“IMPACTS OF ARTIFICIAL INTELLIGENCE SYSTEMS ON FORMULATING CORPORATE VISION AND STRATEGY”

Research Paper

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”Abstract”

It is widely and reliably assumed that artificial intelligence (AI) systems can plan and analyze, extract reports and statistics, develop systems and processes, and support decision-making. However, studies and research need to consider all the essential aspects of corporate leadership adequately and specifically. In particular, the question remains open about the ability of AI systems to formulate the corporate vision and strategy independently. And what is the impact of using AI systems on formulation processes? Together, search results indicate significant potential for using AI systems in many formulation processes and clarify the positive impact of these systems, in addition to some negative effects and limitations that can be converted into future opportunities for entrepreneurs, developers, and potential customers.

Keywords: Corporate Vision and Strategy Formulation, Artificial Intelligence Systems, Impact on Strategy, Strategy Innovation.

1 Introduction

Artificial intelligence (AI) systems and applications are increasingly widespread among many corporates that want to improve and develop monitoring, implementation, analytics, product customization, marketing, sales, customer service, human resources, and others, by implementing automated algorithms and robots that can continuously learn and make improvements to create experiences, customer satisfaction, continuous and effective development of automation and communications (Abousaber and Abdalla, 2023), (Iwuanyanwu, 2021). However, AI systems still lack an in-depth, interconnected, and comprehensive understanding of how they can shape corporate vision and strategy and create business value. This article discussed: (1) To what extent can the corporate vision and strategy be formulated through AI systems? (2) What are the limitations and challenges facing AI systems to be able to do this? (3) What is the positive and negative impact of relying on AI systems in formulating the corporate vision and strategy on the corporate, employees, and society on the one hand and on corporates interested in developing AI systems on the other hand? The article concluded by identifying areas where there was a significant lack of knowledge and needed to be addressed in future studies.

2 Methods

2.1 Review approach

Qualitative methodology was followed to answer the research questions based on the literature that discusses the concept of the corporate vision and the main processes that are followed to formulate the

corporate vision and strategy to determine the possibility of relying on AI systems to carry out these processes. Much literature was reviewed, although no research answers this question directly and clearly. The most critical challenges and changes AI systems will face were also analyzed and predicted to formulate the corporate vision and strategy. The positive and negative effects on the formulation processes of corporate vision and strategy and the surrounding ecosystem, as well as on AI systems and the quality of their outputs, corporates that want to work on developing AI systems or developing web services and application programming interfaces (APIs) that connect existing AI systems, were also studied.

3 Review Process

Appropriate studies and analyses of the literature and strategic plan models were reviewed, which went through three stages, as shown in *Figure 1*. In the first stage, conceptualizing factors related to implementing responsibilities and formulating the corporate vision and strategy were collected.

In the second stage, a projection was carried out to collect the factors on the components of formulating the corporate vision and strategy, which helped determine the details of the entity responsible for AI systems to implement each formulation element in a specific way.

As for the third stage, the most important determinants and challenges that faced the research were discussed, as well as those that AI systems faced when relying on them in formulating the corporate vision and strategy.

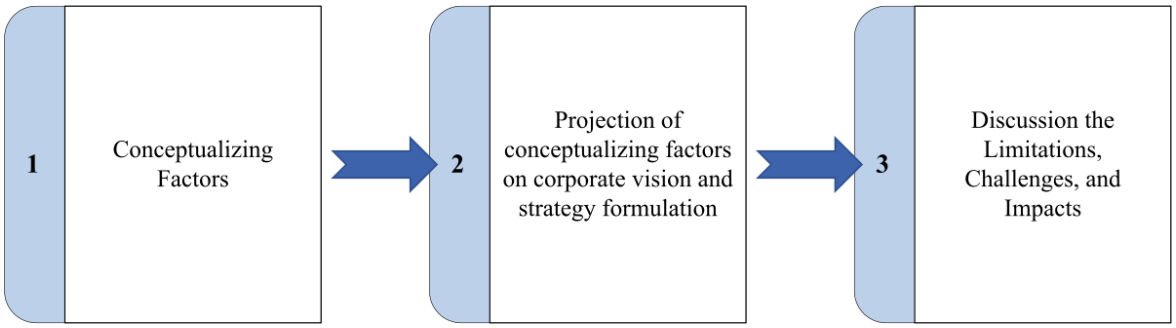

Figure 1. Research article methodology phases.

