International Journal of Environmental Sciences
ISSN: 2229-7359
Vol. 11 No. 6, 2025
https://theaspd.com/index.php

Generative AI In Strategic Decision-Making: Exploring Opportunities, Addressing Challenges, And Navigating Ethical Implications

***Dr. J. Vinoth Kumar[1], Dr. V. Udhaya Geetha[2], Dr. V. Sagaya Pricilla[3]**
[1]Assistant Professor, PG and Research Department of Commerce, St. Joseph's College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, vinothkumar_co1@mail.sjctni.edu
[2]Assistant Professor, Department of Business Administration, St. Joseph's College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, udhayageetha_bu2@mail.sjctni.edu
[3]Assistant Professor, PG and Research Department of Commerce, Holy Cross College (Autonomous), Affiliated to Bharathidasan University, Tiruchirappalli, Tamil Nadu, India, pricilla150389@hcctrichy.ac.in

Abstract:
Generative AI, which appears in applications such as ChatGPT and DALL-E, is expected to make strategic decision-making much more creative and data-driven. The current paper evaluates the role of generative AI in management by focusing on opportunities and challenges. While AI does bring costs, complexity, ethical issues, threats related to data security, biases, and dangers of overreliance, it brings benefits in terms of innovation and efficiency. Using a mixed-method approach, the quantitative surveys and qualitative interviews conducted with managers and AI practitioners from various industries such as technology, finance, and healthcare showed that ethics and organizational dynamics are key challenges. The study calls for strong ethical frameworks, reskilling of the workforce, and strategic policies to maximize the potential of AI while mitigating risks. Recommendations indicate a shift in global business strategy in light of AI, providing 'road maps' of useful information for decision-makers, researchers, and policymakers navigating this technology.
Keywords: *Generative AI, Strategic Decision-Making, Ethical Implications, Organizational Challenges, Innovation.*

INTRODUCTION:

The Fourth Industrial Revolution brought with it an age of speedy technological progress, which has revolutionized the operational and competitive landscape of businesses in the international economy. Of these advances, artificial intelligence (AI) has been a key driving force that imposes a considerable influence on different industries. Under the umbrella of AI, generative AI, which produces content, solutions, or insights from data, has been a breakthrough. Applications such as ChatGPT and DALL·E have garnered much attention due to their multifaceted nature and influence (Brown et al., 2020) [6].

Generative AI uses sophisticated deep learning architectures, such as Transformer architectures and Generative Adversarial Networks (GANs), to create human-like text, images, or other content. These features render it a strategic asset for organizations that aim to innovate, automate, and support strategic decision-making. For example, generative AI can aid managers' data-driven decision-making, automate routine tasks, and generate innovative solutions to intricate problems (Bhardwaj et al., 2022) [3].

Recent scholarly evaluations, for example, those by Gupta et al. (2025), present a critical evaluation of recent trends, innovations, and potential advances specific to generative AI, with a focus on how it can transform industries. Their work identifies the fast uptake of generative AI into business systems, innovation of new applications, and changing expectations towards responsible AI management [26].

However, the use of generative AI is also marked by a profusion of challenges. Organizations are faced with technical challenges, such as the need for quality in their infrastructure, as well as fiscal challenges in terms of the implementation cost. In addition, ethical concerns such as data privacy concerns, bias in algorithms,

and the risk of loss of human decision-making ability have generated controversy among researchers, practitioners, and policymakers (Floridi & Cowls, 2020) [12]. The consequences of over-reliance on AI, as well as the risk of potential misuse or unintended effects, highlight the need for developing responsible deployment plans.

This study aims to fill the gap in knowledge about how generative AI can support strategic decision-making by investigating three significant dimensions:

1. How generative AI can increase creativity, enhance decision-making quality, and facilitate innovation.
2. The organizational, technological, and societal limitations to its adoption.
3. The corporate contribution to advocating the ethical and sustainable use of generative AI.

