

Research on the Driving Effect of Artificial Intelligence Pilot Zone Construction on Corporate Green Innovation

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Abstract

With the rapid advancement of artificial intelligence (AI) technologies, the establishment of national AI pilot zones has emerged as a pivotal strategic initiative to propel regional economic transformation and high-quality development. Focusing on the driving effect of AI pilot zone construction on corporate green innovation, this study employs a multi-period Difference-in-Differences (DID) model and a mediation effect model using a sample of Chinese A-share listed companies from 2016 to 2022. It investigates the mechanisms and impacts of such zones on both the quantity and quality of green innovation. The findings reveal that AI pilot zones significantly foster green innovation among regional enterprises by providing policy support, aggregating resources, and improving digital infrastructure. On one hand, the construction of these zones effectively incentivizes firms to increase green patent applications, thereby expanding the scale of green innovation. On the other hand, by optimizing the innovation ecosystem and facilitating the flow of high-end factors, they propel corporate green innovation towards higher-value and higher-quality trajectories. Furthermore, the AI pilot zones trigger a significant innovation peer effect, fostering a regional synergistic diffusion mechanism that encourages more enterprises to proactively engage in green transformation. This research provides empirical evidence for assessing the externalities of AI policies and offers policy implications for leveraging technology to empower green development under the "Dual Carbon" goals.

Keywords

Construction of Artificial Intelligence Pilot Zones, Corporate Green Innovation, Innovation Quantity, Innovation Quality, Peer Effect