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The Impact of Artificial Intelligence on Strategic Decision-Making in Business: A Review with Focus on India

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1. Introduction

Taking strategic decisions is the core of any organization's success. It enables businesses to move resources and manpower towards the organization's goals in a competitive environment. Earlier managerial experience, data analysis was a grounded approach, however, with the advent of Artificial Intelligence (AI), there has been a change in how organizations make, judge and implement strategic choices.

AI consists of a wide variety of technologies like machine learning, natural language processing, computer vision and predictive analysis. These help decision makers in identifying upcoming patterns and market trends, making optimal use of resources and making an informed decisions on the trade-offs. AI does not only help in automating the operations of an organization but it increases high level strategic deliberations by enhancing speed and adaptability in uncertain environments (Duan et al., 2019).

In the Indian market, the use of AI has increased in sectors like banking, manufacturing, retail. NITI Aayog's National AI Strategy is an example of an initiative the Indian government has taken for adopting AI. However, the integration of AI in decision-making still remains uncertain with varying levels of maturity and capability of the Indian firms. This raises an important and justified question on the effectiveness of AI in strategic decision-making in India.

In this review paper, we analyse the impact of AI in strategic decision-making in the businesses in India. It highlights gap in existing research, review what has been written and offers suggestions for further research. The paper adopts a narrative approach, and focusses on conceptual insights, thematic developments and contextual relevance.

2. AI and Strategic Decision- Making: Conceptual Framework

Strategic decision-making can be defined as a process involving identification of organization's objectives, studying the internal and external market trends and the formulation of alternatives and selecting the best course of action and allotting the resources accordingly for long term success. It usually

involves dealing with a lot of uncertainty, complex tradeoff and various high-stake outcomes (Elbanna & Child, 2007).

With the readily available data and tools for computation AI has become an important factor in every stage of the decision-making process.

In the context of business, Artificial Intelligence, refers to a system which can be used for analyzing data, make sense out of the data, analyze any trends with minimum human intervention (Haefner et al., 2021). In strategic decision- making, the various AI tools available with the managers help them in various tasks like forecasting, market research, identification of target customers and competitors in the market. For example, predictive analysis allows business organizations to analyse upcoming demand patterns or risks, while natural language processing helps firms extract meaningful insights from raw unstructured data such as customer feedback.

Several elements like speed and impartiality contribute to concord between AI and decision-making. AI can study and simplify large amounts of data and provide various alternatives available to the manager, which is far beyond any human capacity. However, taking the right decision based on the data provided by AI, a judgement which is made keeping in mind various factors like biases, moral grounds and the long-term goals of the organization, can only be made by human intervention.

Hence, a combination of AI's analytical power and human judgement, is a more acceptable and optimal model to counter the complex process of strategic decision-making. However, this too, depends on various factors like the culture of the organization, the expertise of the managers and the amount of trust they place in the AI systems.

3. AI Adoption in Indian Business Context

With growth in the digital ecosystem, followed by initiatives like Digital India and Startup India, has laid the foundation for the adoption of AI across all the sectors. As per NASSCOM (2022), over 75% of enterprises of Indian origin were exploring their options with AI application. Sectors like banking, e-commerce, logistics and insurance were the leading sectors among the Indian enterprises.

The sectors of banking and finance use AI for tasks like credit scoring, identifying fraud and customer engagement. Retail and ecommerce businesses like Flipkart and Amazon India use the AI tools for recommending products to customers based on their buying behavior and search history patterns. Furthermore, they also use the AI tools for demand forecasting and inventory management. Sectors like manufacturing and logistics utilize the AI tools for inventory maintenance and route optimization. Furthermore, sectors like agriculture and healthcare too are slowly but steadily adopting AI driven projects.

However, despite the adoption of AI and advancements in its integration we may observe several challenges in its adoption:

- The lack of infrastructure in Tier 2 and 3 cities
- Shortage of AI skilled people
- The lack of digital readiness in small and medium enterprises (SMEs)

- The relatively high costs of including AI in business processes, especially for small businesses
- The reluctance of people to depend on an automated process

Large organizations with more resources are more likely to employ AI tools as compared to smaller and medium size organizations, who still rely on operational use of digital technologies. The government is playing its part in supporting the AI movement through initiatives like NITI Aayog's AI for All strategy, whose sole emphasis is to foster inclusive development and introduce AI with the help of Academic institution's collaboration. However, a clear lack of regulation and ethical guidelines exist which can guide enterprises in their use of AI.

4. Impact on Strategic Decision-Making

The Positive impacts:

- Relative improvement in forecasting and planning: AI can help analyze previous data, market patterns and buying behavior to provide management with a plethora of options to plan organization goals
- Data Driven Personalization: AI allows business enterprises to customize strategies in real time for different customer segments.
- Faster and more informed Decisions: AI can process data faster than humans and hence decisions can be taken at a faster pace
- Optimal use of Resources: AI can help managers plan their resources in the most efficient manner and avoid wastage on capital or human resources

Challenges and Limitations:

- Lack of Transparency: Many AI tools operate with opaque algorithms making it difficult for manager to completely rely on the data provided by them for taking any decisions (Ghosh, 2020).
- Ethical and legal Uncertainty: In areas like surveillance, lending and hiring AI data may consist of bias, discrimination. Furthermore, the Indian Market lacks the required legal framework to monitor such ethical dilemmas.
- Over-dependance on AI algorithms: Strategic decision-making works best with a combination of AI and human decision-making; however, organization can rely on AI data for cost cutting.
- Privacy and Security: AI relies on the vast amount of data available in the internet, however, some of these data may be sensitive, raising a concern on privacy specially in the day and age of growing cyber threats.
- Mismatch of Skills and Tools: Many Indian organizations may lack leaders with the necessary knowledge and skills needed to properly utilize the AI tools or work hand in hand with the IT teams.

5. Identified Research Gaps

Despite the growing popularity of AI, several gaps still remain in the Indian context:

- Lack of India-Specific Research: Most existing studies draw data on a more global level or only focus on developed economies. Hence, there is limited information on the how small businesses and family-owned business utilize AI.

- Insufficient focus on the collaboration of Humans and AI in decision-making: Human trust in AI data and its adoption in decision-making in still not explored completely and research needs to be done on how Indian managers trust AI inputs
- Underdeveloped Ethical Guidelines: While ethical concerns have been highlighted more research needs to be done on integrating ethic into AI tools design, development and use.
- Sectoral Variations: As AI maturity varies widely, research needs to done on industry types and geographic locations within the Indian subcontinent.
- Neglect of Environmental and Sustainability Dimensions: Strategic decisions not only focus on the growth of the organization but the sustainability of the environment. The role of AI in enabling green strategies is topic where research needs to be done as it is currently overlooked.

6. Conclusion and Future Directions

The use of AI is reshaping how businesses approach decision-making by improving processes like data processing, improving forecasting and optimizing resources. With respect to the Indian context, AI adoption is definitely growing in a steady pace but the adoption is uneven in across different sectors, business sizes and geographical locations.

The right infrastructure needs to be developed in Indian business to properly utilize the AI resources and investments needs to be made in upskilling personnel in AI. Furthermore, ethical guidelines need to be developed for including AI into business infrastructure.

Future research needs to focus on India specific studies which explore the impact of AI on human, organizations and cultures. By fostering a balanced approach, India can not only use AI effectively, but also use it for long-term innovation and growth.

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