The study draws on current literature to explore how organizations can best harness the advantages of generative AI and avoid its limitations. The study, based on surveys of managers and employees and the views of industry experts, offers a detailed framework for integrating generative AI into strategic management practices. The study seeks to add to the increasing body of literature in AI and management, offering actionable advice to managers and executives on how to navigate the challenges of this new technology.

REVIEW OF LITERATURE:

The application of AI tools within businesses' operational approaches has become a highly researched topic, one of the most important areas of study being the use of generative AI tools. Review of the existing research focuses on the business management opportunities, issues and responsibilities that come along with the use of generative AI tools in business.

In Bhardwaj et al.'s (2022) work, they argue that generative AI tools like ChatGPT and DALL·E allow companies to come up with new ideas, reinforce their operational performance, and improve their workflow [3]. In respect to the same subject matter, Brown et al. (2020) noted that generative models AIs that utilize transformer methods are very useful for strategic planning and marketing analysis because they enhance human language understanding and language production [6].

Generative AI technologies adoption includes AI supervised implementation difficulty which is its main hurdle even though it does have its benefits. Davenport and Ronaki (2018) claim that a firm needs to have the sufficient resources, technical expertise and most importantly a good organizational readiness [11]. Additionally, Chui and the other researchers (2018) stated that resources poses a challenge for small and medium sized enterprises along with the employee resistance [9]. These findings are consistent with those of Patel and Kumar (2019), the most significant constructive agent was the skilled employment along with high costs of implementation [18].

There are more concerns with the ethical aspects of generative AI due to its nature and reason why it needs to be addressed before its use. Floridi and Cowls (2020) suggested the new modified unified framework that concerns with fairness and transparency as well as accountability in AI systems [22]. Moreover, O'Neil (2016) and Binns (2018) were concerned about discriminatory algorithmic racism in the discrimination of employment and financial management in graduate recruitment [17]. More importantly, Zengler (2020) on his turn also addressed the ethical issues in AI governance by using Data privacy concerns [21].

There is a consensus among scholars that generative AI is applicable in a variety of fields. Brynjolfsson and McAfee (2017) investigated its improvement of efficiency and innovation in technology and finance industries [8]. Chui, M et al (2018) elucidated AI's capacity to improve scenario modeling and predictive decision making by presenting a risk-allied person with the measures for possible growth [9]. In the same vein, Davenport and Kalakota (2019) showed the role played by AI In health care practice which is up more of supporting clinical decision making and influence patients' satisfaction and other related outcomes [10].

There is large body of literature on the consequences of AI on business, but there is very little if any on the application of Generative AI to strategic business management with emphasis to general decision making. Broadly, the researchers who include Johnson and Lee (2021) have looked its role in the business strategy for

the period extending beyond five years. Also, it is observed that there is very sparse data on the ethical dilemmas faced by organizations, as instruments are developed, and this remains an important niche for future research [14].

Statement of the Problem:

Artificial intelligence (AI) has recently been finding its way into business operations and particularly strategic decision-making through machine learning which have lately become the talk of both academic and professional communities. A type of generative AI, known as algorithms that can invent new things such as text, pictures, and, logically, problems, has been the source of such enthusiasm that it may seem that the decision-making process is about to be changed forever. By recent estimation, the generative AI is likely to be a tool that could help a firm to save time and think out of the box (Brynjolfsson & McAfee, 2017) [7]. The fact that, despite its merits, the application of generative AI in strategic decision-making is the new kid on the block, with many of the businesses either have no understanding or had not discovered the potential it has.

Also, there are studies that show AI is important in decision-making, and the major helpful elements are data-driven ideas that can specifically demonstrate the best ways for a firm to control the process, increase performance, and predict future directions (Chui et al., 2018; McKinsey, 2021) [9] [15]. Generative AI implementation is a complex process, but the main performance factors of a company, such as the need for technical expertise, implementation cost, and staff opposition are all highlighted in the research (Davenport & Ronanki, 2018) [11]. They reported that for example, research from the Harvard Business Review (2019) found out that 47% of companies who took the survey had implemented AI, but another group still saw drawbacks such as the technology being too complicated and its hesitancy in the new workplace [12] [13].

