

MULTIDIMENSIONAL IMPORTANCE OF ARTIFICIAL INTELLIGENCE IN BUSINESS AND ECONOMICS: A COMPREHENSIVE REVIEW

Mr. Sumedh Awadhutrao Kawale

Assistant Professor & Head Department of Business Economics, Shankarlal Khandelwal College, Akola
skawale910@gmail.com

Abstract

Artificial Intelligence (AI) is reshaping commerce, business and economics at an unprecedented pace. From predictive analytics in financial markets to personalized consumer experiences and global supply chain optimization, AI's applications extend beyond automation into decision-making, governance and innovation. This review synthesizes contemporary literature on the integration of AI with business and economics, with a particular emphasis on both global and Indian contexts. It examines theoretical underpinnings, technological foundations, sectoral applications, macroeconomic implications and ethical concerns, while identifying research gaps and policy priorities. Findings reveal that AI is not merely a technological advancement but an economic force redefining productivity, labour markets, inclusivity and governance. The paper emphasizes the need for responsible AI adoption, integrating ethical frameworks and human centred approaches to ensure sustainable and equitable economic growth.

Keywords: Artificial Intelligence, Business Economics, Productivity, Digital Economy, Governance, Ethical AI

1. Introduction

The emergence of Artificial Intelligence (AI) as a transformative force in commerce and management is redefining the global economic order [1]. Unlike earlier technological waves such as mechanization or digitization, AI embodies self-learning systems capable of complex analysis and autonomous decision making. Consequently, AI penetrates every aspect of business economics like consumer behaviour prediction, credit scoring, supply-chain forecasting and labour market restructuring [2]. In an interconnected global economy, businesses increasingly adopt AI to drive productivity, efficiency and innovation. Yet, alongside opportunities, AI adoption creates structural challenges such as employment displacements, concentration of power among tech monopolies, ethical dilemmas of bias and transparency issues [3]. This review aims to contextualize AI's impact on business and economics in the contemporary world, linking global insights with Indian realities.

2. Methodology

The present review is grounded in a systematic and selective survey of contemporary literature that engages with Artificial Intelligence in the domains of business and economics. The process followed a rigorous search for scholarship and reports that are both conceptually robust and empirically validated. Care was taken to emphasize recent contributions so that the review reflects the fast-evolving nature of the subject.

Priority was given to studies produced within the last decade, with special weight on those published in internationally recognized journals and policy think tanks. To ensure credibility, only sources that

met established standards of academic integrity and institutional reliability were incorporated.

This approach ensures that the insights presented here are both comprehensive and authentic, offering a balanced account of theoretical perspectives, sectoral applications and policy level debates surrounding AI in business and economics.

3. Theoretical and Conceptual Foundations

Economic theories have historically emphasized productivity growth through capital and labor. AI introduces a "third factor"- algorithmic intelligence that complements human decision making [4]. Brynjolfsson et al. [5] term this the "Productivity J-Curve," wherein short-term productivity stagnates due to adoption costs but long-term returns are exponential.

In business management, AI systems integrate concepts of behavioural economics, decision theory and computational optimization [6]. The convergence of these fields redefines firm behaviour and economic equilibrium, challenging traditional assumptions of rationality and perfect competition.

4. AI in Business Applications

4.1 Marketing and Consumer Insights

AI-powered recommendation engines, sentiment analysis and dynamic pricing transform consumer interaction [7]. Amazon, Netflix and Flipkart exemplify this shift.

4.2 Finance and FinTech

From fraud detection to algorithmic trading, AI reshapes risk assessment and financial decision making [8]. FinTech adoption in India through UPI, Paytm and RBI's digital initiatives shows localized innovations.

4.3 Supply Chain and Operations

AI enables predictive logistics, warehouse automation and real time inventory control [9]. Global disruptions, such as COVID-19, reinforced the importance of resilient AI-driven supply chains.

4.4 Human Resources and Decision making

AI applications in recruitment, performance tracking and workforce analytics enhance organizational agility but also raise ethical concerns [10].

5. Macroeconomic Implications

5.1 Growth and Productivity

OECD and IMF reports estimate AI could add between 10–14% to global GDP by 2030 [11]. However, productivity gains are uneven, benefiting advanced economies disproportionately.

5.2 Labor Market Transformation

Automation risks displacing routine jobs, especially in manufacturing and services, while creating demand for AI-skilled workers [12]. The International Labour Organization (ILO) stresses skill reskilling as critical to mitigating inequalities.

5.3 Inequality and Market Concentration

AI adoption favours firms with large datasets, leading to monopolistic advantages for Big Tech [13]. This concentration raises competition policy challenges.

6. The Indian Context

India presents a dual reality: immense opportunities for AI-driven growth, and challenges of digital divides. NITI Aayog's National Strategy for Artificial Intelligence emphasizes "AI for All," with applications in agriculture, healthcare and education [14]. Indian businesses increasingly integrate AI in banking (SBI, HDFC), retail (Reliance Jio, Big Basket) and logistics (Delivery, Flipkart) [15]. However, constraints include inadequate infrastructure, skill shortages and regulatory uncertainty [16]. AI in rural supply chains and MSMEs remains underexplored, highlighting the need for inclusive strategies.

7. Challenges and Ethical Dimensions

AI-driven decisions raise concerns of bias, discrimination, and lack of transparency [17]. Explainable AI (XAI) frameworks are essential for responsible governance [18]. Privacy risks from consumer data usage and algorithmic opacity are central ethical issues [19]. The UNESCO (2021) and OECD (2022) ethical guidelines advocate fairness, accountability, transparency, and human-centred development [20].

8. Research Gaps and Future Directions

Despite vast literature, critical gaps remain:

1. Limited empirical studies on AI's long-term macroeconomic impacts in developing economies.
2. Insufficient research on AI adoption among SMEs.
3. Underexplored frameworks on balancing innovation with employment security.
4. Scarcity of India specific evidence-based policy evaluations.

Future research must combine economic modelling, case studies and policy-oriented approaches to ensure AI augments human welfare, not inequality.

9. Conclusion

AI's integration into business economics is not merely a technological revolution but a paradigm shifts in economic organization. It influences productivity, market structures, labour markets and ethical governance. For India, AI offers transformative potential if integrated inclusively with supportive infrastructure, regulatory foresight and human-centred design. The future lies in balancing efficiency with equity, innovation with ethics and automation with employment. Responsible AI adoption can thus redefine global and national economic trajectories.

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