

Impact of Artificial Intelligence in Fintech Industry

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ABSTRACT:

The use of AI and Digitalization in area of finance, commerce and management has proved a boon to the industry. It has dual advantage of benefiting customers and to businessmen. The use of internet has made it reach to most remote areas and create more job opportunities. With the use of social media platforms and artificial intelligence the growth of finance sector has impacted the whole economy in a positive way. Various reports signify how it has left an ultimate remark on whole commerce industry. There is huge debate that is going on regarding use of AI in finance, because one talks in favor of it while other argues on its drawbacks. Almost 44% business use AI to cut their operational cost as stated in report of McKinsey. The debate is still going on its usage and impact on employment generation and other empathically tools. On one hand online payments options be it UPI or other has seen great growth in past few financial years. The market is almost of 5 trillion but on other hand the payment gateway is still the area of doubt and confusion. More than one lacs cases of fraud have been registered. Application like paytm, phonepe, Google pay, Bhim app, instagram, book my show, ola, oyo, swiggy, zomato etc., are sheer examples of use of latest technology for customer convenience. However, there are definitely some risk involved in use of AI and other technology because it might include biasness, privacy issues and robustness in performance, cyber threats and other systematic risks. It is important to note that by end of 2026 AI and other advanced technology will become \$27 billion economy. This article focuses on both sides of coin after going through a decent amount of literature review.

KEYWORDS:

Artificial Intelligence, UPI, Online, Digitalization, Technology.

INTRODUCTION :

Finance technology has been abbreviated to Fintech, can be defined as the use of all the recent and available technology in financial industry. The demand of today is to use innovative methods for all the financial services available to customers. One such rapid development drivers of fintech are AI and block chain. (2) This research paper focuses on AI and its usage in financial industry. Artificial intelligent has given new heights to the sector. Fintech has already expanded at greater extent and with the help of AI it is achieving new heights. This paper also deals with AI tools and techniques in Finance.

1.1 Highlights of recent trends-

- ☐ Digital technology-Business has adopted it for a better experience, operations and easy access to their daily handling process.
- ☐ Evolution in e-commerce-The current growth of e-commerce cannot go unnoticed. Especially when we have so many online platforms that accurately understand customer needs and fulfill their wish.
- ☐ Sustainability-The new business trends has to adopt sustainable options for their operations and supply chains. The reason is very simple and clear we have to build a better tomorrow and reduce the present mishaps.
- ☐ Adaptability-The COVID-19 pandemic has taught us that a business model must be dynamic when it's come to its functioning. No matter what the situation is, its technology, model blueprints everything should be very adaptable in nature.
- ☐ Artificial Intelligence-The commerce and management of today rely upon artificial intelligence for their work. This increment in AI technology has positive contribution in unemployment rate. At the same time, it has reduced the cost and saved time. It makes the operation so efficient that company and customers both get benefits. Many companies use the artificial intelligence process especially for their marketing functions such as branding, labeling, packaging and it is creating wonders for them.(1)
- ☐ Block chain and AI- These new applications are transparent and very secure advancement options that business model has adopted to boost their sales. These technologies are also widely accepted by customer with financial literacy. They are using it to find better investment and saving options.

This paper relies on answering few emerging questions of current scenario – What is objective of using AI in fintech industry? (1) Does it boost and increase the profit of the business that directly or indirectly belongs to financial sector? Does AI is capable to reach the potential fintech industry is hoping?

These discussions will help researchers and practitioner to take out the value on how AI will perform in fintech industry through these questions.

LITERATURE REVIEW:

Existing literature on AI in finance and fintech underscores that AI-based systems—such as machine learning models, robo-advisors, algorithmic trading tools, and credit scoring engines—are reshaping how financial institutions analyze data, price risk, and interact with customers. Studies surveying the evolution of AI in financial technology note that AI applications now span fraud detection, customer service chatbots, automated underwriting, portfolio optimization, and real-time transaction monitoring. Research on the fintech revolution further argues that AI is a central force in the innovation and disruption of traditional financial services, enabling new entrants and start-ups to challenge incumbents and prompting regulators to rethink oversight frameworks.