Furthermore, the problem of machine bias, and the contributory role of the human learning is a reality that demands attention in various scientific domains. Problems such as AI which is affected by the operator's biases the lack of transparency among human actions and the situations could be evaded and the people employed are going to be stopped were debated in numerous works (O'Neil, 2016; Binns, 2018) [17] [4]. For instance, by now, the use of AI in the recruitment process has evoked great criticism for bias, for instance, AI models trained on biased historical data could lead to the maintenance of discriminatory practices (Angwin et al., 2016) [2]. Along those same lines, companies are not the only ones at risk of data breach as they increasingly trust AI in handling the information and processing the results because this creates more privacy concerns (Zengler, 2020) [21].

In fact, though there is an increasing number of articles that influence us and talk about the role AI plays in decision-making, the studies that present the data specifically discussing the impact of creative programming in the field of strategic decision-making are still scarce. Certain research work has been conducted on AI applications in operational (Agrawal, et al., 2018) [1], but there are only a few that have examined the use of generative AI tools such as ChatGPT and DALL·E in long-term strategic decision making. Additionally, the moral matters at stake when utilizing these high-end AI models in strategic contexts have remained largely non-examined.

This paper's purpose is to point out to these research gaps by dealing with the issues, for example, the research is exploring the impact of creative AI tools on strategic decision-making, it is identifying the main obstacles related to organizational adoption of this technology, and, it is looking at the ethical problems associated with the usage of the tools. Through citation of the most recent studies, the author of this article will in the end give us inspiration for a better understanding of the prospects, walls, and issues confronting the utilization of generative AI in strategic management.

Objectives of the Study:

1. To Explore the Impact of Generative AI on Strategic Decision-Making
2. To Identify the Challenges Organizations Face in Adopting Generative AI for Decision-Making
3. To Examine the Ethical Implications of Generative AI in Business Decision-Making

METHODOLOGY:

This study examined the integration of generative AI in strategic decision-making, focusing on opportunities, challenges, and ethical concerns. A mixed-methods research design combined quantitative and qualitative approaches. Quantitative analysis assessed businesses' perceptions and adoption levels of generative AI, while qualitative analysis explored challenges, ethical issues, and practical experiences.

Data collection included primary and secondary sources. A structured questionnaire with closed-ended and open-ended questions was distributed to managers, decision-makers, and AI practitioners across industries, covering AI usage, benefits, challenges, and ethical concerns. Secondary data included literature reviews, reports, and case studies from organizations using generative AI. Purposive sampling selected 100 respondents from technology, healthcare, finance, and retail sectors, along with 10-15 interviews with senior managers and AI experts for deeper insights.

Quantitative data was analyzed using descriptive and inferential statistics, such as chi-square tests and multiple regression analysis to identify trends and relationships. Qualitative data was thematically analyzed to uncover patterns in AI adoption, challenges, and ethical concerns. Validity and reliability were ensured through pre-testing, triangulation, and expert review. Ethical considerations included informed consent, confidentiality, and compliance with research standards.

Limitations included potential sampling bias due to the focus on organizations familiar with generative AI, self-reporting bias in responses, and limited generalizability to all industries or regions. Despite these challenges, the methodology provided a comprehensive understanding of generative AI's role in strategic decision-making while addressing ethical and practical concerns.

Analysis and Interpretation:

Multiple regression analysis helps examine the relationship between a dependent variable (e.g., decision-making outcomes) and several independent variables (e.g., AI adoption, company size, industry type). This allows us to predict the impact of multiple factors on decision-making processes.

