



“Gheorghe Asachi” Technical University of Iasi, Romania



TRANSFORMING GREEN HRM INTO ENVIRONMENTAL PERFORMANCE THROUGH BIG DATA ANALYTICS IN SERVICE-SECTOR SMEs

Sonia Najam Shaikh¹, Li Zhen^{1*}, Meng Qingfeng¹, Jan Muhammad Sohu^{1,2},
Sanam Soomro^{1,2}

¹*School of Management, Jiangsu University, Zhenjiang, Jiangsu, China*

²*Department of Business Administration, Sukkur IBA University, Sukkur, Pakistan*

Abstract

This study explores the relationship between Big Data Analytics Capability (BDAC), Green Human Resource Management Practices (GHRMP), Green Competitive Advantage (GCA), and Environmental Performance (EP), with a particular focus on the moderating role of Employee Environmental Knowledge (EEK) in the service sector of small and medium-sized enterprises (SMEs). This research adopts a quantitative approach and utilizes Smart PLS 4 to analyze data from a sample of 416 participants across diverse service sectors SMEs. Statistical techniques, including path analysis and structural equation modeling (SEM), were employed to examine the hypothesized relationships among the constructs. The results provide valuable insights into service sectors, particularly service sectors such as education and healthcare in SMEs, revealing a positive and significant relationship between all the constructs. The findings reveal that the adoption of GHRMP significantly enhances environmental awareness and fosters positive environmental outcomes, while BDAC enables firms to effectively leverage GHRMP for achieving GCA. Notably, the results underscore the importance of EEK, which strengthens the relationship between GHRMP and EP, amplifying the firm's ability to gain competitive advantage through green initiatives. The study is grounded in Resource-Based View (RBV) theory, highlighting how unique capabilities like BDAC and GHRMP can contribute to sustainable competitive advantage in service SMEs.

Key words: big data analytics capability, employee environmental knowledge, environmental performance, green competitive advantage, green human resource management practices

Received: April, 2024; Revised final: January, 2025; Accepted: January, 2025; Published in final edited form: November, 2025

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