Scholars examining AI techniques in financial markets point out that machine learning and related methods are widely used for stock price prediction, volatility modeling, and high-frequency trading strategies, although questions remain about model robustness, transparency, and pro-cyclical behavior. Other work highlights the growing use of AI, big data, and advanced analytics in financial analysis more broadly, including credit risk assessment, macro-financial forecasting, and corporate valuation. At the same time, research on AI and resource optimization in fintech start-ups suggests that data-driven automation can improve operational efficiency but also raises concerns about over-reliance on opaque algorithms and potential misallocation of resources if models are poorly designed.

On the risk side, systematic reviews of explainable AI in finance emphasize the need for transparency, interpretability, and accountability in algorithmic decision-making, particularly where credit, insurance, and investment decisions have direct consequences for consumers and firms. Studies focusing on AI and fintech in banking and microfinance discuss both opportunities—such as expanded outreach, customized products, and lower transaction costs—and risks related to cyber threats, privacy, digital exclusion, and possible reinforcement of existing biases through data-driven models. Literature on AI and digital financial inclusion similarly notes that AI-enabled credit scoring and alternative data can widen access to financial services, but only if ethical, regulatory, and consumer protection issues are addressed proactively.

OBJECTIVES OF THE STUDY:

The present study is guided by the following objectives:

- To explain how AI and digitalization are being used in finance, commerce, and management, with a focus on key applications such as online payments, digital platforms, and fintech services.
- To summarize major trends highlighted in the literature regarding the benefits of AI in improving efficiency, customer experience, risk management, and financial inclusion.
- To identify and analyze the key risks and challenges associated with AI deployment in financial systems, including issues of bias, privacy, cybersecurity, employment impact, and regulatory concerns.
- To discuss the likely future trajectory of AI in finance and assess its implications for business models, labor markets, and the broader economy.

- To offer suggestions for policymakers, practitioners, and researchers on how to harness AI's potential while mitigating its adverse effects and safeguarding stakeholders' interests.

RESEARCH METHODOLOGY:

This paper adopts a descriptive, conceptual research design based on secondary data rather than primary survey or experimental work. It draws on published journal articles, conference papers, industry reports, and policy-oriented studies that address AI applications in finance, fintech, and related sectors of commerce and management. The literature base includes surveys of AI and machine learning in financial markets, analyses of fintech innovation and disruption, studies of digital financial inclusion, and reviews of explainable AI and algorithmic risk in financial decision-making.

The materials used have been selected to reflect multiple perspectives: technological (focusing on models and applications), economic (covering efficiency, competition, and market structure), organizational (addressing resource optimization and business strategy), and socio-regulatory (examining ethics, governance, and inclusion). The analysis proceeds by identifying recurring themes regarding benefits, challenges, and future directions of AI in finance, and then synthesizing these themes into an integrated narrative aligned with the objectives of the study. This approach facilitates a balanced treatment of both opportunities and risks, without limiting the discussion to any single use case or regional context.

FINDINGS:

The review suggests that AI-enabled digitalization has become deeply embedded in contemporary financial services. In retail and corporate banking, AI is now commonly used to detect fraudulent transactions, monitor unusual patterns, and alert institutions to potential security breaches in near real time. Online payment systems leveraging unified payment interfaces and app-based gateways have scaled rapidly, processing very large transaction volumes and making digital payments routine for consumers and small businesses. AI-driven tools, such as chatbots and virtual assistants, have improved the speed and consistency of customer service, while personalized recommendation systems and robo-advisors provide tailored financial suggestions based on user profiles and transaction histories.

