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FINTECH AND AI: DISRUPTING TRADITIONAL FINANCIAL MANAGEMENT MODELS

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Abstract :

In the banking, investing, insurance, and risk management industries, the traditional financial management models are being drastically altered by the quick development of Fin Tech and AI. This paper examines how artificial intelligence (AI)-powered solutions, including robotic process automation (RPA), natural language processing, predictive analytics, and machine learning algorithms, are upending traditional financial procedures, improving operational effectiveness, and changing consumer experiences. AI technologies are increasing accuracy, speed, and Personalization in financial services by automating repetitive processes, facilitating real-time data processing, and enhancing fraud detection and risk assessment. The study also emphasizes the difficulties associated with integrating AI, such as the need for improved cyber security frameworks, algorithmic biases, data privacy issues, and regulatory compliance. The future of financial management will probably depend on how well technical innovation is balanced with moral considerations and regulatory monitoring as Fin Tech companies and traditional financial institutions compete and work together. The strategic significance of AI-driven innovation in influencing the direction of financial management is emphasized in this article, which offers insights into the changing landscape.

Introduction

The way financial services are provided, managed, and experienced is radically changing as a result of the convergence of artificial intelligence (AI) and financial technology

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(FinTech).(Justin et al. 2024) To make judgments in areas like risk management, investment strategies, lending, and fraud detection, financial management models have historically placed a significant emphasis on manual procedures, human skills, and historical data analysis. However, automation, real-time processing, predictive analytics, and tailored customer services have been brought by FinTech solutions and AI-driven technology breakthroughs, significantly increasing efficiency, accuracy, and scalability.(Albastaki et al. 2020)

Financial institutions can now process enormous amounts of organized and unstructured data and extract insightful information in previously unattainable ways thanks to artificial intelligence (AI) technologies like machine learning (ML), natural language processing (NLP), and deep learning algorithms.(Chou et al. 2023) These technologies improve fraud protection, credit scoring, investment forecasting, and client profiling by enabling pattern recognition, anomaly detection, and predictive modeling. In order to increase financial inclusion for people with limited credit histories, AI-powered platforms in the lending sector evaluate creditworthiness not only using traditional credit scores but also by examining alternative data sources, such as transaction histories, social media activity, and real-time financial activities.

Unencumbered by legacy infrastructure, fintech companies have used artificial intelligence (AI)(Bartoletti et al. 2020) to provide cutting-edge financial services and products that put conventional financial institutions to the test. These services include algorithmic trading platforms, AI-driven chatbots for round-the-clock client support, automated compliance monitoring systems, and robo-advisors providing individualized financial advice. Banks and other financial institutions are being forced to embrace comparable technology in order to stay competitive, as the speed and accuracy provided by AI-driven FinTech solutions have established new industry standards(Choi and Huang 2021)

KEYWORDS: FinTech, Artificial Intelligence, Financial Management, Digital Transformation, Machine Learning, Predictive Analytics, Financial Inclusion, Fraud Detection, Risk Management, Algorithmic Decision-Making, RegTech, Blockchain, Automation, Personalized Financial Services, Data Privacy, Algorithmic Bias, Customer Experience, Financial Innovation, Digital Banking, Regulatory Technology (RegTech)

