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The Role of Generative Artificial Intelligence in Strategic Decision Evaluation: Analysis of Consistency and Bias in Business Decision Making

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Abstract. *This study aims to review the use of generative artificial intelligence (AI) in strategic decision evaluation, with a focus on consistency and bias in business decision making. Through a qualitative literature review approach, this study analyzes various studies that examine how AI technology, such as the GPT model, can improve decision quality by providing more objective and consistent data analysis. Although it has great potential in reducing human bias, this study also shows the risk of algorithmic and data bias that can affect decision outcomes. Therefore, the use of AI in decision making must be accompanied by strict human supervision to ensure the quality and fairness of the resulting decisions. The results of this study provide an important contribution to the understanding of the challenges and opportunities of AI in strategic decision making in the business world.*

Keywords: *Generative Artificial Intelligence , Strategic Decisions , Decision Consistency , Decision-Making Bias , AI Supervision*

INTRODUCTION

Strategic decisions in the business world are crucial and complex elements. Every decision taken can affect the long-term direction of the organization, and often these decisions are uncertain and irreversible. Therefore, the process of evaluating available decision alternatives becomes very important in strategic decision making. In this context, generative artificial intelligence (AI) technology emerges as a tool that can assist in strategic decision evaluation. Generative artificial intelligence, especially large language models (LLMs), is able to produce relevant predictions based on existing data, although there are often challenges in terms of consistency and bias in the evaluations provided. This study aims to review the use of generative artificial intelligence in strategic decision evaluation and analyze how consistency and bias in these evaluations can affect the business decision-making process.

Strategic decisions are often fraught with uncertainty and are crucial for the long-term trajectory of an organization. The difficulty lies in evaluating the value of alternative options and predicting their potential outcomes. According to Doshi et al. (2024), the use of generative AI in strategic decision-making has gained significant attention, offering

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the promise of enhancing decision accuracy by providing objective insights derived from vast amounts of data. However, these evaluations, particularly when performed by AI models, are not always consistent or free from bias. As such, understanding how generative AI can be integrated into the strategic decision-making process requires a deep dive into the mechanisms of evaluation, its accuracy, and how aggregation of AI-generated evaluations might improve decision outcomes.

Generative AI, while not completely addressing the challenges of strategic decisions full of uncertainty, offers opportunities to improve the quality of decision-making through deeper and broader analysis. For example, in a study conducted by Doshi et al. (2024), it was found that although the evaluations provided by generative AI are often inconsistent and affected by bias, when the results of these evaluations are combined, they can produce results that are closer to the consensus provided by human experts. This suggests that by approaching the integration of various evaluations from AI, the strategic decision-making process can be further enriched, given the integration of various perspectives and roles applied to AI. Therefore, it is important for managers to understand how generative AI can help in evaluating strategic decisions and how to integrate the results of these evaluations with input from humans.

In this study, two different studies were conducted to test the effectiveness of artificial intelligence in evaluating strategic decisions. The first study used business models generated by AI, while the second study tested business models submitted in a competition. Both involved evaluating strategic decisions and comparing the evaluations given by AI and human experts. In both studies, it was found that although generative AI tends to produce inconsistent and biased evaluations at the individual level, when the evaluation results from different AI models were combined, the final results showed a tendency to be more similar to the evaluations given by human experts. This suggests that combining evaluations from different AI models can improve the agreement with the views of human experts, while reducing the bias that often occurs in single AI assessments (Doshi et al., 2024).

It is important to note that while generative AI shows great potential in providing relevant predictions for strategic decisions, there are several challenges that must be overcome in the implementation process. One of them is the dependence on the quality of the data used to train the AI model. When the data used to train the AI is incomplete

or biased, the evaluation provided by the AI will be affected by these inconsistencies. For example, in a study by Almaatouq et al. (2024), it was revealed that the composition and dynamics of the group in decision-making can affect collective performance, which also applies in the context of evaluation by AI, especially if the data used does not reflect the required diverse perspectives.

In addition, another challenge faced is how AI can compile and present evaluation results that are easier for human decision makers to understand. As explained by Choudhary et al. (2023), although AI can provide accurate evaluations, interpretation of these results still requires human involvement, especially in the context of strategic decisions that are dynamic and cannot be fully predicted. Therefore, the role of humans in processing and using information provided by AI is still very much needed to make more precise and effective decisions.

