Infosphere, Datafication, and Decision-Making Processes in the AI Era. Topoi, April. https://doi.org/10.1007/s11245-023-09919-0.

Leggat, S. G., & Yap, K. Y.-L. (2020). How Are Hospitals Using Artificial Intelligence in Strategic Decision- Making?—a Scoping Review. Journal of Hospital Management and Health Policy. https://doi.org/10.21037/jhmhp-20-92.

Lutfi, A. (2022). Understanding the Intention to Adopt Cloud-Based Accounting Information System in Jordanian SMEs. Ijdar. https://doi.org/10.4192/1577-8517-v22_2.

Mehrabi, N., Morstatter, F., Saxena, N., Lerman, K., & Galstyan, A. (2021). A Survey on Bias and Fairness in Machine Learning. Acm Computing Surveys. https://doi.org/10.1145/3457607.

Metcalf, L., Askay, D. A., & Rosenberg, L. B. (2019). Keeping humans in the loop: Pooling knowledge through artificial swarm intelligence to improve business decision making. California Management Review, 61(4), 84–109. https://doi.org/10.1177/0008125619862256.

Min, H. (2009). Artificial Intelligence in Supply Chain Management: Theory and Applications. International Journal of Logistics Research and Applications. https://doi.org/10.1080/13675560902736537.

Pati, D., & Lorusso, L. N. (2018). How to Write a Systematic Review of the Literature. Health Environments Research and Design Journal, 11(1), 15–30. https://doi.org/10.1177/1937586717747384.

Qureshi, N. I., Rath, A., Prakash, K. B., & Singh, S. K. (2022). A Comparative Analysis of Business Machine Learning in Making Effective Financial Decisions Using Structural Equation Model (SEM). Journal of Food Quality. https://doi.org/10.1155/2022/6382839.

Rabah, K. (2018). Convergence of AI, IoT, big data and blockchain: a review. The lake institute Journal, 1(1), 1-18.

Rahman, M. S. A., Jamaludin, N. A. A., Zainol, Z., & Sembok, T. M. T. (2021). Machine Learning Algorithm Model for Improving Business Decisions Making in Upstream Oil Gas. 2021 International Congress of Advanced Technology and Engineering, ICOTEN 2021, July. https://doi.org/10.1109/ICOTEN52080.2021.9493499.

Rajagopal, N. K., Qureshi, N. I., Durga, S., Ramirez Asis, E. H., Huerta Soto, R. M., Gupta, S. K., & Deepak, S. (2022). Future of Business Culture: An Artificial Intelligence-Driven Digital Framework for Organization Decision-Making Process. Complexity, 2022. https://doi.org/10.1155/2022/7796507.

Rogers, E. M. (1962). Diffusion of Innovations. The Free Press.

Rose, G., Khoo, H. M., & Straub, D. W. (1999). Current Technological Impediments to Business-to-Consumer Electronic Commerce. Communications of the Association for Information Systems. https://doi.org/10.17705/1cais.00116.

Schmitt, M. (2023). Automated machine learning: AI-driven decision making in business analytics. Intelligent Systems with Applications, 18(January), 200188. https://doi.org/10.1016/j.iswa.2023.200188.

Shepherd, D. A., & Majchrzak, A. (2022). Machines augmenting entrepreneurs: Opportunities (and threats) at the Nexus of artificial intelligence and entrepreneurship. Journal of Business Venturing, 37(4), 106227. https://doi.org/10.1016/j.jbusvent.2022.106227.

Shrestha, Y. R., Ben-Menahem, S. M., & Von Krogh, G. (2019). Organizational decision-making structures in the age of artificial intelligence. California Management Review, 61(4), 66-83. https://doi.org/10.1177/0008125619862257.

Soni, N., Sharma, E. K., Singh, N., & Kapoor, A. (2020). Artificial Intelligence in Business: From Research and Innovation to Market Deployment. Procedia Computer Science. https://doi.org/10.1016/j.procs.2020.03.272.

Stone, M., Aravopoulou, E., Ekinci, Y., Evans, G., Hobbs, M., Labib, A., Laughlin, P., Machtynger, J., & Machtynger, L. (2020). Artificial Intelligence (AI) in Strategic Marketing Decision-Making: A

Research Agenda. The Bottom Line Managing Library Finances, 33(2), 183–200. https://doi.org/10.1108/bl-03-2020-0022.

Talamo, A., Marocco, S., & Tricol, C. (2021). "The Flow in the Funnel": Modeling Organizational and Individual Decision-Making for Designing Financial AI-Based Systems. Frontiers in Psychology, 12(July), 1–7. https://doi.org/10.3389/fpsyg.2021.697101.

Vagin, S. G., Klimenko, V. A., Telegina, Z. A., & Aleksashina, T. V. (2022). Improving environmental decision-making in environmental business-management using big data and AI. Frontiers in Environmental Science, 10(September), 1–6. https://doi.org/10.3389/fenvs.2022.951306.

Wamba-Taguimdje, S.-L., Wamba, S. F., Kamdjoug, J. R. K., & Wanko, C. E. T. (2020). Influence of Artificial Intelligence (AI) on Firm Performance: The Business Value of AI-based Transformation Projects. Business Process Management Journal. https://doi.org/10.1108/bpmj-10-2019-0411.