

ESG REPORTING AS A CORE MANAGERIAL COMPETENCE IN THE AGE OF AI

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ABSTRACT

Sustainability reporting requires organizations to collect, verify and communicate environmental information with a high degree of accuracy. This study examines ESG reporting as a managerial competence and analyses how artificial intelligence supports transparency in environmental data interpretation. A structured search in Scopus and Web of Science identified 368 publications. The literature shows variation in the quality of environmental disclosures and increasing use of AI tools such as natural language processing to detect inconsistencies and selective reporting. To complement these findings, a short survey among professionals involved in ESG reporting was conducted. The results indicate uneven familiarity with ESG regulations, gaps in data validation and inconsistent coverage of environmental topics. AI can support more reliable reporting, but its value depends on explainability and the competencies of managers who interpret AI generated insights. The study highlights the need for capability development in data literacy, environmental understanding and responsible use of AI. Implications for practice and future research directions are discussed.

Keywords: ESG reporting; sustainability reporting; environmental disclosure; artificial intelligence; competences **JEL:** M14, O33, Q56

INTRODUCTION

Sustainability and ESG reporting help organisations communicate their environmental performance, climate impacts and resource use. Studies show variation in how firms report emissions, energy use and climate risks [1], [2]. Managers who prepare these reports need analytical skills, environmental understanding, ethical judgement and clear communication.

Artificial intelligence is now used in several stages of the reporting process. Natural language processing, text mining and large language models help extract environmental information and highlight inconsistencies in disclosed data [3], [4]. AI tools also detect selective reporting and support comparisons across firms [5]. Their use increases the need for transparency, because managers must understand how AI produces outputs and how these outputs should be verified [4], [6].

This study examines ESG reporting as a managerial competence. It also analyses how AI can support the interpretation and verification of environmental data. The analysis combines a structured literature search with preliminary insights from a short survey among professionals involved in sustainability reporting.

MATERIALS AND METHODS

A structured literature search was conducted using the Scopus and Web of Science Core Collection databases. The aim was to identify peer reviewed research at the intersection of sustainability reporting, environmental disclosure and artificial intelligence. Equivalent search terms were applied in both databases to ensure methodological consistency.