The dependent variable: Decision-making Outcome (measured on a scale of 1-5, where 5 indicates very effective decision-making) Independent variables: AI Adoption Rate (measured on a scale from 1 to 5), Company Size (1 = small, 2 = medium, 3 = large), Industry Type (1 = technology, 2 = healthcare, 3 = finance, 4 = retail).

To analyze the relationship between AI adoption, company size, and decision-making outcomes, multiple regression analysis was performed. The results are presented in Table 1, which shows that AI adoption significantly influences decision-making effectiveness ($p < 0.01$).

Table 1: Regression Analysis of AI Adoption and Decision-Making Effectiveness

Independent Variable	Coefficient	Standard Error	t-Statistic	p-Value
AI Adoption Rate	0.38	0.10	3.80	<0.01
Company Size (Scale 1-3)	0.21	0.08	2.63	0.01
Industry Type (Tech=1)	0.25	0.07	3.57	<0.01
Industry Type (Healthcare=2)	0.18	0.06	3.00	0.02
Industry Type (Finance=3)	0.12	0.05	2.40	0.04
Constant (Intercept)	1.25	0.15	8.33	<0.01

Source: Primary Data

The Multiple Regression Analysis table presented here investigates the influence of multiple independent variables: AI adoption rate, company size, and industry type on organizational decision-making results. Below is an explanation of the table by referring to some earlier research work that support the findings.

AI Adoption Rate (Coefficient = 0.38, p-value < 0.01): This is positively and significantly associated with decision-making outcomes with a coefficient of 0.38 and p-value less than 0.01. Thus, for each unit increase in AI adoption, the effectiveness of decision-making will increase by 0.38 points on a scale of 1 to 5.

This conclusion is in agreement with Brynjolfsson & McAfee (2017), who have established that organizations embracing AI improve their decision-making precision, speed, and results [7]. Moreover, Chui et al. (2018) claim that AI implementation enhances business intelligence and decision support systems, hence enhancing organizational decision-making in general [9].

Company Size (Coefficient = 0.21, p-value = 0.01): The company size variable also reveals a significant effect on the decision-making outcome. The coefficient for this variable is 0.21 and the p-value is 0.01. This means that the larger companies use AI more effectively and their decision-making processes benefit from AI adoption more than smaller companies.

This is supported by Davenport & Ronanki (2018), who found that larger organizations often have the resources, infrastructure, and scale to implement AI effectively. Larger companies can also benefit from economies of scale when integrating AI technologies into their decision-making processes [11]. Conversely, smaller firms often face resource constraints that can hinder effective AI adoption (Huang & Rust, 2021) [23].

Industry Type: Technology Industry Coefficient = 0.25, p-value < 0.01 Technology industry has a significant and positive effect on the decision-making process. It indicates that the effectiveness of decision making from AI adoption is higher for companies in the technology sector compared to other industries.

According to Brynjolfsson & McAfee (2014), the technology industry is one of the key industries adopting AI technologies and is popular for its innovation in decision-making. Organizations operating in this sector use AI in tasks such as predictive analytics, operational efficiency, and real-time decision-making for better business results [7].

Healthcare Industry (Coefficient = 0.18, p-value = 0.02): Other than this, the healthcare sector also experiences a great impact of AI adoption in decision-making with a coefficient of 0.18 and a p-value of 0.02. Though the impact is relatively less than the technology industry.

As argued by Davenport & Kalakota (2019), the application of AI in healthcare has far-reaching effects, but these effects are largely restrained by regulatory and ethical concerns. However, evidence shows that AI enhances clinical decision support, patient outcomes, and operational efficiency within healthcare institutions [10].

Finance Industry (Coefficient = 0.12, p-value = 0.04): This industry is somewhat smaller in magnitude but is also statistically significant to influence decision making with a coefficient of 0.12 and a p-value of 0.04.

According to Brynjolfsson et al. (2020), research reveals that the AI adoption trend is becoming widespread in the financial industry, mainly for risk management, fraud detection, and personalization of financial services. Even though the AI influence on the decision-making in the financial sector is not as pronounced as it is in the technology sector, this is one area where the industry is expected to grow and improve its decision-making outcome [24].

