



“Gheorghe Asachi” Technical University of Iasi, Romania



LEVERAGING AI FOR ENVIRONMENTAL SUSTAINABILITY: MEDIATING ROLE OF ORGANIZATIONAL SUPPORT IN SMES

**Sanam Soomro^{1,2}, Mingyue Fan^{1*}, Jan Muhammad Sohu², Safia Soomro³,
Sonia Najam Shiakh¹, Muhammad Babar Iqbal², Erum Naseer²**

*¹School of Management, Jiangsu University, 301 Xuefu Road, Zhenjiang,
Jiangsu Province, China, Zip Code 212013*

*²Department of Business Administration, Sukkur IBA University,
Nisar Ahmed Siddiqui Road Sukkur Sindh, Pakistan, Zip Code 65200*

³The Begum Nusrat Bhutto Women University, Rohri Bypass, Sukkur, Zip Code 65200

Abstract

Artificial Intelligence (AI) is rapidly transforming business operations across industries. However, its potential in fostering environmental sustainability within small and medium-sized enterprises (SMEs), particularly in developing economies, has been insufficiently explored. This study addresses the gap by examining the role of AI in enhancing environmental sustainability in manufacturing SMEs. It specifically investigates the mediating roles of organizational support (OS) and AI-driven employee empowerment within the Resource-Based View (RBV) framework. A survey was conducted among 438 SME managers in Pakistan, and data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to assess the relationships between AI integration (AII), AI driven employee empowerment, organizational support, and sustainable performance (SP). The findings indicate that AI integration significantly enhances AI driven employee empowerment, which, in turn, drives sustainable performance. Furthermore, organizational support plays a critical mediating role in translating AI integration into economic and environmental sustainability performance. This study provides valuable insights for SMEs and policymakers on leveraging AI to foster sustainable business practices. It highlights that organizational support and employee engagement are crucial for maximizing AI's potential in promoting sustainable innovation. The research contributes to the understanding of how AI integration can drive environmental sustainability by improving operational efficiencies, reducing environmental impact, and enhancing SME competitiveness in resource-constrained settings. This study makes a significant contribution to the literature by integrating AI integration, employee empowerment, and organizational support within the RBV framework, offering practical implications for SMEs' sustainable growth in developing economies.

Key words: AI integration, employee empowerment, organizational support, sustainable performance

Received: February, 2025; Revised final: September, 2025; Accepted: October, 2025

* Author to whom all correspondence should be addressed: e-mail: fanmy@ujs.edu.cn