From an organizational perspective, AI is associated with significant gains in efficiency and cost reduction. Automation of back-office processes, algorithmic credit assessment, and AI-supported compliance monitoring allow firms to handle larger workloads with fewer manual interventions. In many cases, this has helped financial institutions expand outreach to underserved segments by lowering per-customer servicing costs and enabling remote, digital onboarding processes. At the same time, industry analyses and case-based evidence indicate that AI has become a strategic differentiator, supporting innovative business models in payments, lending, crowdfunding, and wealth management, and altering the competitive landscape between incumbents and fintech start-ups.

However, the findings also highlight substantial risks and unresolved issues. Concerns about job displacement are widespread, with estimates suggesting that a sizable share of routine tasks in finance is susceptible to automation, potentially affecting many workers unless reskilling and redeployment strategies are actively pursued. There is growing recognition that AI models may inherit or amplify biases present in training data, leading to unfair outcomes in credit decisions, insurance pricing, or fraud detection if not carefully designed and audited. Moreover, the increasing reliance on complex algorithms and large-scale data raises worries about privacy, cyber vulnerabilities, concentration of market power among technology providers, and the possibility of new forms of systemic risk if multiple institutions depend on similar models and infrastructures.

DISCUSSION/SUGGESTIONS:

The findings suggest that AI's role in finance is best understood as a double-edged tool: it can deliver substantial benefits in efficiency, innovation, and inclusion, yet also introduces new categories of risk that traditional regulatory and governance frameworks were not designed to handle. On the positive side, AI supports real-time monitoring of transactions, more accurate detection of anomalies, and finer-grained risk assessments, which can improve financial stability and customer protection when implemented responsibly. AI-based scoring models and alternative data sources can extend credit access to individuals and small businesses without long credit histories, thereby supporting digital financial inclusion and entrepreneurial activity.

To realize these benefits while limiting downsides, several measures are advisable. Financial institutions should invest not only in advanced algorithms but also in explainability, transparency, and rigorous validation of AI models, particularly where decisions directly affect customers' financial opportunities. Governance frameworks need to incorporate clear accountability for algorithmic outcomes, regular audits for bias and performance, and mechanisms for redress when automated decisions produce errors or unfair results. Cybersecurity needs strengthening through layered defenses, continuous monitoring, and robust incident response plans, given that digital financial systems are attractive targets for sophisticated attacks.

From a labor and societal perspective, proactive reskilling and upskilling programs are essential so that employees displaced from routine tasks can transition into new roles in analytics, customer relations, product design, or oversight of AI systems. Policymakers and regulators may consider updating legal frameworks to address data protection, platform competition, and the oversight of AI-based credit and investment services, while also fostering innovation through regulatory sandboxes and controlled experimentation. For researchers, there is substantial scope for empirical studies that measure the long-term impact of AI adoption on financial stability, inequality, and employment, as well as for interdisciplinary work bridging computer science, finance, law, and ethics.

CONCLUSION:

This paper set out to examine the multifaceted impact of AI-driven digitalization in finance, commerce, and management, using secondary literature and reports to assess both its promise and its perils. The evidence indicates that AI has already become integral to many aspects of financial activity, from everyday digital payments and customer service to complex risk modeling and investment strategies. The technology has enabled faster, more convenient, and often cheaper financial services for consumers and businesses, while also supporting new avenues for financial inclusion and innovation.

Yet AI's growing footprint also raises fundamental questions about fairness, transparency, employment, privacy, and systemic resilience. Unchecked deployment of opaque algorithms and concentration of technological capabilities in a few large providers can increase vulnerabilities and erode trust if not balanced by appropriate governance and oversight. The overall impact of AI on finance will therefore depend not only on the sophistication of the technology but also on how institutions, regulators, and societies design rules, incentives, and safeguards around its use. A balanced path—encouraging innovation while enforcing strong ethical, legal, and risk management standards—offers the best prospect for ensuring that AI remains a boon rather than a threat to the financial system and the wider economy.

CONFLICT OF INTEREST:

There is no conflict of interest regarding the conception, analysis, or presentation of this study on the use of Artificial Intelligence and digitalization in finance, commerce, and management.

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