Artificial Intelligence as a Driver of Business Transformation: Challenges and Best Practices

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Rupina Popli
Army Institute of Management & Technology
(rupina.popli@gmail.com)

CA Rajat Malik
HSBC Bank
(ca.rajat_malik@live.in)

Ranjit Singh
Indian Institute of Information Technology
(ranjitsingh@iiita.ac.in)

The adoption of artificial intelligence in business has transformative implications across various dimensions, from enhancing operational effectiveness and decision-making processes to unlocking new avenues for innovations. AI contributes significantly to business optimization As AI migrates from pilot to production, its ethical footprints – privacy risks, bias, opacity, workforce disruption, accountability gaps has become a first-order business concern. The main aim of this paper is to explore the best practices and ethical concerns linked to the adoption of AI in various business contexts in an organization. In addition to the existing literature review of the research papers available on this topic, we have designed a cross-sectional, multi-industry survey of managers and process owners, through the measurement model. Further, this paper develops and tests a theory on AI capability, comprising of perception, prediction, and prescription for achieving the desired objectives. It will help in improving the process related performance in respect of cost, quality, speed and flexibility. The primary data has been analyzed by using reliability/validity checks and managerial implications. The contribution has been validated, replicable instrument and a testable model linking AI investment to measurable transformation outcomes through the organizational mechanism. Finally, the focus of our study will be on providing insights on how businesses can navigate these challenges while upholding ethical standards. The results of this study will be very useful for the business leaders, policy makers and researchers in ensuring responsible and ethical AI deployment in the business ecosystem in India.

Keywords: Artificial Intelligence, Perception, Prediction, Cross-Sectional

1. Introduction

Artificial Intelligence is a collection of algorithms that can work through huge databases at a very fast pace. AI develops and continuously improves itself by using ever changing advanced technology and methods including machine learning, deep learning and through neutral networks. It has overtaken all the core components of digital operating models in today's global business environment. Enterprises have started deploying machine learning systems for demand sensing, computer vision for quality control, and generative AI for knowledge work, expecting step-changes in process performance.

Now, the central managerial question is not whether to adopt AI but how to adopt it. It is very useful for modern day businesses by enhancing efficiency through task automation, improving decision making with data analysis, boosting customer experiences with personalized services, new innovations in products and business models. Businesses utilize AI to streamline operations, predict market trends, fortify Cyber Security and optimize supply chains, leading to cost cuttings, increased productivity and to strengthen business competitive edge. However, the human intervention is required to ensure AI based tools possess the right training data and that biases aren't in verdantly introduced to the algorithms.

2. Review of Literature

The extensive body of literature surrounding AI technologies and their business applications has undoubtedly contributed to our understanding of the transformative impact AI that has had across diverse industries (1, 2). However, while scholarly works chronicle the historical evolution of AI and delve into its functionalities, there remains a notable gap in addressing the ethical concerns and challenges associated with its adoption in business. Despite highlighting the role of AI in augmenting decision making processes and fostering innovation, these analyses often overlook the ethical implications of AI deployment (3, 4). The most material impediments for adoption in business contexts and evaluate which practices practitioners believe actually work (5). While operational efficiency and enhanced customers experiences are emphasized, the potential risks of algorithmic bias, privacy infringements, and job displacements are often understood or neglected (6, 7). Moreover, while emerging trends like explainable.AI are acknowledged, their ethical ramifications receive insufficient attention (8).

Furthermore, while the societal impact of AI on human labor is explored, there is a need for deeper analysis of the power differentials exacerbated by AI adoption and their implications for socialjustice and economic inequality (9, 10). While the literature acknowledges the importance of examining emerging technologies like autonomous systems and quantum

computing, there is a lack of practical guidance on integrating ethical considerations into the development and deployment of these technologies within business environments (11, 12).