4 Literature Review

Many corporates define AI in multiple ways and from different angles. However, it can be summarized that AI is an applied discipline that aims to enable systems to identify, interpret, make inferences, and learn from data to achieve predetermined organizational and societal goals (Alsheibani, Messom and Cheung, 2020), (Enholm *et al.*, 2022).

Decades ago, a corporate vision was seen as the mental picture of the desired future environment an individual or organization aims to create and the fundamental conditions for achieving it. It essentially portrays what an organization hopes to become, guiding the direction setting and strategy development process. Having a vision requires deep involvement, commitment, and unwavering dedication (El-Namaki, 1992). However, with the advent of AI, particularly in machine learning, attention has shifted to its potential in solving business challenges. Despite this potential, practical implementation and the strategic utilization of AI to generate business value still pose significant challenges, highlighting the need for further expertise in this area (Kitsios and Kamariotou, 2021).

Vision and mission are distinct concepts, reflecting different existential time frames. Vision projects the corporate into an idealistic future, portraying it as mature and prosperous. While not a dream or

fantasy, it embodies what the corporate could become, rooted in the present dynamics. A well-conceived vision is typically driven by visionary founders, comprising a core ideology and an envisioned future. The core ideology represents what the corporate stands for and why it exists, while the envisioned future outlines aspirations and goals requiring significant change. Pursuing the vision entails aligning the organization and strategy to uphold the core ideology while progressing toward the envisioned future (Brătianu and Bălănescu, 2008), (Collins and Porras, 1994).

Any organizational strategy must define where the corporate wants to be in the future and evaluate objectively where it is now to decide how to get there, considering the options, alternatives, available resources, and the needed changes (Peppard and Ward, 2016). A good strategy is a coherent set of analyses, concepts, policies, arguments, and actions that give responses to a high-risk challenge. The strategy based on the costs has been considered among the generic forms of strategic positioning (Fisher, 1997), (Oliveira *et al.*, 2016), (Fuertes *et al.*, 2020).

5 Synthesis of Factors

5.1 AI's directions

Before starting the study and analysis, opinions were taken on some AI platforms, and the answers to each platform were mentioned separately without adding any comments. The comment will be done at the end of the article:

Q1: Can AI be relied upon to formulate a corporate vision for the corporate in a way that achieves customer ambition and satisfaction and creates value that benefits customers, shareholders, and the market?

Q2: What are the most important determinants that hinder AI from formulating a professional, successful, and applicable vision and strategy?

The platforms' statements were detailed and varied, beyond the scope of this article, but we can summarize the answers as follows:

Q1 Answers: While AI systems can help shape a company's vision by analyzing data, providing insights, and enhancing decision-making, they cannot replace the human elements of creativity, intuition, and emotional intelligence required to inspire, motivate, and align with core values and ethical considerations. Therefore, AI should be viewed as a complementary tool rather than a sole actor in shaping a company's vision that satisfies customers and creates value.

Q2 Answers: The most important factors that hinder AI systems from shaping a professional, successful, and viable vision and strategy include their limited understanding of human emotions, ethical considerations, creativity, and the ability to adapt to unexpected circumstances and the context of business operations. AI systems also face challenges related to data quality, dealing with ambiguity, and fully understanding the cultural and social nuances necessary for strategic alignment.

Platform	Q1	Q2
Gemini	AI can inform the vision but lacks the human capacity to fully formulate it.	Limited understanding of values, context, and disruption.
ChatGPT 4o	AI aids in vision formulation but cannot fully replace human decision-making.	Lacks human intuition, creativity, and adaptability, with data quality and ethics issues.
ClickUp	AI can assist but lacks the holistic and visionary approach needed for a complete corporate vision.	Struggles with human behavior, ethical considerations, creativity, and adaptability.
Copilot	AI is pivotal but requires experimentation and a focus on transformation.	Barriers include trust, security, technical competencies, and organizational readiness.

Platform	Q1	Q2
Notion	AI can support vision formulation but cannot replace human understanding and intuition.	Hindered by data quality, complexity, ethical issues, and lack of creativity.

Table 1. Responses from popular AI platforms to the research questions.

5.2 Conceptualizing factors

Many literature sources spoke about the relationship between AI systems and forecasting or planning processes in general and not integrated in their entirety (Kaplan and Haenlein, 2019) and (Enholm *et al.*, 2022), and the literature spoke without explicitly specifying the details that AI systems or humans can do comprehensively complete or partial. This literature was also conducted for the stage after the start-up of the corporate, activation of the business model, follow-up operation, internal development, and marketing operations. But the scope of this article is before this stage.

