

Advancing ESG Research: SDG Alignment, Time-Lagged Effects, and Narrative Strategies in Taiwanese ICT Firms

Ling-Jing Kao¹, Chih-Chou Chiu², Tai-Hsi Wu³, Ya-Yi Lin⁴

^{1,2}Department of Business Management, National Taipei University of Technology

³Department of Business Administration, National Taipei University

⁴College of Management, National Taipei University of Technology

Abstract

This research addresses a critical gap in ESG studies by going beyond simple disclosure to analyze the alignment of ESG reporting with the Sustainable Development Goals (SDGs) and the time-lagged relationship between ESG and financial performance. Employing a novel BERTopic-LSTM framework, the study conducts a detailed thematic analysis of ESG reports from 205 Taiwanese ICT firms over six years (2015-2020), revealing how narrative strategies influence corporate outcomes. The research emphasizes the importance of SDG alignment, facilitated by a domain-specific dictionary, and demonstrates the significance of considering the delayed effects of ESG initiatives. Empirical findings highlight that effective communication of ESG themes, such as digital innovation for climate solutions and social equity, enhances stakeholder trust and strengthens corporate reputation within the ICT sector. By offering a nuanced evaluation of SDG alignment and temporal dynamics, this research provides actionable insights for both academics and practitioners, moving beyond traditional content analysis and static ESG scores to advance the understanding of ESG reporting's role in shaping financial sustainability.

Keywords: BERTopic, ESG reporting, financial performance, LSTM, semiconductor industry