3. Research Gap

Despite the enthusiasm, many firms struggle to connect AI spending on end-to-end process outcomes. Two gaps persist, (1). Adoption is often measured as "presence/absence" rather than capability depth, and (2) studies overlook organizational mechanism – notably process redesign and data readiness – that turns algorithmic potential into operational reality. However, while the literature offers a valuable foundation for understanding the ethical landscape of AI adoption, there is an evident need for more empirical research and practical guidance to effectively address the identified ethical concerns. There is very less research work available on these issues. As such, this study addresses these gaps with a survey-based empirical study. We theorize that AI capability affects business process transformation indirectly, because workflows, roles and data plumbing must change before AI can alter outcomes. This study attempts to address these gaps through a data-driven approach.

4. Objectives of Study

- To conceptualize the AI capability as a multi-dimensional organisational resource.
- To examine the impact of artificial intelligence on the operational efficiency of an organization.
- To analyse the impact of high cost on implementation of artificial intelligence in an organisation.
- To ascertain the various challenges in the path of adoption of artificial intelligence.
- To determine the effect of ethical best practices on implementation of artificial intelligence in an organisation.

5. Research Methodology

This study uses qualitative and quantitative approaches to analyse the opportunities and challenges in AI adoption by the business organizations in India. This method has been chosen because it is able to provide a deep understanding of the factors which influence the success and obstacles in AI implementation. In addition, this approach allows data mining from a business perspective as well as numerical analysis of technology adoption trends.

5.1 Data Collection

We have applied both the approaches of data collection i.e. Primary data collection method, through a structured questionnaire along with some telephonic interviews from different people living in the National Capital Region of Delhi and Secondary data collection method, by analyzing the available research papers and studies on this broad theme.

5.2 Primary Data Collection

We have conducted a cross-sectional survey of process owners, operation leaders, product managers, data/AI leaders, and risk/compliance managers across industries consisting of Manufacturing, BFSI, Healthcare, Retail Business, e-Commerce, Technology and Services. It has been collected through a set of questions prepared through a structured questionnaire on a 5-point Likert Scale basis, whereby 1=Strongly Disagree and 5=Strongly Agree). These respondents were selected on Random Sampling basis but by ensuring that they qualify on the basic two parameters, i.e. possess one year of tenure, and involved in a specific named process e.g. "Claims adjudication", "Category pricing", "KYC on boarding".

5.3 Sampling

We targeted 150 responses from the industries as mentioned above, out of which 135 questionnaires were found and considered complete and relevant for this study. These were stratified by industry and firm size to reduce sectoral- bias, and aimed for 20-25% from each of four major sectors plus a mixed "other" stratum. This survey was conducted during the period of 18th August 2025 to 30th Sept. 2025.

5.4 Secondary Data Collection

We have collected and reviewed the secondary data available on this topic from various research papers and studies published in National and International Journals, books, and reputable internet databases, which served as the main sources of information for this study.

5.5 Data Analysis Tools and Techniques

Data analysis in this study has been conducted by using two main approaches, namely quantitative analysis and qualititative analysis. The quantitative data obtained from the survey has been analysed using statistical methods to find out the relationship between AI adoption and the factors that influence it, such as costs, workforce skills and impacts on operational efficiency. This statistical analysis was conducted to identify patterns of use of AI implementation in businesses and to understand the factors that contribute the most in the successful implementation of AI. The qualitative data obtained through a structured questionnaire and some personal interviews has been analysed by using the coding method in thematic analysis to identify key patterns and themes that emerge from the experiences of industry players. By combining these two analysis methods, the study will provide a more comprehensive understanding of the opportunities and challenges in adopting Artificial Intelligence systems in the businesses in India.

5.6 Validity and Reliability

To ensure the validity and reliability of the data obtained, this study applies data triangulation by combining data from surveys, interviews, and related documents. This approach is used to verify research findings from various sources, thereby reducing bias and increasing the validity of the results. In addition, a reliability test has been carried out by evaluating the internal consistency of the questionnaire used in the survey. This test aims to ensure that the research instrument is able to produce stable and reliable data under various conditions.