Constant (Intercept) (Coefficient = 1.25, p-value < 0.01): The constant or intercept value is 1.25, which is the base level of decision-making effectiveness if all independent variables are set to zero. That is, without AI adoption, company size, or industry type, decision-making effectiveness begins at a value of 1.25 on a scale of 1 to 5, which is still above the lowest rating.

This is consistent with the idea that even in the absence of advanced AI or big-scale operations, organizations will continue to make decisions based on conventional methods and frameworks, though AI adoption enhances these results over time (Brynjolfsson & McAfee, 2017) [7].

AI adoption rate is the most likely to lead to better decisions. It can be concluded that AI really makes decision-making easy (Brynjolfsson & McAfee, 2017) [7]. Company size is the most significant factor that determines the effectiveness of AI in the improvement of decision-making, while larger organizations usually

obtain more benefit from AI adoption, and this agrees with the findings of previous studies that the higher capitalization of the firms is the deciding factor when to leverage AI tools for business (Davenport & Ronanki, 2018) [11]. The sector that experienced the most pronounced performance improvement in terms of decision-making is the technology sector, whereas other sectors such as healthcare and finance also passed through a similar process, which proves the correctness of a hypothesis that says AI adoption as the most transformative one in technology-driven industries (Brynjolfsson & McAfee, 2017) [7], but the trend is also clear in fields like healthcare and finance (Davenport & Kalakota, (2019) [10].

The researcher group the questions from the survey into factors like Operational Benefits, Innovation Benefits, Ethical Concerns, and Adoption Barriers. Factor analysis identifies the underlying structure of responses and reduces dimensionality.

Factor analysis was conducted to group related survey questions into key dimensions. As seen in Table 2, AI adoption enhances operational efficiency and innovation while raising ethical concerns and implementation barriers.

Table 2: Factor Loadings for AI Benefits and Challenges

Factor	Item(s) in Factor	Factor Loading
Operational Benefits	Increased operational efficiency	0.85
	Cost reduction	0.80
Innovation Benefits	Enhanced innovation in strategy	0.90
	New product development	0.88
Ethical Concerns	Data privacy concerns	0.75
	AI bias	0.79
Adoption Barriers	Lack of skilled workforce	0.80
	High implementation cost	0.83

Source: Primary Data

The factor analysis reduced the complexity of the survey responses by identifying four key dimensions related to the perceived benefits and challenges of AI adoption. The first factor, Operational Benefits, reveals that AI adoption is strongly associated with increased efficiency and cost reduction. With high factor loadings of 0.85 and 0.80, these findings suggest that AI is perceived to streamline workflows and automate routine tasks, leading to substantial operational improvements. This is in agreement with earlier research, like Smith et al. (2020) [25].

The second factor is Innovation Benefits and shows that AI enables strategic innovation and new product development with the factor loadings of 0.90 and 0.88. That means AI would be perceived to be an enabling factor in seeking new market opportunities and encouraging more creativity in firms. Research prior to this supports this view through the work by Johnson and Lee (2021), where they argue that AI can help evolve the old forms of business as it offers innovations [14].

The third factor, Ethical Concerns, indicates high concerns on data privacy and AI bias, with factor loadings of 0.75 and 0.79. Such concerns highlight the importance of developing ethical frameworks and regulatory measures that can effectively mitigate these issues. Studies such as Wang et al. (2020) and Miller (2021) have thoroughly documented similar issues, which again emphasize the importance of protecting user trust in AI systems [20] [16].

The fourth factor, Adoption Barriers, indicates two major issues: a lack of skilled labor and high implementation costs, which are reflected in factor loadings of 0.80 and 0.83, respectively. These are consistent with findings from earlier studies, such as Patel and Kumar (2019), which indicated that the initial investment and the skills gap prevent organizations from utilizing AI technologies fully [18].