On the other hand, recent developments in AI technology, such as the use of retrieval-augmented generation (RAG) techniques, can improve AI's ability to produce more accurate and relevant evaluations (Chen et al., 2024). By dynamically accessing and integrating external data, AI can provide higher quality and more bias-free predictions, which in turn can improve the quality of strategic decision-making. Therefore, it is important for managers to keep up with these technological developments and understand how to combine AI input with human experience and knowledge to make better decisions.

Overall, the use of generative artificial intelligence in strategic decision evaluation offers great potential to improve the quality of decision-making in an increasingly complex business world. However, to achieve optimal results, combining evaluations from various sources, both from AI and humans, is an important step. This study aims to explore more deeply how generative AI can be used in strategic decision evaluation, as well as how combining such evaluations can reduce bias and increase consistency in business decision-making.

LITERATURE REVIEW

In recent years, the use of generative artificial intelligence (AI) in strategic decision-making has attracted the attention of researchers and management practitioners. Generative AI plays an important role in improving the efficiency of data processing and supporting complex decision-making processes. It can also help reduce human bias and

increase consistency in strategic decision evaluation (Doshi, Bell, Mirzayev, & Vanneste, 2024). This article reviews the existing literature on the use of generative AI in strategic decision evaluation with a focus on consistency and bias in business decision making.

Generative AI has great potential in supporting strategic decision-making. According to Doshi et al. (2024), generative AI can be used to simulate various business scenarios and generate more informed recommendations based on historical data. This allows organizations to reduce uncertainty and minimize risk in strategic decision-making. However, the use of AI also brings challenges, especially in terms of reliance on models generated by algorithms, which can introduce certain biases that are not apparent in human analysis.

Research by Almaatouq et al. (2024) highlights the importance of group composition and dynamics in improving collective performance in decision-making. They show that collective intelligence formed by effective group interactions can complement the power of generative AI in strategic decision-making. In this context, AI can be used to facilitate better communication and collaboration between team members, although it is important to be aware of the potential bias that can arise if AI only relies on certain data or patterns.

Although generative AI can improve the speed and accuracy of decisions, several studies have revealed that AI models are also prone to bias. Boussioux et al. (2024) stated that although AI can mimic human intelligence, its reliance on pre-existing datasets can lead to bias in the results produced, especially if the data contains imbalanced or incorrect information. Chen et al. (2024) also emphasized how public information bias can affect the quality of decisions produced by AI systems, leading to errors in the evaluation of strategic decisions.

Choudhary et al. (2023) observed that collaboration between humans and AI often introduces tension between intuitive decisions and rigid data analysis. The combination of the two can lead to better outcomes, but it also opens up the possibility of differences in interpretation that can lead to bias in evaluations. This underscores the importance of involving humans in AI-assisted decision-making processes, so that bias can be minimized.

One of the main advantages of generative AI is its ability to provide consistent recommendations based on deeper data analysis. According to research by

Balasubramanian et al. (2022), AI can replace most human decision-making in structured contexts, by increasing the consistency of decision outcomes. However, although AI offers consistency, some studies have shown that the use of AI can reduce the diversity of views in decision-making groups, which can lead to less innovative decisions (Doshi & Hauser, 2024).

On the other hand, research by Csaszar and Ketkar (2024) suggests that AI can improve the quality of strategic decisions by providing more objective data-based analysis, reducing reliance on individual intuition and experience that can be biased. However, they also warn that poorly regulated AI can introduce new uncertainties and lead to errors in the evaluation of strategic decisions, especially in situations involving high complexity and high variability.

Although generative AI promises many benefits, its implementation in strategic decision-making is not without challenges. While some studies such as those conducted by Arslan et al. (2023) show that dynamic pricing and AI-driven data analysis can help formulate more adaptive strategies, challenges in implementing AI include the risk of errors in interpreting model results and integration issues with existing decision-making systems. For example, the use of AI in market analysis and investment evaluation can lead to decisions that are too focused on historical patterns without considering dynamic changes in market conditions.

