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AI-Driven Financial Systems for Sustainable Economic Growth: Aligning Business Practices with Sustainable Development Goals (SDGs)

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Peer Review Information	Abstract
<p><i>Submission: 10 Feb 2026</i></p> <p><i>Revision: 22 Feb 2026</i></p> <p><i>Acceptance: 03 March 2026</i></p>	<p>The rapid advancement of Artificial Intelligence (AI) has brought significant transformation in financial systems and modern business practices. AI-driven technologies are increasingly used in banking, accounting, financial analysis, risk management, fraud detection, and digital payment systems. These applications enhance operational efficiency, accuracy, and decision-making while contributing to sustainable economic growth. AI also plays a vital role in promoting financial inclusion, transparency, and long-term financial stability, thereby supporting global development objectives.</p> <p>This paper aims to examine the role of AI-driven financial systems in achieving sustainable economic growth by aligning business practices with the Sustainable Development Goals (SDGs), with special reference to SDG 8 (Decent Work and Economic Growth) and SDG 9 (Industry, Innovation, and Infrastructure). The study adopts a conceptual and descriptive research methodology based on secondary data collected from journals, research articles, reports, and published literature.</p> <p>The study highlights that AI-powered financial systems improve accessibility to financial services, reduce operational risks, enhance customer experience, and strengthen economic resilience. However, it also identifies challenges related to data privacy, ethical concerns, and governance issues in AI implementation. The paper concludes that responsible and ethical integration of AI in financial systems can act as a catalyst for sustainable economic growth when supported by proper regulatory frameworks and governance mechanisms.</p>
<p>Keywords</p> <p><i>Artificial Intelligence, Financial Systems, Sustainable Economic Growth, Business Practices, SDGs.</i></p>	

Introduction

Artificial Intelligence (AI) has emerged as a powerful technological tool transforming various sectors of the economy, particularly the financial sector. Financial institutions are increasingly adopting AI-driven solutions to automate processes, enhance decision-making, reduce costs, and improve customer experience. The integration of AI in financial systems has significantly reshaped banking operations, accounting practices, investment analysis, and risk management.

Sustainable economic growth is a key objective

for both developing and developed nations. The United Nations Sustainable Development Goals (SDGs) emphasize inclusive growth, innovation, and responsible use of technology to ensure long-term development. In this context, AI-driven financial systems play a crucial role in supporting sustainable business practices and economic stability.

This paper explores how AI-driven financial systems contribute to sustainable economic growth while aligning business practices with global development goals.

Objectives of Study

The main objectives of the study are:

- To understand the concept of AI-driven financial systems
- To examine the role of AI in promoting sustainable economic growth
- To analyze the alignment of AI-driven financial systems with SDGs
- To identify the benefits and challenges of AI adoption in financial systems

Research Methodology

The study is based on a conceptual and descriptive research design.

Secondary data has been collected from:

- Research journals
- Conference papers
- Government and institutional reports
- Books and online academic sources

The study does not involve primary data collection and focuses on analyzing existing literature related to AI, financial systems, and sustainable development.

AI-Driven Financial Systems: An Overview

AI-driven financial systems refer to the application of artificial intelligence technologies such as machine learning, data analytics, automation, and predictive modeling in financial operations. These systems enable financial institutions to process large volumes of data efficiently and accurately, thereby improving decision-making and operational effectiveness. The adoption of AI has transformed traditional financial practices by automating routine tasks, reducing human error, and enhancing transparency. Applications such as AI-powered chatbots, automated accounting systems, algorithmic trading, fraud detection mechanisms, and digital credit assessment tools have become integral to modern financial systems. Through these advancements, AI-driven financial systems contribute to improved service delivery, cost efficiency, and customer satisfaction.

Role of AI in Sustainable Economic Growth

Artificial intelligence plays a significant role in promoting sustainable economic growth by improving productivity, optimizing resource utilization, and supporting data-driven decision-making. In the financial sector, AI enhances the efficiency of banking and financial services by automating processes such as loan approvals, risk assessment, and financial forecasting. AI-driven solutions also promote financial inclusion by enabling access to digital banking services for underserved and unbanked populations. By reducing operational costs and

minimizing financial risks, AI supports business sustainability and long-term economic stability. The integration of AI into financial systems thus contributes to inclusive growth and strengthens the overall economic framework.

