Leadership, Learning, and Business Beyond Boundaries: Managing Change in a Complex World
21–23 May 2026
Ljubljana, Slovenia
make learn TIIM PIConf
Management, Knowledge and Learning International Conference
Technology, Innovation and Industrial Management
Sustainable Development

Value Creation within Economy 4.0 Value Networks

Elisaveta Panasiuk
Maria Curie-Skłodowska University, Faculty of Economics, Poland
elisaveta.panasiuk@mail.umcs.pl

Abstract

The digital transformation of the global economy, driven by Industry 4.0 technologies like AI, IoT, and blockchain, is fundamentally redefining how organizations generate and capture value. This research addresses a significant cognitive gap regarding the lack of holistic models integrating technological, organizational, and relational factors within contemporary value networks.

The primary aim is to develop and statistically verify a multi-criteria theoretical model of value creation processes designed to maximize benefits for all network participants. The study's framework synthesizes Value Network Analysis (VNA), the Technology Acceptance Model (TAM), and the Technology-Organization-Environment (TOE) framework to evaluate structural interdependencies and digital adoption readiness.

Currently, the project is in the advanced design phase, focusing on tool development. Methodologically, the study adopts a multi-stage mixed-methods paradigm. It begins with a qualitative phase involving semi-structured interviews with Polish TSL managers to refine research variables and ensure content validity. This informs the subsequent quantitative phase targeting a specialized sample of 50 Polish SMEs, selected via multi-stage screening based on the "h-rel" network activity index. Data analysis will utilize Structural Equation Modeling (SEM) to assess variable impacts and the Analytic Hierarchy Process (AHP) to prioritize decision criteria.

Expected findings include identifying synergy mechanisms and practical recommendations for managing non-linear value flows. Ultimately, the research seeks to provide a robust tool for enterprises to build sustainable competitive advantages through digital interoperability and collaborative co-creation.

Keywords: Value creation, value networks, Economy 4.0, digital transformation, TSL sector