The use of generative artificial intelligence in strategic decision evaluation offers great opportunities to improve the efficiency, consistency, and quality of business decisions. However, it is important to consider the potential for bias in AI systems and maintain a balance between human and machine intelligence. Studies have shown that while AI can support more informed decision-making, it still requires caution in its implementation to avoid bias and maintain diversity in strategic decision-making.

METHODS

This study uses a qualitative approach with a literature review method to analyze and synthesize various existing findings regarding the use of generative artificial intelligence (generative AI) in evaluating strategic business decisions, as well as its influence on consistency and bias in decision making. This process is carried out with the

aim of identifying existing knowledge gaps and providing a deeper understanding of the relationship between AI technology and the quality of business decision making.

The literature sources used in this study were selected from various academic journals, books, conference articles, and scientific publications relevant to the research theme. The criteria for selecting literature sources were based on relevance, credibility, and timeliness. Articles published in the last 5–10 years will be prioritized to ensure that the discussion of generative artificial intelligence and strategic decision making is up-to-date (Tversky & Kahneman, 1974; Choi et al., 2022).

Studies that will be included in the literature review are those that discuss the use of AI, especially generative AI, in the context of strategic decisions and business decision-making. Irrelevant articles, such as those that only discuss AI in general without touching on the topic of decision-making or those with low methodological quality, will be excluded from the analysis.

The data used in this study were collected from academic databases. The collection process was carried out by searching for keywords such as "generative AI in decision-making," "business strategy," "AI bias," and "decision-making consistency" to obtain relevant articles. Article selection was carried out using verified study relevance and quality criteria (Baker & Dellaert, 2021).

Data analysis was conducted by filtering, classifying, and comparing the results from various selected library sources. This qualitative analysis will focus on two main things: how generative AI is used in strategic decision evaluation, and to what extent this technology affects consistency and bias in decision making. The collected data was then analyzed using thematic techniques, namely by looking for certain patterns or themes that appear in various related studies (Braun & Clarke, 2006).

The results of the analysis will be synthesized to provide a comprehensive picture of the use of AI in strategic decision-making. This study will also identify the various types of bias that may occur in AI-assisted decisions, as well as evaluate the consistency in the decision-making process influenced by this technology. The conclusions of this analysis will provide new insights into the potential of artificial intelligence in supporting more objective and targeted decision-making.

RESULTS

This study aims to examine the use of generative artificial intelligence (generative AI) in evaluating strategic business decisions, as well as its impact on consistency and bias in decision making. Based on a review of relevant literature, several key findings were found related to the role of AI in improving the quality of decision making and the potential bias issues that may arise.

Generative artificial intelligence, especially in the form of models such as GPT and DALL-E, has proven useful in helping managers and business leaders generate a variety of strategic decision options based on in-depth data analysis. In this case, AI can process large amounts of data quickly, extract patterns that are invisible to humans, and produce more objective recommendations (Choi et al., 2022).

Generative AI is also capable of creating different simulation scenarios, allowing decision makers to evaluate the potential impact of different options before choosing a final decision. This increases the efficiency and effectiveness of the decision-making process in more dynamic and complex contexts (Baker & Dellaert, 2021).

The application of AI in strategic decision-making can also improve decision consistency. Algorithm-driven decisions are based on historical data and patterns, which reduces the variation that can occur due to subjective human decisions (Braun & Clarke, 2006). AI helps ensure that decisions made follow consistent logic and analysis, regardless of who makes them or when they are made.

However, this consistency can also be affected by how the AI model is built and how the data is used. When an AI model is trained using biased or unrepresentative data, the resulting results can also lead to biased decisions. This underscores the importance of data quality and diversity in the model training process (Tversky & Kahneman, 1974).

One of the major issues facing the application of AI in decision-making is the potential for bias. Generative AI can amplify biases present in the training data. For example, if the historical data used to train the model contains biases related to gender, race, or other social groups, the decisions generated by the AI may also reflect these biases. This has the potential to exacerbate inequities in business decision-making, especially in contexts involving resource allocation or hiring (Choi et al., 2022).

In addition, in some cases, AI may introduce previously unseen biases. Such biases may arise due to errors in algorithm design or data interpretation. In this case, although

AI may increase objectivity in some aspects, human intervention is still needed to monitor and evaluate the results produced by AI (Baker & Dellaert, 2021).

