

Environmental Pollution and the Digital Economy

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Introduction

Digitization and a low-carbon economy are becoming increasingly popular in today's culture. From the set of knowledge popularisation, digital technology has reached a deeper stage of cross-border integration. Based on this, the digital economy has delivered significant economic gains. Previously, it was widely assumed that there existed a contradiction between economic expansion and environmental damage, but the rise of the digital economy appeared to resolve this quandary. As the world's greatest developing country and carbon emitter, China should prioritise pollution and carbon reduction while pursuing economic development.

The central government, in particular, stated that "reaching a carbon peak by 2030 and striving for carbon neutrality by 2060" set greater standards for pollution reduction in the new period and stage. It is difficult to accomplish green development only through pollution remediation. A long-term method for mitigating environmental contamination must be based on effective economic means [1].

Description

The digital economy and the green economy are two important concerns for post-epidemic economic recovery. We use simultaneous spatial equations and the generalised 3-stage least square approach to examine and quantify the links between the digital economy and environmental pollution in 287 prefecture-level cities in China from 2008 to 2018. The findings indicate that the digital economy and environmental pollution in Chinese cities are evolving in a backward and complicated spatio-temporal pattern. The digital economy and pollution have a spatial interaction spillover effect. Local digital economy and environmental degradation are mutually antagonistic. There is a large geographical spillover between the digital economy and pollution. The surrounding region's digital economy has a suppressive influence on local environmental pollutants [2].

The digital economy will gradually become a new driving force in future economic growth, fostering a green economy capable of balancing the digital economy and natural resource conservation. China should place a high value on the evolving harmony between the green and digital economies, encouraging them to collaborate and create a new economic growth pattern. As a result, researching the coupling and coordinated growth link between the green economy and the digital economy is vital for advancing China's economic development model transition and attaining high-quality green development. Based on the foregoing, this study seeks to examine the relationship between the rise of the digital economy and environmental pollution by examining their temporal and geographical evolution characteristics, as well as the interaction spillover effects.

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There is no agreement on the relationship between the digital economy and sustainable development. The key tendencies in economic and social growth are digitization and sustainable development. After reviewing prior studies, Castro concluded that merging digitalization with sustainable development will present a huge chance to create a greener economy and society while also paving the way for the achievement of sustainable development goals [3]. Digitization is one of the most promising long-term growth prospects. People are increasingly expecting digital to add value to attaining sustainable development goals by offering new data sources, increased analytical abilities and a collaborative digital ecosystem. Franca advocated that small cities use blockchain to improve solid waste management.

Emerging digital technologies contribute to green development. Innovative digital approaches (such as deep learning and data-driven engineering) may be utilised to achieve higher levels of automation and early optimization in the design process, which is becoming increasingly important for the long-term viability of resource-based circular economies. Rajala investigated how smart items may aid in the long-term growth of the industrial ecosystem. The study adds to our understanding of the closed-loop system of the circular economy, which now relies more than ever on the digital platform. According to Dumont, digital technology is low-cost and easy to get, providing power for sustainable ecological agriculture [4].

The digital economy and environmental harm are inextricably linked. The first is how digitization affects pollutant levels. Academic circles have unanimously agreed that technological improvement promotes efficiency since the neoclassical growth model was presented. Increasing the growth of the digital economy would inspire a significant shift in the industrial production paradigm by enabling technological innovation to minimise pollution. Furthermore, the digital economy may convert the value of Internet traffic into economic and ecological value, as well as providing technological reserves and product application incentives for green consumption. Using digital technology to generate green consumer products and a green consumption platform may promote public participation and a sense of ownership in green consumption, as well as improve the communication efficiency of the green consumption concept [5].

Conclusion

The conclusion of this study acts as a reference point for many governments' and regions' digital economy and green development projects. According to the analysis of temporal and spatial evolution characteristics, it is necessary to balance the digital economy and the share of environmental degradation across areas, as well as equitably divide digital economy development resources, so that backward regions can benefit from high-quality economic growth enabled by the digital economy.

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Conflict of Interest

No potential conflict of interest was reported by the authors.

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