

A Comparative Study of Smart City Project Discourses Using Semantic Network Analysis – A Big Data-Driven UCINET Analysis of South Korea and Global Cases

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Abstract

Smart city initiatives have emerged as a global urban development agenda, yet their meanings, policy orientations, and implementation strategies vary significantly across national and institutional contexts. In particular, while many smart city policies are framed as transferable best practices, the ways in which such policies are localized and reinterpreted remain insufficiently examined. This study investigates the differences between domestic smart city discourses in South Korea and international smart city discourses from the perspective of policy mobility.

The study is based on a comparative text-mining approach using academic articles and policy-related documents. Domestic literature on Korean smart city projects and international smart city research articles were collected and systematically filtered. Morphological analysis and semantic network analysis were conducted using Python, followed by network visualization and centrality analysis using UCINET.

The results reveal that Korean smart city discourse is strongly structured around service provision, system operation, data management, and institutional implementation, reflecting a project-oriented and government-led policy framework. In contrast, international smart city discourse emphasizes governance, participation, ethics, sustainability, and urban transformation, indicating a broader conceptualization of smart cities as an evolving planning paradigm. These differences suggest that smart city policies are not transferred as fixed models but are selectively mobilized and reassembled according to domestic planning systems and governance structures.

This study contributes to smart city research by empirically demonstrating how policy mobility operates through discourse networks and by highlighting the role of planning institutions in shaping localized smart city trajectories.

Keywords

Smart city, policy mobility, semantic network analysis, urban planning.