In summary, the factor analysis provides useful insights into the perceived benefits and challenges of AI adoption. Organizations can, therefore, identify key dimensions for better prioritization of interventions such

as addressing ethical concerns, investing in workforce development, and leveraging AI to drive innovation and efficiency.

Path analysis is an advanced form of regression analysis that involves the examination of direct and indirect relationships between variables. This method is more useful in studying causal relationships and how factors interact with one another. Path Analysis Model for AI Adoption and Decision-Making Effectiveness.

Path analysis was used to explore the direct and indirect effects of AI adoption on decision-making efficiency. Table 3 illustrates that AI adoption positively impacts decision-making by improving operational efficiency

Model Setup:

AI Adoption influences both Operational Efficiency and Decision-Making Outcome.

Company Size influences both AI Adoption and Decision-Making Outcome.

Industry Type will influence the interaction between AI Adoption and Decision-Making Outcome.

Table 3: Path Coefficients for AI Adoption and Decision-Making Efficiency

Path	Coefficient	Standard Error	t-Statistic	p-Value
AI Adoption → Operational Efficiency	0.45	0.09	5.00	<0.01
Operational Efficiency → Decision-Making Outcome	0.30	0.07	4.29	<0.01
AI Adoption → Decision-Making Outcome	0.38	0.08	4.75	<0.01
Company Size → AI Adoption	0.22	0.06	3.67	<0.01
Company Size → Decision-Making Outcome	0.19	0.05	3.80	<0.01
Industry Type (Tech=1) → Decision-Making Outcome	0.25	0.07	3.57	<0.01

Source: Primary Data

The path analysis of the direct and indirect relationships regarding AI adoption operational efficiency, and decision-making outcomes vis-à-vis company size, and industry types is provided below to give an accurate view. Further, the paper discusses the causality and possible pathways for interacting variables as deduced by a statistical model on the given theme.

The analysis reveals that AI adoption directly influences operational efficiency, with a path coefficient of 0.45 ($p < 0.01$). This finding aligns with studies such as Smith et al. (2020) and Brown (2019), which emphasize AI's role in enhancing productivity by automating routine tasks and optimizing processes [19] [5]. Moreover, operational efficiency positively impacts decision-making outcomes (coefficient: 0.30, $p < 0.01$), confirming the findings of Johnson and Lee (2021) that improved efficiency enables better, more informed decision-making [14].

Interestingly, AI adoption has a direct positive effect on decision-making outcomes (coefficient: 0.38, $p < 0.01$), suggesting that organizations leveraging AI can make higher-quality decisions. This corroborates Miller (2021), who found that AI-powered analytics enhance decision accuracy and strategic planning [16].

Company size indirectly affects the outcomes of decisions made through AI adoption because large organizations are more likely to adopt AI (coefficient: 0.22, $p < 0.01$), thereby enhancing the outcome of decisions (coefficient: 0.19, $p < 0.01$). This relationship resonates with the findings of Patel and Kumar (2019), who suggested that resource-rich organizations are better placed to implement advanced technologies and reap their benefits [18].

Lastly, industry type, especially the technology sector, has a significant impact on decision-making outcomes (coefficient: 0.25, $p < 0.01$), meaning that tech-oriented industries are more effective in incorporating AI into their decision-making processes. Wang et al. (2020) pointed out similar results, which state that the innovation-driven environment of the technology industry fosters effective AI adoption and utilization [20].

In summary, the path analysis underscores the multifaceted relationships between AI adoption, organizational factors, and decision-making effectiveness. It underlines the critical role of AI in driving efficiency and decision quality, the influence of organizational size, and the varying impacts of industry-specific contexts. These findings provide actionable insights for organizations aiming to optimize their decision-making processes through AI.

MANOVA can be used to examine the differences in decision-making outcomes across multiple independent variables simultaneously (e.g., AI adoption rate, company size, industry type). It helps in understanding how combinations of variables affect multiple dependent variables.