6. Development of Hypothesis

- **Ho1:** There is a strong Relationship between AI Implementation and operational Efficiency of an Organisation.
- **Ho2:** There is a strong Relationship between AI Capability Development and High Costs.
- **Ho3:** There is a strong Relationship between AI Implementation and Ethical Best Practices.
- **Ho4:** There is a significant increase in time efficiency and AI Implementation in an Organisation.

7. Analysis of Secondary Data

7.1 Benefits of AI adoption to Business

The application of Artificial Intelligence mode in business operations offers the following benefits to an organization:

- Helps in Improved Decision-making.
- Increases Efficiency.
- Offers Enhanced Customer's Experiences.
- Helps in Cost Reductions.
- Supports Risk Management approach
- Fortifies Cyber Security
- Helps in Innovations, and
- Offers Predictive Analysis.

7.2 Challenges in AI Adoption

While Artificial Intelligence offers numerous advantages for businesses, its adoption comes with a range of challenges. These challenges must be addressed effectively to fully harness the potential of AI technologies in business operations. The following are some of the key barriers businesses faces when implementing AI solutions:

- The cost of implementing AI technologies is very high. Expenses include acquiring AI software, hardware, infrastructure, data storage, integration with existing systems, and hiring skilled professionals to manage the AI tools.
- There is uncertainity in calculation of return on investment in Artificial Intelligence.
- The long term costs of maintaining and upgrading AI Systems can be a big concern.
- Data Privacy, Security and ethical concerns associated with adoption of Artificial Intelligence.
- AI Systems are vulnerable to Cyber attacks.
- The use of Artificial Intelligence in decision-making raises ethical issues, particularly regarding bias in AI Algorithms.
- Issues related to skill gap and workforce transformation.
- Resistance to change and organizational cultural barriers.
- Issues related to Regulatory Compliance and Governance.

7.3 Developing a Clear AI Adoption Roadmap

Successfully integrating AI into a business strategy requires careful planning and a structured approach. By developing a clear roadmap, fostering a culture that supports AI, acquiring the right talent, and building collaborative partnerships, businesses can maximize the benefits of AI technologies. The following strategies can help organizations navigate the complex process of AI Adoption.

- To identify the business objectives.
- To ensure phased implementation of AI Systems.
- Focus on proper alignment with existing Systemsand Technologies.
- Setting of clear matrices for success of AI Implementation.
- Clear leadership approach and vision.
- Fostering a Culture of Innovation.
- Change Management.
- Cross-Functional Collaborations.

8. Data Analysis and Findings

To analyse the primary data statically and arrive at the managerial implications, following analysis have been done:

Table 1 *Demography of Respondents*

Demography	Description	No. of responses	Percentage (%)
Gender	Males	85	63%
	Females	50	37%
	Total	**135**	**100**
Age	Generation X	60	44%
	Generation Y	36	27%
	Generation Z	25	18%
	Generation Alpha	14	11%
	Total	**135**	**100**
Edu- Qualification	Basic Level	21	15%
	Secondary Level	26	19%
	Graduation Level	32	24%
	P.G. Level & above	56	42%
	Total	**135**	**100**

Analysis

The survey was conducted on 135 organisations which have adopted AI or in the exploration stage. The analysis of the demography of the respondents has been explained in the above Table1. It shows that 63 % were maleand 37% were female respondents, 44% of the respondents came from generation X, 27% from generation Y, 18% from generation Z and remaining 11% represented generation alpha. Further, the educational qualification parameter depicts that 15% of the respondents possess the basic level education, 19% up to secondary level, 24% up to the graduation level and the remaining 42%, (majority) of the respondents at P.G. level & above. The last category is very active in the application of Artificial Intelligence in their organisations.

