Chapter 8
Artificial Intelligence and the Future of Financial Decision-Making

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ABSTRACT

Abstract: Artificial intelligence (AI) has transformed and modernized the process of financial decision making in the future; it also offers several opportunities and advancement for the users to make informed and effective decisions. Thus, the objective of this conceptual paper is to analyze the usage and application of AI in the finance sectors, specifically the role of AI in the future of financial decision-making. Finding of the conceptual paper has highlighted several significant usage and applications of Artificial intelligence in the financial decision making. These applications can be divided into six fundamental areas with reference to future of financial decision making: data analysis and insight, risk assessment, automation and efficiency, trading and investment strategies, personalized financial services, and fraud detection and security.

1. INTRODUCTION

Artificial intelligence is the system's capacity to comprehend and interpret external data, to learn and use the same data to accomplish tasks, goals, objectives via easy and flexible adaptation (Kaplan & Haenlein, 2019). Artificial Intelligence (AI) has become an increasingly important topic in recent years, as it has the potential to revolutionize many areas of life. The effectiveness of AI is highly dependent on its functionality, and its application in diverse fields presents both opportunities and

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challenges (Chen et al, 2022). Artificial intelligence is a fundamental component in modern society; as it performs an essential role. Multiple factors determine the effectiveness of AI such as its accuracy, speed, and adaptability. The ability of AI to correctly identify and classify data is referred to as accuracy. Speed refers to an AI's capacity for quick data processing while adaptability refers to an AI's capacity for long-term learning and improvement. Additionally, processing large and vast data quickly and accurately is one of the predominant advantages of Artificial Intelligence.

Accordingly, the increased computing power has significantly improved the quality and quantity of big data; thus, significant advances have been made in various research areas, including machine learning, neural networks, and speech recognition in recent years (Brynjolfsson & McAfee, 2017). AI technology has advanced quickly and is now used extensively in all spheres of society. Artificial intelligence technology is rapidly transforming and widely used in all spheres of life. Recently, AI has penetrated in different industrial sectors including health care, manufacturing, transportation, economics and finance, etc. In addition, AI is also augmenting in the field of economics and finance, and intensifying its significance in the field. Artificial Intelligence (AI) has revolutionized and transformed the future of financial decision-making, while simultaneously offering numerous opportunities and advancements. Artificial Intelligences' impact in the Finance domain can be observed in various areas.

According to Brynjolfsson and McAfee (2017), AI and machine learning (ML) are identified as the most crucial technologies with wide-ranging applications in the present era. As a significant driver in the fourth industrial revolution, AI is predicted to exert a profound influence on economies and societies, globally. PricewaterhouseCoopers' study (2018) suggests that the adoption of AI technology holds the potential to contribute to a remarkable increase in global GDP by up to USD $15.7 trillion, equivalent to 14% by the year 2030. Particularly, the financial services industry has been an early adopter, with almost 30% of companies successfully incorporating one or more AI technologies into their core operations at a substantial scale in 2020. For instance, Banks have implemented AI-powered applications like digital payments, chat bots, and biometric fraud detection systems to enhance their customer service. Banks also utilized AI to collect and analyze borrowers' data to obtain useful insights and make better-informed decisions (Huang & You, 2022).

AI-powered risk control systems analyze vast amounts of data, identify trends and patterns, and evaluate potential threats and risks; thus, improving the overall risk management capabilities of financial institutions by incorporating advanced algorithms (Li et al., 2021). Transaction data analysis, enhanced chatbots, identity verification during client registration, fraud detection, bond trading pricing, monetization of money laundering, price differentiation in auto insurance, automated analysis of legal articles, risk control, portfolio management, client relationship control,