Developing a Digital Maturity Measurement Model – Case of Local DESI (LOC-DESI)

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ABSTRACT

This paper addresses the need for more coherent and comparable approaches to measuring digital maturity at the local level. Existing digital maturity indices often focus narrowly on technical infrastructure, connectivity, and digital service outputs, while insufficiently capturing the systemic, organisational, and societal dimensions of digital transformation. The paper therefore has two main objectives: to contribute to the development framework for digital transformation maturity modelling and to present the LOC-DESI digital maturity measurement model for Slovenian municipalities. The research follows a two-phase design. In the first phase, a General Conceptual Model of digital transformation was developed through a review of literature, strategic documents, and existing national and local digital maturity models. The model was then mapped against EU strategic objectives and selected frameworks, with particular attention to DESI and LORDIMAS. This provided the basis for the LOC-DESI conceptual model adapted to the municipal level. In the second phase, the conceptual model was operationalised into a measurement model using indicators selected according to policy relevance, necessity, statistical quality, timeliness, availability at the municipal level, and frequency of data collection. The model combines secondary data with primary data collected through a standardised municipal survey. The study finds that existing digital maturity models only partially capture digital transformation and tend to underrepresent impact-oriented dimensions such as innovation, societal outcomes, and value creation. The proposed LOC-DESI measurement model offers a broader framework, comprising nine dimensions, 22 subdimensions, and 43 indicators. It enables structured assessment of municipal digital maturity while recognising limitations related to data availability and empirical validation. The model is therefore best understood as a developmental and comparative tool rather than a definitive ranking instrument. Its main contribution lies in providing a replicable pathway from a general conceptual framework to a locally adapted measurement model.

Key Words: local government, digital transformation, maturity model, measurement model, Slovenia.