The responsibility for formulating the corporate vision and strategy when talking about areas of work with AI systems, as shown in *Figure 2*, can be reformulated into four factors:

- Type (1): Independent Human Factors. These are the factors that can only be performed by humans, and AI systems cannot interfere in one way or another in their implementation. For example, matters related to feelings, emotions, and personal desires. (Hodgins, 2022), (Brendel *et al.*, 2021).
- Type (2): AI Systems Factors dependent on Human Factors. These factors can be attributed to AI systems and techniques after taking human directions and directives, meaning the process path begins with a human factor. Then, the process is completed through AI systems and techniques, for example, applications that draw a picture or create a video after taking the required specifications from the application user (Borges *et al.*, 2021), (Hodgins, 2022), (Eriksson, Bigi and Bonera, 2020), (Kaplan and Haenlein, 2019), (Wagner, 2020).
- Type (3): Independent AI Systems Factors. From now on, These factors can be assigned entirely to AI systems and rely on their results and outputs with high reliability. For example, making analyses, mathematical and statistical operations, and operations based on previous and repeated learning in AI systems (Eriksson, Bigi and Bonera, 2020), (Zahariades, 2018)
- Type (4): Human Factors dependent on AI Systems Factors. These are the factors that humans carry out after taking inputs, processes, or results from AI systems, for example, the decisions made by the executive director based on reports, analyses, results, or outputs from AI systems and techniques (Abousaber and Abdalla, 2023), (Iwuanyanwu, 2021), (Saha *et al.*, 2023), (Busch, May and Busch, 2024).

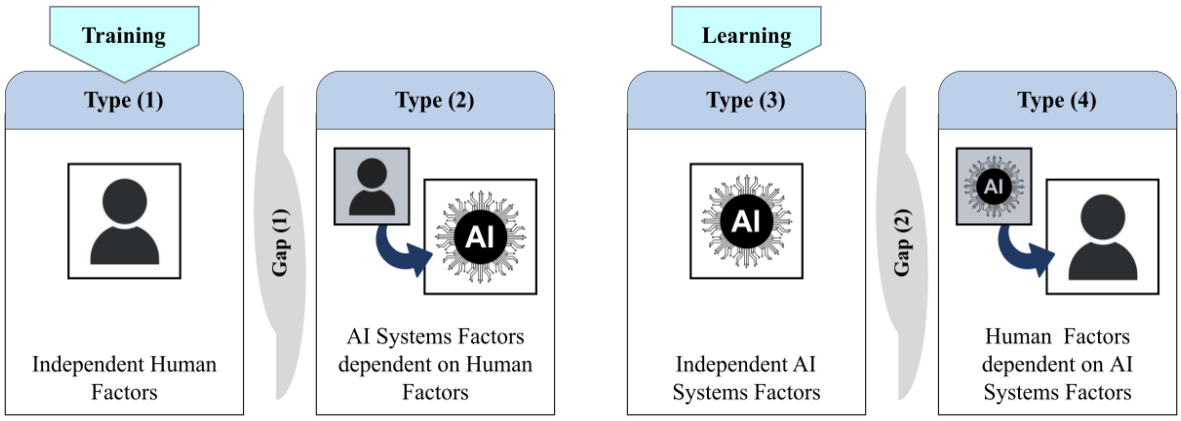

Figure 2. Responsibilities and dependencies for AI Factors and Human Factors.

6 Projecting Factors into Corporate Vision and Strategy

Firstly, and returning to section (***AI's Directions***), a kind of pessimism in the answers noticed of AI systems is the inability of AI systems to formulate the corporate vision and strategy. This statement may be due to the lack of depth in the manner discussed in this paragraph. Projecting Conceptualizing Factors on the main steps of formulating the corporate vision and strategy and its sub-steps and making a careful and objective analysis of this projection will enable us to answer the research questions, in addition to the possibility of studying the impact of AI systems on formulating the corporate vision and strategy. *Table 1* is conceptualizing factors in the corporate vision and strategy formulation stages:

