AI-Enabled Data-Driven Decision Making: Mapping Competency Transformations and Teaching Innovations Through Systematic Review and Bibliometric Analysis

Vitaliy Roud[1]

[1]Zagreb School of Economics and Management, Croatia, vitaliy.roud@gmail.com

Abstract

This study employs systematic literature review and dynamic bibliometric analysis to examine AI-enabled transformations in data analysis, machine learning, and data driven decision-making processes from 2020-2025. The research aims at constructing a comprehensive taxonomy mapping AI's effects across five critical stages of data-driven decision making: data collection, preprocessing, analysis, interpretation, and implementation. Through the extensive analysis of the most relevant peer-reviewed articles and business reports, the study seeks to identify paradigm shifts including the transition from descriptive to prescriptive analytics, emergence of human-AI collaborative frameworks, and democratization of analytical capabilities. The research will identify crucial competency gaps in current educational frameworks, particularly in AI literacy, data-driven reasoning, and hybrid decision-making skills. The main purpose is to understand current transformations and optimize the competency portfolio needed for real-life data analysts and managers in data-driven environments, ultimately proposing innovative teaching approaches for higher education.

Keywords: *AI-enabled decision making, bibliometric analysis, data literacy, Machine learning competencies, Data-driven decision making*

ISSN 2991-9371