Table 2 *Professional Details of the Respondents*

Particulars	Description	No. of Responses	Percentage
Professional Area	Manufacturing	28	21%
	BFSI	26	19%
	Healthcare	28	21%
	Retail	26	19%
	Other Sectors	27	20%
	Total	**135**	**100%**
Work Experience	0 to 5 years	66	49%
	6 to 10 years	32	24%
	11 to 15 years	22	16%
	16 years & above	15	11%
	Total	**135**	**100%**

Analysis

The respondents have been carefully selected from the process owners, operation leaders, product managers, data/AI leaders, and risk/compliance managers across industries consisting of Manufacturing, BFSI, Healthcare, Retail Business, e-Commerce, Technology and Services. The analysis of the results as shown in above Table 2, displays that 21% are from Manufacturing sector, 19% from BFSI sector,20% from Healthcare sector, 19% from Retail sector and remaining 21% from other sectors participatedin this survey. As far as the work experience is concerned, the majority of the respondents i.e. 49% possess up to 5 years of experience, 24% have 6to 10 years, 16%11 to 15 years, and 11% possess more than 15 years of work experience.

Analysis

The results of the study identified several key benefits that the organisations have gained from implementing artificial intelligence practices in their business solutions. It has been pointed out during the process of personal interviews and analysis of the responses received that artificial intelligence provides a very significant competitive advantages, improves

operational efficiency, and helps organisations in data-driven decision-making situations. The analysis of the benefits of AI application as shown in above table 3, indicates that 85% of the respondents experienced that it increases the operational efficiency, 78% feels that it's application improves the accuracy of decision making,72% observed that it helps in improving the personalized customer service, 68% pointed out that it reduces the labor cost and 65 % feels that the application of AI helps in increasing the speed of responses to their customers.

Table 3 *Main Benefits of Artificial Intelligence*

No.	Benefits of AI	% of Respondents
1.	Increase in Operational Efficiency	85%
2.	Improves Decision-Making Accuracy	78%
3.	Personalise Customer Service	72%
4.	Reduces Labour Cost	68%
5.	Increases speed of Responses to Customer	65%

As such, the operational efficiency and increased accuracy of decision makingare the main advantages observed by the users of artificial intelligence. AI allows the organisations to manage large amounts of data faster and more accurately, so that decision making becomes more precise and accurate.

Table 4 *Main Challenges in AI Implementation*

S. No.	Challenges of AI	% of Respondents
1.	High Implements Cost	82%
2.	Lack of AI Expertise	76%
3.	Integration with legacy Systems	63%
4.	Data Security and Privacy Issues	59%
5.	Ambiguity of AI Regulation	55%

Analysis:

The above table 4 depicts the main challengesin the application of artificial intelligence, as observed by the respondents. Although AI offers various benefits, its adoption still faces various obstacles, especially from financial, technical and regulatory aspects. It shows that 82% of the respondents have felt that high implementation cost in artificial intelligence is the main challenge being faced by the organisations, especially by the organisations in the early stages of their development. In addition, the lack of experts in the field of artificial intelligence causes many organisations to experience difficulties in developing and managing complex AI systems. The integration process with the main legacy system is also an obstacle for the organisations which used conventional systems. AI requires a very strong digital infrastructure, which often requires additional investment.

Table 5 *Responses on Best Practices for Ethical Implications of AI*

S. No.	Indicators	Yes	No	Unsure
1.	Should have Ethical Policies and Guidelines on Collection and Use of Personal Data in AI Systems	94%	5%	1%
2.	Should Organisations be held Responsible for Addressing and Mitigation of Biases in AI Systems	98%	1%	1%
3.	Should Businesses be required to provide explanation for the Decision made by AI Systems	98%	1%	1%
4.	Should Organisations invest in Reskilling and Upskilling the potential impact of Employment	92%	5%	3%

Analysis

To test the hypothesis of our study on the best practices for ethical implications of AI in an organisation are likely to be effective in mitigating the ethical risks associated with this system. As shown in Table No. 5, respondents were asked several related questions, and the vast majority provided positive feedback, indicating that best practices for managing the ethical implications of AI adoption in business are likely to be effective in reducing the associated ethical risks.