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Materials and Methods

Using a qualitative and descriptive research methodology, this study on FinTech and AI: Disrupting Traditional Financial Management Models combines insights from industry reports, academic research papers, whitepapers, case studies, and expert perspectives with secondary data analysis. Understanding and assessing how much artificial intelligence (AI) and financial technology (FinTech) have changed conventional financial management techniques in a variety of industries, such as banking, investment management, lending, insurance, and regulatory compliance, is the main goal. Peer-reviewed journals, financial institution publications, technology consulting firms, regulatory bodies, and FinTech groups are among the data sources used to ensure a thorough and impartial assessment of the changing financial environment. The report examines case studies of top FinTech companies that have effectively incorporated AI technologies into their goods and services in order to assess the disruptive impact of AI. Natural language processing (NLP) for customer support chatbots, machine learning algorithms for credit risk assessment in digital lending platforms, AI-powered robo-advisors for individualized wealth management, and predictive analytics tools for real-time fraud detection are a few examples. The study also looks at how well-known financial institutions have reacted to the FinTech upheaval by implementing AI-based technologies to boost client satisfaction, increase operational effectiveness, and fortify risk management systems. In order to comprehend how financial regulators are adjusting to the quick uptake of AI technology in the financial industry, the study also looks into regulatory reports and policy papers. Examining new legal frameworks aimed at addressing algorithmic transparency, data privacy issues, ethical AI use, and algorithmic bias mitigation is part of this. The report provides a comprehensive overview of how AI-driven FinTech innovations are upending conventional financial models by combining data from various sources. It also identifies the potential, risks, and difficulties related to this technological revolution. The techniques also include a comparison of AI-enhanced financial management models that use big data analytics, automation, and predictive modeling to make quicker, data-driven decisions with traditional models that mainly rely on manual procedures, historical data interpretation, and human decision-making. The function of algorithmic decision-making, which has profoundly changed procedures like fraud detection, investment portfolio optimization, and credit underwriting, is highlighted in particular.

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Result And Analysis:

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explainability and transparency—is eroding, particularly when algorithms are used to make unfavorable financial choices like loan denials.

Limitations of the Study

Despite the transformative potential of FinTech and AI in disrupting traditional financial management models, several limitations and challenges hinder their full-scale adoption and seamless integration. One significant limitation is the quality and availability of data. AI models rely heavily on large, high-quality datasets for training and prediction, but financial institutions often face challenges in accessing clean, standardized, and unbiased data, especially in cross-border financial transactions where regulations vary. Moreover, the presence of algorithmic bias poses a risk, as AI systems trained on historical data may unintentionally perpetuate biases in areas such as credit scoring, loan approvals, or fraud detection**,** leading to discriminatory outcomes. Another critical limitation is transparency and explainability in many AI-driven financial processes. . Traditional financial systems operate under well-defined decision-making frameworks, but AI algorithms often function as black boxes, making it difficult for regulators, auditors, and even financial institutions themselves to understand, interpret, or justify decisions made by AI. Additionally, cybersecurity risks have increased due to the growing reliance on digital platforms and interconnected financial ecosystems, making AI-powered FinTech platforms attractive targets for cyberattacks, data breaches, and hacking attempts. Regulatory uncertainty also poses a significant limitation, as governments and regulatory bodies in many regions are struggling to keep pace with technological advancements, leading to fragmented or inconsistent regulatory frameworks. Finally, the successful adoption of AI in financial management is also constrained by organizational resistance, as traditional financial institution**s** face cultural and structural challenges in embracing automation, data-driven decision-making, and technology-driven business models. These limitations underscore the need for a balanced approach that combines innovation with ethical governance, regulatory clarity, data protection, and consumer trust-building measures to ensure the sustainable integration of AI and FinTech into global financial systems.

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Conclusion

A more automated, data-driven, and customer-focused financial ecosystem has been created by the combination of FinTech and Artificial Intelligence (AI), which has drastically changed conventional financial management paradigms. Financial institutions and FinTech startups have improved fraud detection, streamlined operations, and increased financial inclusion through innovations like machine learning algorithms, predictive analytics, robotic process automation (RPA), and natural language processing (NLP). AI has made financial processes quicker, smarter, and more effective by enabling real-time decision-making, proactive risk assessment, and tailored financial services. But these technological developments also present difficulties, such as worries about algorithmic bias, data privacy, legislative ambiguity, and the requirement for more openness in AI-driven decision-making. In order to establish a moral, safe, and innovative financial ecosystem, technology developers, financial institutions, regulators, and consumers will probably need to work together in the future as the financial sector develops. In the end, the capacity to strike a balance between innovation and accountability will determine whether FinTech and AI can successfully upend established financial management methods, guaranteeing long-term sustainability, inclusivity, and trust in the global financial industry**.**

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