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THE IMPACTS OF ONLINE GREEN APPLICATIONS ON PUBLIC ENVIRONMENTAL BEHAVIORS: A CASE STUDY OF THE ANT FOREST APPLICATION

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Abstract

As digital technology integrates with environmental initiatives, online green applications have become key drivers of sustainable behavior. However, there is a lack of further research on the impact of green applications on user behavior. This study investigates how user engagement, including frequency of use (FU), direct green energy gain (DG), and collaborative participation (CP), influences environmental protection behaviors such as green travel (GT), green consumption (GC), green public service engagement (GPSE), and green investment (GI). Drawing on the technology acceptance model (TAM), the theory of planned behavior (TPB), and gamification theory, we employed structural equation modeling (SEM) to analyze data from 5,436 users of Ant Forest, the largest online green application in China. The results showed that FU significantly promoted GT and GC, while DG primarily enhanced GC. CP had broad positive effects on all behaviors. Environmental risk perception (ERP) and sense of social responsibility (SSR) significantly moderated these relationships, with ERP having a stronger impact. Our findings highlight the effectiveness of digital platforms like Ant Forest in promoting sustainable actions through social networks and risk awareness. These insights offer valuable implications for policymakers, businesses, and individuals looking to utilize technology to advance sustainable development goals (SDGs).

Key words: ant forest; environmental protection behavior; moderating effects analysis; SEM

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