Table 6 *Impact of AI on Performance of Organization*

S. No.	Indicators	Before AI Implementation	After AI Implementation	Change (%)
1.	Operating Time Efficiency	65%	85%	20%
2.	Operating Cost Reduction	--	30%	-30%
3.	Customer Satisfaction	70%	88%	+18%

Analysis

The above table 6 depicts the experiences of the users of artificial intelligence practices in their organisations. It shows that 20% efficiency of the working of their organisations have improved

After the implementation of AI. The results depicts that a significant increase in time efficiency and reduction in operational cost has been experienced by the users of AI practices in their organisations. It indicates that AI has a very positive impact on the progress of their organisations. With the help of AI, the organisations can reduce the workload of their employees, increase their productivity and can easily minimize their operational problems and errors.

9. Limitations of the Study

Some limitations of this study are:

- We have applied the Cross-Sectional Survey approach, and results reflect perceptions at a time, they illuminate perceptions and perceived effectiveness, not casual impact.
- There is every chance of charging the researchers due to self selection of respondents and response biasness.
- This study spans sectors and additional domain specific controls, which are required for accurate results, but could not be made possible due to some practical reasons.

10. Directions for Future Research

- **AI and Organizational Transformation:** Future research should explore how AI impacts organizational structures, leadership, and business models. Understanding the long-term implications of AI adoption on company culture and workforce dynamics will be crucial for businesses navigating this technological shift.
- **AI in Ethical Decision-Making:** Research into the ethical implications of AI decision-making process is very critical. Future studies should investigate how businesses can ensure AI systems are transparent, fair, and free from bias, particularly in sectors such as healthcare, law enforcement, and finance.
- **The Impact of AI on Job Creation and Employment:** While AI is expected to automate many tasks, it also holds the potential to create new jobs and industries. Further, research is needed to understand how AI will reshape the job market and what strategies businesses and Governments can adopt to ensure a smooth transition for displaced workers.
- **AI in Sustainability**: There is increasing interest in how AI can contribute to sustainability and environmental conservation. Research on the application of AI in optimizing energy consumption, reducing waste, and enhancing sustainability practices will be vital in the coming years.
- **AI and Privacy Concerns:** With growing concerns about data privacy and security, future studies should explore how businesses can balance the benefits of AI with the need to protect consumer data. Research into secure AI Models and privacy-preserving technologies is essential for fostering trust in AI systems.

11. Conclusion

This study analyses the opportunities and challenges of adopting Artificial Intelligence in the business organisations in India. Based on the results of the study, it can be concluded that AI provides significant advantages, especially in improving the operational efficiency, increasing the accuracy of decision making, and accelerating the level of their customer service. Although, AI offers various benefits to its users, yet, there are some challenges also in its application such as requirement of high investment, availability of limited experts of AI and difficulties in integrating with the existing systems. In addition, the data security concerns and various regulations in the path of AI application are also some obstacles, which the organisations need to pay a thorough attention before deciding to adopt this technology in their systems. The study has illuminated the intricacies and viability of integrating AI into business operations, with a very particular focus on the ethical considerations involved.

Further, the results of this study indicate that AI has a very positive impact on the performance of business organisations, marked by increased operational time efficiency, reduced operational costs, and increased customer service along with their complete satisfaction level. The findings revealed that the success of AI adoption is greatly influenced by its implementation strategy, readiness of the technology infrastructure, and human resource competency. In the long run, AI will become a core component in Indian business organizations, by driving business model transformation, increased competition, and changes in regulation and the labor market. Therefore, an appropriate strategy is the need of the hour, which requires a very focused approach on the related issues of investment, workforce skills development, and regulatory compliance so that the business organisations in India also can utilize AI optimally and sustainably to be able to compete with the business organisations of developed countries.

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