Alignment with Sustainable Development Goals (SDGs)

1. SDG 8 – Decent Work and Economic Growth

AI-driven financial systems support economic growth by improving business efficiency, encouraging innovation, and enabling better workforce productivity. Automation and AI tools help organizations streamline operations and create new employment opportunities in technology-driven roles.

2. SDG 9 – Industry, Innovation, and Infrastructure

AI encourages innovation in financial infrastructure through digital platforms, fintech solutions, and smart financial services. It strengthens industrial growth by supporting innovative business models and modern financial ecosystems.

Benefits of AI-Driven Financial Systems

AI-driven financial systems offer several benefits that contribute to sustainable financial growth. These systems enhance accuracy and efficiency in financial operations while improving customer experience through personalized services. AI significantly strengthens fraud detection and risk management by identifying unusual patterns and potential threats in real time. Additionally, AI promotes financial inclusion by providing accessible and affordable financial services through digital platforms. By supporting transparency, efficiency, and inclusiveness, AI-driven financial systems play a crucial role in achieving sustainable economic development.

Challenges and Ethical Concerns

Despite the advantages of AI adoption, several challenges and ethical concerns exist in the implementation of AI-driven financial systems. Issues related to data privacy and cybersecurity pose significant risks, as financial systems rely heavily on sensitive personal and financial data. Ethical concerns such as algorithmic bias, lack of transparency, and accountability also raise questions regarding responsible AI usage. Furthermore, the shortage of skilled professionals and the absence of comprehensive regulatory frameworks hinder effective AI adoption. Addressing these challenges is essential to ensure the sustainable and ethical use of AI in financial systems.

Suggestions

To ensure responsible and sustainable implementation of AI-driven financial systems, it is essential to establish strong ethical guidelines and governance frameworks.

Transparency and accountability in AI decision-making processes should be promoted to build trust among stakeholders. Strengthening data protection laws and cybersecurity measures is crucial to safeguard sensitive financial information. Additionally, skill development programs and AI literacy initiatives should be encouraged to prepare the workforce for technological advancements. Effective regulatory policies will further support the responsible integration of AI into financial systems.

Conclusions

AI-driven financial systems play a significant role in transforming business practices and promoting sustainable economic growth. When aligned with the Sustainable Development Goals, AI can contribute to inclusive growth, innovation, and long-term financial stability. However, responsible governance, ethical considerations, and proper regulation are essential to maximize the benefits of AI while minimizing its risks. The study concludes that AI, when used responsibly, can act as a powerful tool for achieving sustainable financial growth and global development objectives.

References

World Economic Forum. (2023) Artificial Intelligence in Financial Services.

Relevance: This report provides insights into the application of AI in banking, fraud detection, risk management, and digital finance. It directly supports the discussion in this paper on how AI-driven financial systems enhance efficiency, transparency, and sustainability.

United Nations. (2015) Transforming Our World: The 2030 Agenda for Sustainable Development.

Relevance: This document forms the foundation for the Sustainable Development Goals (SDGs). The present study aligns its analysis with SDG 8 and SDG 9, as outlined by the United Nations, to examine the role of AI in sustainable economic growth.

Brynjolfsson, E., & McAfee, A. (2017) Machine Learning, Automation, and Economic Growth. Relevance: This work explains how automation and AI contribute to productivity and economic growth. It supports the paper's argument that AI-driven financial systems can act as a catalyst

for sustainable economic development.

OECD. (2022) Artificial Intelligence and the Future of Financial Markets.

Relevance: The OECD report discusses the impact of AI on financial markets, governance, and regulation. It complements this study's analysis of ethical challenges, data security, and the need for regulatory frameworks in AI-driven finance.

KPMG. (2021) AI in Banking and Financial Services.

Relevance: This industry report highlights real-world applications of AI in banking operations and customer service. It supports the findings of this paper regarding improved customer experience, operational efficiency, and financial inclusion through AI adoption.

About the Authors

Srivarshini R is a first-year undergraduate student pursuing B.Sc Mathematics at M.O.P. Vaishnav College for Women, Chennai. She has a strong academic interest in mathematics, financial systems, artificial intelligence, and data-driven business practices. Her areas of interest include the application of mathematical and analytical concepts in finance and emerging technologies such as AI. She actively participates in academic conferences and paper presentations to enhance her research skills and gain interdisciplinary exposure. This paper reflects her interest in exploring AI-driven financial systems and their role in achieving sustainable economic growth in alignment with the Sustainable Development Goals (SDGs).