#	Formulation phase	Phase / Tools / Techniques	Conceptualize factor
1	Market Definition	Market Share & Volume Analysis	Type (3)
2		Industry Value Chain Analysis	Type (3)
3		Industry Value Chain Analysis	Type (3)
4	Macro Environment Analysis	Porter's 5 Forces Analysis	Type (3)
5		PESTEL Analysis	Type (3)
6		Partners Analysis	Type (3)
7	Microenvironment Analysis	Corporate Value Analysis	Type (2)
8		Business Model Analysis	Type (2)
9		McKinsey 7S Analysis	Type (2)
10		Beneficiary Satisfaction	Type (1)
11		SWOT Analysis	Type (2)
12	Market Position Analysis	Benchmarking Analysis	Type (2)
13		VRIO Analysis	Type (2)
14	Strategy Synthesis	Corporate type selection	Type (4)
15		Growth strategies	Type (4)
16		Shares and profits distribution	Type (1)
17		Financial and non-financial rewards	Type (4)
18	Strategy Setting	Vision formulation	Type (1)
19		Mission formulation	Type (1)
20		Position and target market	Type (4)
21		Strategy Goals setting	Type (2)
22		Indicators setting	Type (4)
23		Determine the targets	Type (4)

#	Formulation phase	Phase / Tools / Techniques	Conceptualize factor
24	Corporate Identity	Corporate Theme and Logo	Type (4)
25		Corporate values and beliefs	Type (2)
26		Corporate capabilities	Type (2)
27		Corporate Slogan	Type (2)
28	Strategic Actions	Main scenario formulation	Type (4)
29		Optimistic scenario formulation	Type (3)
30		Pessimistic scenario formulation	Type (4)
31		GRC (Risk/Governance/Compliance)	Type (2)
32		Critical success factors	Type (4)
33		Draw the strategy tree	Type (4)
34		Organizational structure	Type (4)

Table 2. Projection of conceptualizing factors on corporate vision and strategy formulation

Looking at Figure 2, and contrary to what the previously mentioned answers of AI systems expected, the preliminary analysis in Figure 3 shows that AI systems can participate in the process of formulating the corporate's vision and strategy to a greater extent (53%) than directly (21%) Or indirectly (32%) after taking human input. AI systems can also support human decision-making by providing studies, analyses, services, and various outputs (35%). The remaining percentage (12%) represents the tasks that AI systems cannot perform related to human emotions, personal desires, and thoughts. It must be considered that these percentages are approximate due to the possibility of the existence of other custom processes that are not mentioned and followed by some corporates or some processes that do not apply to some companies. But it can be said that with the cooperation between the human factor and artificial intelligence systems, artificial intelligence systems can influence an approximate rate ranging between 80-90%, and what remains is a human factor that cannot be dispensed with in the drafting work.

