Chapter 15
Charting the Ethical Landscape:
A Holistic Examination of AI Ethics and Bias in the Financial Sector

Shanmuga Pria
https://orcid.org/0000-0003-1117-3831
University of Technology and Applied Sciences, Oman

Iman Al Rubaie
University of Technology and Applied Sciences, Oman

B. V. V. Prasad
University of Technology and Applied Sciences, Oman

ABSTRACT

This chapter comprehensively examines the ethical considerations surrounding integrating artificial intelligence (AI) in the financial sector. It begins by establishing a foundational understanding of AI ethics, emphasizing integrity, fairness, and accountability. The chapter explores the challenge of bias in financial AI models, discussing sources and implications while offering strategies for mitigation. It delves into the impact of ethical AI on economic outcomes, highlighting benefits such as improved decision-making and customer satisfaction. Additionally, it provides guidance on fair AI implementation in finance, addressing regulatory compliance. The best actions for ethical AI usage in finance are outlined. In conclusion, the chapter summarizes key insights and emphasizes the ongoing need for vigilance and commitment to moral principles in the evolving landscape of financial AI.

DOI: 10.4018/979-8-3693-6215-0.ch015

UNDERSTANDING AI ETHICS IN FINANCE

AI technology innovates the financial industry, enabling more tailored and advanced economic-financial mechanisms, products, models, services, systems, and applications (Cao, 2020). Integrating artificial intelligence into the financial sector brings forth numerous ethical issues that must be critically analyzed. Whereas AI grants several benefits, such as cost efficiency, enhanced operations, and better adherence to compliance, it also raises many significant ethical questions and issues of ethics that must be considered accordingly. Ethics and Social Issues in AI Applications in Finance The ethical dimensions of AI in finance extend beyond questions of responsibility and accountability to broaden social concerns. These include the personalization of services to individuals, security and ownership of data, job displacement in the financial sector, and systemic risks due to consolidation driven by AI. Thus, addressing AI's normative implications on finance requires a discussion at the societal level. By considering such ethical dimensions, stakeholders can contribute to shaping responsible and ethical behavior regarding integrating AI into the financial sector.

Advanced rapid development and the wide integration of AI in many spheres have caused many changes in conventional paradigms. The influence of such transformations is apparent in the financial sector. Based on the discussion given the relevant literature, industry reports, and real-life cases, this paper discusses the immediate consequences of AI in finance, its prospects, the challenges involved, and the resulting outlook. Our analysis shows that AI has already significantly impacted risk management, trading, customer support, fraud detection, and personalized financial services, promoting efficiency, security, and the satisfaction of customers. On the other hand, it addresses the main challenges related to implementation, among which stand ethical concerns related to data privacy and bias, the incomprehensibility of algorithms, and a possible job loss because of automation. Artificial intelligence in finance is a growing interest; once this technology is integrated, the industry can be transformed into many functions. AI's practical aspects and business implications in finance reveal key application areas and leading AI applications that reshape the financial ecosystem, showing substantial value in enhancing financial processes to improve sector performance (Golić, 2020).

For ethical considerations in AI, a balance between AI's growth and ethics, particularly regarding privacy and bias, is essential for trusted decision-making (Mahdavi et al., 2020). Financial professionals should also be trained in responsibly handling big data and implementing AI with attention to ethics and privacy concerns (Mahdavi et al., 2020).