7 - 9 November 2025 Munich , Germany

A Study of the Impact of Digital Transformation on Business Performance in Manufacturing Enterprises

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Abstract

In the wave of new-generation information technology revolution, the breakthrough application of key technologies such as cloud computing, big data analysis is accelerating the fundamental change of social production mode. As a pivotal implementation platform for digital economic development, the intelligent transformation within the manufacturing sector represents the core direction of the evolution of the traditional production system in the direction of intelligence. Within this research context, the present study aims to systematically examine the changes in the performance characteristics of manufacturing enterprises during the implementation of digital transformation strategy, and analyzing the dynamic mechanism between them and their technological innovation capability. The empirical results demonstrate that digital transformation exerts a positive and statistically significant impact on the operational performance of manufacturing firms. Notably, innovation capability serves as a pivotal mediating mechanism through which digital initiatives enhance corporate performance. Heterogeneity analysis further reveals two important findings: (1) state-owned enterprises exhibit stronger performance elasticity to digital transformation compared to their private counterparts, likely attributable to their superior resource endowments and risk-bearing capacity; (2) the marginal effect of digital transformation is more pronounced in central and western regions, suggesting the existence of diminishing returns to digitalization in more developed eastern areas.

Keywords: Business Performance; Digitalization; Empirical Study; Innovation Capability; Regional Disparities