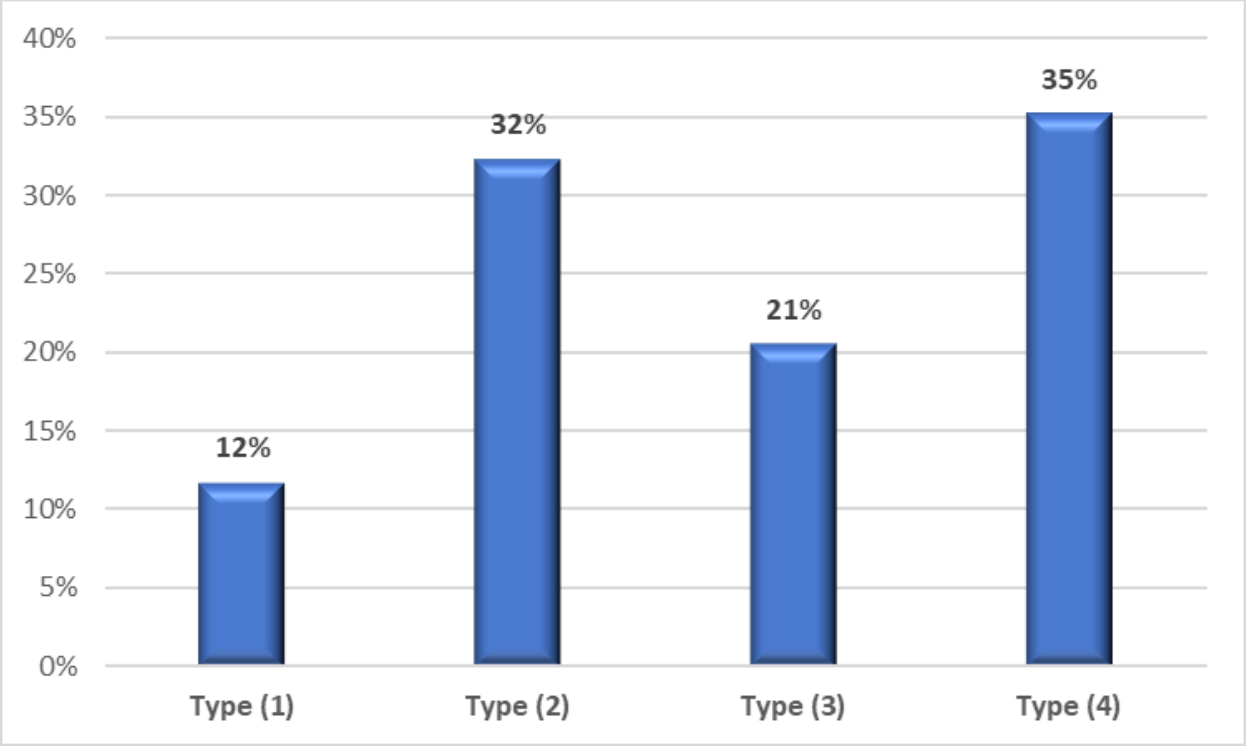

Figure 3. Visualization of conceptualizing factors on vision and strategy formulation

7 Discussions

7.1 Limitations and challenges

Great attention must be paid to the importance of the training process for AI systems at various levels (Baduge *et al.*, 2022) because of its significant impact on the accuracy of the outputs of AI systems. It is also necessary to emphasize another challenge that seems very important, which is the impact of the geographical difference of the corporate that wants to formulate a vision and strategy due to the difference in markets between countries and between cities in one country, as well as between neighbourhoods of the same city or town area. Although the previous paragraph stated that AI systems can participate in more than 90% of the process of formulating the corporate vision and strategy, this percentage depends on many factors, the most important of which are:

- Integration between specialized AI systems in each branch of vision and strategy formulation and between various current systems, providing technical compatibility and building web services or APIs correctly between multiple systems and databases.
- The cost of implementing AI systems represents a significant upfront investment in technology infrastructure, software development, and employee training, which can be challenging for small businesses or those with limited resources until these systems are widespread and proven effective. These systems are supposed to reduce corporate costs and may serve the role of many consulting corporates in this field.
- AI systems rely heavily on the quality and availability of data, which can impact their effectiveness. Access to relevant, high-quality data for strategic planning purposes is one of the biggest challenges.
- Results are unfair or discriminatory due to poor or inadequate training or other factors that may perpetuate or exacerbate existing biases in the training data.
- If the AI systems formulate a vision and strategy for the corporate, and if the corporate begins implementing this strategy to achieve this vision, the feedback aspect remains, in which the corporate must participate to verify the success of the formulation.
- Regulatory and legal compliance concerns regarding data privacy, intellectual property rights, and antitrust regulations
- What if two different corporates requested the formulation of a vision and strategy from a system that uses AI systems under similar circumstances? Would the same vision and strategy be proposed for both corporates? Does the strategy work well in both corporates, two competing corporates, or two replicating corporates? Programmers' great responsibility is to ensure unity and uniqueness for each corporate and client.

7.2 Impacts

The negative and positive impact that AI systems will have on formulating the corporate vision and strategy were discussed as follows:

7.2.1 Positive impacts

- Processing massive amounts of data quickly and accurately provides corporates with deeper insights, enhances decision-making, and enables more informed decisions.
- Benefiting from the integration between AI systems, the possibility of using the information bank and the data processing speed will significantly simplify the processes of formulating the vision and strategy and completing the formulation quickly and effectively.
- It enables corporates to view several scenarios proposed by AI systems and choose what suits the appropriate customer segment, perhaps to whom the corporate wants to provide services and

products during specific periods or specify different plans customized for each customer segment.

- It cannot be confirmed at present that corporates that use AI systems in formulating their vision and strategy have a competitive advantage over those that formulate their vision and strategy humanly, but it can be said that those that use AI systems have higher reliability in the results of data analysis. Statistics and proposals are presented to decision-makers.