To determine how AI adoption, company size, and industry type collectively impact decision-making and operational efficiency, MANOVA was performed. Table 4 presents the Wilks' Lambda values, demonstrating significant relationships between these variables.

MANOVA-Artificial Intelligence adoption, company size, and Industry type

Table 4: Multivariate Analysis of Variance (MANOVA) Results

Dependent Variable	Wilks' Lambda	F-Statistic	p-Value
Decision-Making Outcome	0.85	3.57	0.02
Operational Efficiency	0.78	4.12	0.01

Source: Primary Data

Multivariate Analysis of Variance shows the existence of significant relationships between the interaction of AI adoption, company size, and industry type on two dependent variables: results from decisions and operational efficiency. The Wilks' Lambda values 0.85 for decision-making results and 0.78 for operational efficiency, in conjunction with the p-values being less than 0.05, hence having the F-statistic values as 3.57 and 4.12, respectively, prove that these independent variables are collectively significant for both dependent variables.

This finding is consistent with earlier research that focuses on the transformative impact of AI adoption on enhancing decision quality and operational efficiency. For instance, Smith et al. (2020) and Johnson and Lee (2021) illustrated that AI adoption improves organizational agility and strategic decision-making by offering real-time analytics and predictive insights. These studies further highlighted that large organizations, by virtue of having more resources, are better suited to adopt AI, which the current results depict in the combined effect of company size [19] [14].

Furthermore, the industry type effect demonstrated in this study is in line with the studies by Wang et al. (2020) and Miller (2021), which suggested that technology-intensive industries are probably better positioned for AI integration and, therefore, would have better operational efficiency and better decision-making performance than other types of industries. The present study takes this a step further by illustrating the accumulation of the effects of several independent factors when introduced together, something not extensively covered in previous studies [20] [16].

The MANOVA findings underscore the multiple factors, in this case AI adoption rate, organizational size, and industry type, that might need to be taken into account together when trying to understand their interaction influence on those organizational outcomes considered to be crucial. These results validate previous work but give a clearer picture of the interactions between variables to shape both decision-making effectiveness and operational performance. This is important to an organization trying to optimize strategic decisions and efficiency with AI in customized implementation strategies.

CONCLUSION:

This research depicts the extent to which generative AI can fundamentally alter the character of strategic decision-making for any industry. In oneway, generative AI empowers the organizations in facilitating creativity, efficiency, and even strategy driving thus making them an essential source in the modern days. At

the same time, it encounters issues like technical issues, ethical issues, and employees' readiness for the application of generative AI.

Such changes demand ethical frameworks in protecting privacy, mitigating bias, and other concerns related to ethical issues of generative AI. In addition, businesses must redesign their employees and develop robust infrastructure to exploit AI technologies. Governments and industry professionals should collaborate with each other to formulate policies which will bring balance between the advance of technologies and their responsible utilization.

The field of strategic decision making and the use of generative AI is rather dynamic hence the need for further studies and collaboration across sectors of the economy. This research serves as a starting point for further development, aiming to narrow the gap between the promise offered by the technology and its deployment. Organizations that deal with these problems will be well positioned to leverage the opportunities provided by generative AI and lead in the global markets as the world continues to shift to one where AI is predominant.

REFERENCES:

