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RESOURCE-BASED DIFFUSION OF GREEN PRACTICES: HOW GREEN SUPPLY CHAINS AND INNOVATION DRIVE SMES SUSTAINABLE PERFORMANCE THROUGH LOW-CARBON TECHNOLOGIES

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Abstract

This study examines the integration of the Diffusion of Innovation theory (DIT) and Resource-Based View (RBV) to understand the relationship between green supply chain integration (GSCI), low-carbon technology innovation (LCTI), green innovation strategy (GIS), big data analytics capability (BDAC), and sustainable performance (SP) in manufacturing SMEs in Pakistan. The study aims to highlight how green practices and technological advancements drive sustainability in the sector. Using the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach, data were collected from CEOs, directors, and operations managers with expertise in technological advancements. The study investigates the impact of GSCI and GIS on SP and the role of BDAC in enhancing LCTI adoption. The findings reveal significant relationships among GSCI, GIS, and LCTI, as well as a strong link between LCTI and SP. Additionally, BDAC plays a crucial role in amplifying the benefits of LCTI for sustainability. These results emphasize the importance of integrating green supply chain practices, innovation strategies, and advanced analytics for achieving sustainable performance in SMEs. The study contributes theoretically by reinforcing RBV's focus on resource-based competitiveness and DI's emphasis on innovation adoption for sustainability.

Key words: big data analytics capability, green innovation strategy, green supply chain integration, low-carbon technology innovation, SMEs, sustainable performance

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