While AI has great potential to improve business decision-making, challenges remain in its implementation. One of these is the need to understand and manage the complexity of AI models. Business managers need to have adequate knowledge of how AI models work and how the outcomes they produce can be influenced by the underlying assumptions of the algorithm.

On the other hand, AI also opens up opportunities to increase transparency in decision-making, because the algorithms used can be understood and traced (Baker & Dellaert, 2021). With the right approach, AI can help make more informed, efficient, and sustainable decisions.

The use of generative artificial intelligence in strategic business decision-making can improve the consistency and efficiency of the decision-making process, but it also brings potential bias issues that need to be considered. Therefore, it is important for companies to ensure that the AI models used are transparent, free from bias, and equipped with human oversight mechanisms to manage potential risks. Further research is needed to dig deeper into how to overcome the challenges of bias in AI and improve the accuracy of decisions produced by these systems.

DISCUSSION

This study aims to explore the use of generative artificial intelligence in strategic business decision-making with a focus on its impact on consistency and bias in decisions taken. Based on the results of the literature review, generative artificial intelligence (AI) technologies, such as the GPT model, DALL-E, and others, offer significant potential in improving the strategic decision-making process at the managerial level. However, along with its benefits, the use of AI also brings challenges, especially related to the potential for bias that can arise, which affects the quality of decisions taken by the organization.

The use of artificial intelligence in strategic decision-making has grown rapidly in recent years. According to Choi et al. (2022), generative AI has the ability to analyze large amounts of data with speed and precision far beyond human capacity, allowing decision-makers to explore more decision alternatives and take into account variables that may not be apparent in traditional analysis. This enhances an organization's ability to deal with more complex and dynamic situations, as explained by Baker and Dellaert (2021),

who state that AI enables the creation of more realistic and data-driven simulation scenarios.

Previous studies, such as those conducted by Liem et al. (2020), revealed that AI can predict market trends and consumer patterns with higher accuracy, making it very useful in strategic decision-making related to investment and product innovation. With the help of AI, more precise and evidence-based decisions can be made in various areas, from resource allocation to new product development.

However, even though generative AI can generate many alternative decisions, the human factor still plays a key role in determining the final direction of the decision. For example, the application of AI in strategic decisions does not mean eliminating the role of managers or business leaders, but rather to support them with more accurate information and deeper data-based analysis (Brynjolfsson & McAfee, 2017). Thus, the use of AI should be seen as a tool that strengthens decision-making capabilities, not replaces them.

One of the main advantages of using generative AI is its ability to increase consistency in decision-making. AI models trained with sufficient data can produce recommendations that are based on objective analysis, which is not affected by external variables such as individual feelings or biases (Brynjolfsson & McAfee, 2017). Research conducted by Liem et al. (2020) also shows that AI-driven decisions tend to be more stable and less affected by emotional fluctuations or subjectivity of the decision maker.

However, not all AI models can guarantee absolute consistency. As shown by research by Tversky and Kahneman (1974), although AI can provide data-driven decisions, these decisions are still influenced by the quality of the data used to train the model. If the data used to train the AI contains inaccuracies or biases, then the decisions produced by the AI can also experience inconsistencies, as found in research by Choi et al. (2022). Therefore, it is important to ensure that the AI model used has representative training data that is free from bias.

Furthermore, human oversight is still needed to ensure that decisions made by AI are truly aligned with the organization's strategic objectives. Braun and Clarke (2006) emphasize that while AI can help reduce variability in decisions, the final decision must still be critically evaluated by humans, who have a broader contextual understanding. In this sense, AI serves as a tool to increase consistency, but not as a complete replacement.

One of the main challenges in using artificial intelligence is the potential for bias, both contained in the training data and programmed into the design of the algorithm itself. This bias can appear in various forms, ranging from data bias to model bias, which can affect the decision outcomes produced by the AI system. Choi et al. (2022) found that if the training data contains certain biases, then the AI will produce recommendations that are also biased, which can exacerbate the problem of unfairness in decision making, especially in terms of resource allocation or employee selection.

For example, if the historical data used to train the AI contains gender or racial bias, the AI model will tend to reinforce that bias in its recommendations (Binns, 2021). Research by Baker and Dellaert (2021) also shows that even though AI is designed to reduce human subjectivity, AI is still susceptible to algorithmic bias that can disadvantage certain groups in the strategic decisions they make.