7.2.2 Negative Impacts

- Various human challenges. Although modern technologies often bring new job opportunities, resistance to change among a significant segment of employees for fear of losing their jobs and positions may cause economic turmoil and social challenges, which makes it necessary for specialists in human resources management to study Creating positions with new tasks. Adopting AI may also require employees to acquire new skills or competencies, leading to potential resistance or difficulties in implementation.
- The increasing reliance on AI systems for data analysis and decision-making exposes corporates to cybersecurity threats, including data breaches or malicious attacks.
- The corporate executives and managers discuss the most significant opportunities that can be seized, the risks and challenges, and ways to avoid them or create positive opportunities. This makes the work team adopt the vision and strategy and be keen to achieve and operate optimally. However, when formulating a vision and strategy through AI systems, it may lose the compliance of the executive, administrative, and perhaps operational work teams to adopt and achieve the vision and strategy, and this increases new challenges and additional burdens on the strategy team in the corporate.
- If the costs of using AI systems are high - as mentioned above - this will evaluate corporates in the market into corporates that use AI systems in formulating vision and strategy and other corporates that use classic human methods, and this, in turn, will create a gap in the performance of corporates and disruption in industries, and they may lose. The market is made up of corporates that cannot catch up and adapt quickly to the changing environment, which is a loss of value that existed in the market.

7.3 Avenues for future research and work

Returning to *Figure 2*, we can generally point to many potential future R&D paths:

- **Gaps:** We have two main gaps in dependent AI systems. The currently existing systems still need to improve compared to AI's capabilities, and they still focus on data processing more than increasing their role in prediction and effective communication processes with humans or other Independent AI systems. Those wishing to develop Type (2) or Type (4) systems can return to Table 1, choose one or more components, and begin developing an AI system specialized in them. After some systems mature, developers can create an integrated AI system that integrates many AI systems into an integrated platform with high reliability.
- **Learning and Training:**
  - Humans working in companies must realize that the rapid development of electronic systems and applications, especially AI systems, will affect them and their current jobs and create new jobs. Therefore, we call on all employees at various job levels and in multiple specializations to allocate time and budgets for self-development, skills, competencies, and knowledge, following up on everything new, not stopping learning and training, and recognizing that resistance will not be of benefit in the long term. Therefore, we advise raising the cultural, educational, and training levels so that people are always ready for any sudden or planned change.

  - There is also potential room for development in Training AI systems through surface or deep learning, Training AI networks through humans, feedback from the systems themselves, or information received from other AI systems. Here, AI developers can profit from the education and training process and benefit from the outputs of their current systems, provided that these systems are already built on this basis.
- **Government Support and Cooperation:** There is a great responsibility placed on governments and bodies regulating countries in the legislation and policies of AI systems, cybersecurity, statistics systems, commercial and industrial systems, big data, innovation and intellectual property protection bodies, and other bodies involved in developing AI systems, especially those interested in formulating corporate vision and strategy. In the future, we may see cooperation between countries to exchange information that will help AI systems raise the quality levels of outputs and the reliability of strategic plans presented.

8 Conclusion

Although the opinion of all AI systems questioned is that AI systems cannot formulate a corporate vision and strategy, research and analysis have proven a different conclusion. Initially, the extent to which AI systems could formulate corporates' vision and strategy was pondered, and it was found that AI systems cannot proceed in the formulation process independently and in isolation from humans, with the degree of dependence on human input varying. The impact of AI systems on the formulating processes for a corporate vision and strategy was also sought, and it was concluded that many positive effects exist on the formulation process, along with some negative effects and determinants that may delay or hinder the development process of AI systems targeting this aspect. As a final point, it is crucial to approach AI systems as tools to aid humans rather than replacements for human judgment. This article has underscored the pivotal role of the human factor in guiding AI systems and providing them with valuable inputs to formulate a successful, professional, and applicable vision and strategy. Conversely, entities or corporates interested in developing AI systems for vision and strategy formulation must strive to establish collaborative platforms and databases, populate them with accurate and valuable information, and focus on providing comprehensive and intensive training to AI systems and networks of various types and levels of training to enhance the quality of their outputs.

Moreover, corporate employees have been informed that using systems and technologies may reduce or eliminate some jobs. Therefore, focusing on self-development and keeping up to date with new developments is crucial to filling the constantly expanding void. Finally, everyone must prioritize ethics concerns, especially as machines may execute human or non-human requests from machines or other systems.

9 Conflict of Interest Statement

The author, Saleh Alnouman, confidently affirms that no conflicts of interest are associated with the research, authorship, and publication of this article.

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