

Artificial Intelligence in Corporate Financing Decisions: A Conceptual Analysis of Capital Structure Optimization

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ABSTRACT

This paper examines the application of Artificial Intelligence (AI) in optimizing capital structure decisions within the domain of corporate finance, with the objective of enhancing financing efficiency, risk management, and long-term sustainability. Adopting a conceptual and Comparative analytical approach, the study synthesizes insights from traditional capital structure theories, intelligent finance frameworks, and recent advancements in AI-driven financial analytics to compare conventional static models with adaptive, data-driven optimization techniques. The theoretical analysis, supported by existing empirical evidence from prior studies, indicates that AI-driven capital structure optimization improves decision-making by dynamically identifying optimal debt–equity combinations based on firm-specific risk profiles, market conditions, and non-financial sustainability factors, leading to a reduction in the weighted average cost of capital and enhanced financial resilience. From a research perspective, the study extends corporate finance literature by integrating artificial intelligence into capital structure theory, offering a foundation for future empirical investigations. Practically, the findings highlight the value of AI-based decision-support systems for corporate managers and financial institutions in strategic financing, risk mitigation, and sustainable capital planning. Socially, improved capital structure decisions contribute to corporate stability, responsible financial behavior, and broader economic sustainability. The originality of the study lies in its focused evaluation of AI-driven capital structure optimization as a strategic intelligent finance application aligned with long-term value creation and sustainable corporate growth.

Keywords: Artificial Intelligence, Corporate Finance, Capital Structure Optimization, Intelligent Finance, Sustainability

