

5 - 7 December 2025

Dublin , Ireland

Explainable Artificial Intelligence in High-stakes Competitive Environments: Balancing Performance, Trust, and Accountability

Zbigniew Grzymala , Agnieszka Wojcik- Czerniawska

Sgh

Warsaw School Of Economics

Abstract

The integration of Artificial Intelligence (AI) into strategic decision-making has redefined how competitive advantage is conceptualized and operationalized in high-stakes environments. Sectors such as finance, national defense, supply chain logistics, and healthcare are increasingly relying on AI-driven systems not merely as tools for automation but as autonomous agents capable of shaping and executing strategy. While the benefits of speed, scale, and predictive accuracy are well documented, the opacity of many high-performance AI models — especially those based on deep learning — poses fundamental challenges to human oversight, regulatory compliance, and ethical responsibility. The emerging field of Explainable Artificial Intelligence (XAI) has therefore become a critical frontier in ensuring that competitive AI systems remain accountable, trustworthy, and socially sustainable.

Keywords: Artificial Intelligence, Competitive Environments, Balancing Performance, Trust, Accountability