Can Artificial Intelligence Help Companies Curb Carbon Emissions?

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Abstract:

With the growing awareness of climate change, companies are under pressure to adopt advancing technology to reduce their carbon footprint. Through the examination of Chinese public-listed firms, this paper empirically explores the impact of artificial intelligence (AI) technology on corporate carbon emissions. The results indicate that the impact of artificial intelligence on corporate carbon emissions is non-linear and presents an inverted U-shaped relationship. Furthermore, we demonstrate that green innovation levels play a partial mediating role in this process. In addition, we found that the inverted U-shaped relationship between AI and firms' carbon emissions was more pronounced in labor-intensive industries, heavily polluting firms, and the eastern region.

Keywords:

Artificial Intelligence, Corporate Carbon Emissions, Green Innovation Level, Green Transformation.