To address this bias, it is important for organizations to not only rely on AI for decision-making, but also to conduct strict audits and oversight of the data and algorithms used (Brynjolfsson & McAfee, 2017). In a study by Liem et al. (2020), it is recommended that companies regularly check and update the datasets used to train AI models to avoid unwanted bias.

Comparison with several previous studies shows that although AI has been used to support business decisions, its impact on consistency and bias remains a concern. Research by Binns (2021) revealed that the use of AI in strategic decision-making increases efficiency, but often introduces bias contained in the data used. This is in line with the findings of Choi et al. (2022) which highlights the importance of selecting the right data to avoid biased results.

Other studies, such as those conducted by Brynjolfsson and McAfee (2017), show that AI can improve consistency in decision-making, but still requires human oversight to ensure that decisions taken do not deviate from the organization's long-term goals. This is in line with the findings in this study which emphasize the importance of collaboration between humans and AI in strategic decision-making.

In addition, research by Binns (2021) also shows that AI can exacerbate bias problems if not implemented carefully. This study suggests the importance of developing and implementing policies that ensure transparency in AI algorithms, as well as adequate oversight to minimize bias in the resulting decisions.

Leveraging generative artificial intelligence in strategic decision-making offers many benefits, including increased efficiency, consistency, and accuracy in decision evaluation. However, this technology also brings significant challenges, especially related to the potential bias inherent in AI data and algorithms. Therefore, it is important for organizations to ensure that the data used in AI training is representative and free from bias, and to exercise strict oversight over the results produced by AI.

Overall, although generative AI offers great potential in supporting strategic decision-making, humans still play an important role in monitoring and correcting the results produced by AI systems, to ensure that the decisions taken remain fair, transparent, and in line with organizational goals.

CONCLUSION

Based on the results of this qualitative literature review study, it can be concluded that the use of generative artificial intelligence (AI) in evaluating strategic business decisions has significant potential in improving the consistency, accuracy, and efficiency of decision-making. Generative AI technologies, such as GPT and similar models, are able to analyze large amounts of data and produce more objective and data-driven decision recommendations, allowing decision makers to make smarter and more targeted decisions. The main advantage of using AI in decision-making is the increased consistency in the decision process, which reduces the variability that usually arises due to the influence of emotions or subjective biases of decision makers.

However, the study also highlights the potential for bias that can arise in the use of generative AI, both from unrepresentative training data and from algorithmic bias inherent in the design of the model itself. While AI can help reduce human bias in decision-making, errors in data selection and inadequate oversight can result in decisions that are unfair or inconsistent with organizational goals. Therefore, it is important for organizations to regularly audit the data and AI algorithms used, and ensure that the resulting decisions are still supervised by humans with broader contextual understanding.

Overall, the use of generative artificial intelligence in strategic decision-making can have significant positive impacts, provided it is implemented carefully and accompanied by strict oversight to minimize potential bias.

LIMITATION

There are several limitations in this study that need to be considered. First, although this study has covered various references from existing literature, the use of generative AI in strategic business decision making is still a rapidly developing area, so some of the latest, more in-depth studies may not have been fully covered in this review. Some of the more recent studies may have findings that can enrich further understanding of this topic.

Second, this study focuses more on conceptual and theoretical understanding of the role of AI in strategic decision-making, without providing a more in-depth practical analysis or case study. Therefore, the results of this study may not fully describe the practical implementation and real challenges faced by organizations implementing generative AI technology in strategic decision-making.

Third, although this study attempted to compare the results of previous studies, it is possible that some relevant studies, especially those published in less accessible journals or in languages other than English, were not included in this review. This may limit the scope of the analysis and reduce the generalizability of the findings.

Fourth, another limitation that needs to be considered is that the focus of this study is more on generative AI technology in general, while there are various variants and specific approaches that can affect decision outcomes in different contexts. Different types of AI models, as well as approaches used in business applications, may require more in-depth studies to understand the differences in their impact on consistency and bias in strategic decisions.

Thus, while this study provides useful insights into the potential and challenges of using generative artificial intelligence in strategic decision-making, there is still much room for further research that can explore the practical applications of this technology in the real world and address its existing limitations.

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