[1] A. Agrawal, J. S. Gans, and A. Goldfarb, Prediction Machines: The Simple Economics of Artificial Intelligence. Harvard Business Press, (2018).
[2] J. Angwin, J. Larson, S. Mattu, and L. Kirchner, "Machine Bias," ProPublica, (2016).
[3] R. Bhardwaj, A. Singh, and S. Kumar, "Applications of generative AI in business decision-making: A systematic review," J. Bus. Anal., vol. 12, no. 3, pp. 245–260, (2022).
[4] R. Binns, "Fairness in Machine Learning: Lessons from Political Philosophy," in Proc. 2018 CHI Conf. Hum. Factors Comput. Syst., (2018).
[5] T. Brown, "The role of artificial intelligence in enhancing operational efficiency," J. Bus. Anal., vol. 12, no. 3, pp. 45–60, (2019).
[6] T. Brown et al., "Language models are few-shot learners," in Adv. Neural Inf. Process. Syst., vol. 33, pp. 1877–1901, (2020).
[7] E. Brynjolfsson and A. McAfee, The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W. W. Norton & Company, (2017).
[8] E. Brynjolfsson and A. McAfee, Machine, Platform, Crowd: Harnessing Our Digital Future. W. W. Norton & Company, (2017).
[9] M. Chui, J. Manyika, and M. Miremadi, "The Potential for Artificial Intelligence in Improving Decision-Making," McKinsey Global Inst., (2018).
[10] T. H. Davenport and R. Kalakota, "The potential for AI in healthcare: Applications and challenges," J. Healthc. Manag., vol. 64, no. 3, pp. 125–133, (2019).
[11] T. H. Davenport and R. Ronanki, "Artificial Intelligence for the Real World," Harv. Bus. Rev., (2018).
[12] "AI Has Won Nobel Prizes in Hard Science: Can Humans Be Smarter Than AI?," Harv. Data Sci. Rev., (2023).
[13] Harvard Business Review, "How AI Can Improve Your Decision Making," (2019).
[14] P. Johnson and R. Lee, "Strategic innovation and decision-making with AI technologies," Int. J. Innov. Manag., vol. 25, no. 4, pp. 67–82, (2021).
[15] McKinsey Global Institute, "The State of AI in 2021," (2021).
[16] A. Miller, "AI-powered analytics: Enhancing accuracy and strategic decision-making," Decis. Sci. J., vol. 45, no. 6, pp. 23–40, (2021).
[17] C. O'Neil, Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy. Crown Publishing Group, (2016).
[18] S. Patel and V. Kumar, "Barriers to AI adoption in organizations: A resource-based perspective," Technol. Soc. Rev., vol. 18, no. 2, pp. 112–129, (2019).
[19] J. Smith, T. Brown, and L. Zhang, "Artificial intelligence in business: A systematic review of operational impacts," J. Technol. Manag., vol. 34, no. 5, pp. 45–61, (2020).
[20] X. Wang, Q. Li, and M. Johnson, "Ethical considerations and challenges in AI adoption," AI Soc., vol. 14, no. 3, pp. 89–104, (2020).
[21] T. Zengler, "AI and Data Privacy: Navigating the Ethical Dilemma," J. Bus. Ethics, vol. 167, no. 4, pp. 681–692, (2020).
[22] L. Floridi and J. Cowls, "A unified framework of five principles for AI in society," Harv. Data Sci. Rev., vol. 1, no. 1, (2020).
[23] M.-H. Huang and R. T. Rust, "A strategic framework for artificial intelligence in marketing," J. Acad. Mark. Sci., vol. 49, no. 1, pp. 30–50, (2021).
[24] E. Brynjolfsson, D. Rock, and C. Syverson, "Artificial Intelligence and the Modern Productivity Paradox," in The Economics of Artificial Intelligence: An Agenda, A. Agrawal, J. Gans, and A. Goldfarb, Eds. University of Chicago Press, (2019).

[25] M. J. Smith, R. E. G. Upshur, and E. J. Emanuel, "Four equity considerations for the use of artificial intelligence in public health," Bull. World Health Organ., vol. 98, no. 4, pp. 290–290A, (2020).
[26] Gupta, Jyoti, Bhutani, Monica, Kumar, Pramod, Kumar, Mahesh, Malhotra, Nisha, Malik, Payal & Kaul, Kajal (2025). A comprehensive review of recent advances and future prospects of generative AI. Journal of Information and Optimization Sciences, 46(1), 205–211. DOI: 10.47974/JIOS-1864.