Chapter 10
Aritificial Intelligence in Investment and Wealth Management

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ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative force in various industries, revolutionizing the fields of investment and wealth management. This study explores how AI technologies, including machine learning, natural language processing, and robotic process automation, have enhanced decision-making processes, risk management, and portfolio optimization within financial services. Early developments in AI were limited by rule-based systems, but advancements in deep learning and access to large datasets have enabled sophisticated real-time analysis and personalized financial solutions. However, challenges related to data privacy, algorithmic bias, and ethical considerations persist, necessitating ongoing innovation in AI system transparency and accountability. This research analyzes the impact of AI on investment strategies, compares AI-driven portfolios with traditional approaches, and evaluates AI's role in reducing market volatility and improving return on investment.

INTRODUCTION

Artificial intelligence has changed in a flash of period and became a game changer and revolutionized around various industries across the world. AI was first developed in the 1950s and 1960s, when rule-based systems and symbolic thinking served as its

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foundation. Logic problem-solving and other tasks were largely carried out by these early machines using pre-programmed instructions. By establishing fundamental ideas like the Turing Test and creating early algorithms, pioneers like Alan Turing and John McCarthy established the groundwork for artificial intelligence. But these systems' limitations included their incapacity to adjust or learn from fresh data, which left them unsuitable for the complexity of the actual world. With the development of machine learning in the 1980s and 1990s, artificial intelligence entered a new phase. Researchers found that AI could analyse data to identify patterns and make decisions in place of manually programming rules. The creation of algorithms like support vector machines, decision trees, and neural networks were among the major breakthroughs. This change made it possible for industries to adopt early applications in fields like speech recognition and simple automation, as well as expert systems. However, the lack of available data and computer power continued to hinder the advancement. The beginning of deep learning in the 2010s indicated a turning point in computing. Increased processing power, access to massive quantities of data, and superior neural architectures brought AI to new heights. Deep learning models began to thrive in tasks like image identification, natural language processing, and autonomous systems. This period saw AI become widely implemented in industries ranging from healthcare to banking, resulting in increased efficiency, innovation, and customer-centric solutions.

Today, AI is a crucial component of organisational strategy, enabling data-driven decision-making on new sizes. Especially its over growing influence on investment and wealth management. The approach by which financial data is analysed, processed, and used is being defined by AI-powered technologies which comprises of robotic process automation (RPA), machine learning (ML), and natural language processing (NLP). These developments have made it possible for financial institutions to more precisely manage the ever-changing market environment, facilitating more rapidly, more informed, and more personalised investment choices that improve portfolio performance and customer happiness. The future of AI is centred on creating ethical, explainable, and adaptable systems that can learn and function in complicated, ever-changing situations.

Companies today face difficulties in being updated to the news, economic changes, market trends. Although the traditional methods might help, they can't be fully up to what the users, investors want it as. Generations have changed completely over a decade to the point where work is made easier for users, investors to just rely on Artificial intelligence. This is where AI addresses these issues from the traditional methods by introducing powerful tools able to instantly provide analysis, real time analysis, risk management, modelling. Robo-advisors have gained popularity in recent years as an AI-driven solution to democratize investment services for retail investors. *(Khanna, 2021).*Fund managers, wealth managers and hedge funds are