

Configuring supply chain governance and digital capabilities for resilience: Evidence from the manufacturing sector

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ABSTRACT

In an increasingly complex and turbulent global environment, achieving resilience in manufacturing supply chains has become a critical strategic priority. Drawing on a sample of 300 manufacturing firms, this study examines both the net and configurational effects of supply chain governance mechanisms and dynamic digital capabilities on supply chain resilience. Using structural equation modeling and fuzzy-set qualitative comparative analysis (fsQCA), the findings reveal that: Contractual governance, relational governance, digital sensing capability, digital resource integration, digital-driven innovation, and digital-enabled business capabilities each have a positive impact on manufacturing supply chain resilience. In the overall sample, only relational governance demonstrates a relatively strong individual effect, while none of the six governance or digital capability dimensions serve as necessary conditions for high resilience in subsample analyses. For high-tech manufacturing firms, two resilient configurations are identified: 1) basic digital enablement with strong governance synergy, and 2) advanced digital enablement with strong governance synergy. In contrast, non-high-tech firms exhibit three distinct resilient configurations: 1) digital integration-driven, 2) advanced digital enablement with relational governance dominance, and 3) dual-core digital enablement with robust governance synergy. These insights provide nuanced theoretical contributions and practical implications for configuring governance and digital strategies to build sustainable supply chain resilience in the manufacturing sector.

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Konfiguracija upravljanja dobavne verige in digitalnih zmogljivosti za odpornost: potrditev na primeru proizvodnega sektorja

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POVZETEK

V vse bolj kompleksnem in turbulentnem globalnem okolju postaja krepitev odpornosti proizvodnih dobavnih verig ključna strateška prednost. Raziskava na vzorcu 300 proizvodnih podjetij analizira neposredne in kombinirane vplive mehanizmov upravljanja dobavne verige ter dinamičnih digitalnih zmogljivosti na njeno odpornost. Rezultati, pridobljeni z modeliranjem strukturnih enačb in kvalitativno komparativno analizo z mehkim naborom (fsQCA), kažejo, da imajo pogodbeno upravljanje, relacijsko upravljanje, digitalna zaznavna zmožnost, digitalna integracija virov, digitalno podprta inovativnost in digitalno podprte poslovne zmogljivosti vsak zase pozitiven vpliv na odpornost proizvodnih dobavnih verig. V celotnem vzorcu se kot edini izrazi-tejši dejavnik izkaže relacijsko upravljanje, medtem ko v podvzorčni analizi nobena od šestih razsežnosti upravljanja ali digitalnih zmožnosti ni nujen pogoj za visoko raven odpornosti. Analiza je za visokotehnološka proizvodna podjetja razkrila dve značilni konfiguraciji odpornosti: (1) osnovna raven digitalne podprtosti z močno sinergijo upravljanja in (2) napredna raven digitalne podprtosti s sinergijo upravljanja. Nevisokotehnološka podjetja izkazujejo tri konfiguracije odpornosti: (1) digitalno integracijo kot gonilo odpornosti, (2) napredno raven digitalne podprtosti z izrazito vlogo relacijskega upravljanja in (3) dvojedno digitalno podprtost z okrepljeno sinergijo upravljanja. Ti izsledki predstavljajo pomemben teoretični prispevek in ponujajo praktične usmeritve za oblikovanje strategij upravljanja in digitalnega razvoja z namenom krepitev trajnostne odpornosti dobavnih verig v proizvodnem sektorju.

PODATKI O ČLANKU

Ključne besede:

Proizvodna dobavna veriga;
Odpornost;
Upravljanje dobavne verige;
Dinamične digitalne zmožnosti;
Kvalitativna komparativna analiza z mehkim naborom (fsQCA);
Analiza konfiguracij dejavnikov

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