



*Editorial*

## **Digital transformation, servitization, and ecosystem innovation for urban resilience and sustainable transition**

**Chunliang Chen\***

Graduate school of creative industry design, National Taiwan University of Arts, New Taipei City, Taiwan, China

\* **Correspondence:** Email: [jun@ntua.edu.tw](mailto:jun@ntua.edu.tw).

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### **1. Introduction**

The accelerating digital transformation across cities and industries has fundamentally reshaped the logic of value creation, production, and service delivery. In the face of climate uncertainty, global supply chain disruptions, and social challenges, the integration of digital technologies with service innovation and ecosystem thinking has become central to achieving urban resilience and sustainability. Recent studies emphasize that the capacity of cities to adapt, absorb, and transform in response to shocks is increasingly dependent on the co-evolution of technological infrastructures, institutional frameworks, and collaborative networks among public, private, and civic actors.

Within this broader context, this Special Issue on “*Digital Transformation, Servitization, and Ecosystem Innovation for Urban Resilience and Sustainable Transition*” aims to deepen scholarly understanding of how digitalization and service-dominant logics can enable systemic innovation, inclusive growth, and sustainable urban futures. The issue brings together multidisciplinary perspectives that link digital transformation, servitization, and ecosystem innovation with policy design, cultural heritage revitalization, and low-carbon economic transition.

### **2. Thematic focus of the Special Issue**

This Special Issue was motivated by three interrelated theoretical and practical questions:

1. How does digital transformation reshape service innovation models and business ecosystems in urban contexts?

2. In what ways can servitization and digital platforms foster resilience and sustainable transitions across industries and communities?

3. How can local cultural, creative, and industrial ecosystems leverage digital tools to preserve heritage while promoting sustainable development?

The Special Issue emphasizes that digital transformation is not only a technological process but also a socio-economic and institutional transformation. Servitization—the shift from product-oriented to service-oriented value propositions—extends this digital logic into the domain of human-centered design, circular economy, and platform ecosystems. By integrating these perspectives, this Special Issue offers conceptual and empirical insights into how cities and industries can co-create resilient, adaptive, and sustainable systems.

### 3. Overview of the contributions

The Special Issue features three diverse yet complementary contributions that reflect the multidimensional nature of urban resilience and sustainability in the digital era.

#### 1. *“Service innovation models in cultural districts: A case of Taiwan Yingge Historical Street”*

This paper explores how traditional cultural districts can achieve revitalization through service innovation and digital transformation. Using the case of Yingge Historical Street in Taiwan, the study identifies the mechanisms through which local artisans, creative entrepreneurs, and public institutions co-create value within a cultural ecosystem. The findings highlight how digital tools, storytelling, and experiential services enhance local identity and visitor engagement, thereby strengthening cultural and economic resilience.

#### 2. *“Revitalization of cultural heritage in the digital era: A case study in Taiwan”*

This article examines how digital technologies facilitate the preservation and regeneration of cultural heritage sites. Through a detailed case analysis, the authors show how virtual exhibitions, digital archives, and interactive media reshape public participation and education in heritage conservation. The study underscores that digital transformation, when guided by participatory governance, can bridge the gap between tradition and innovation, making cultural heritage more sustainable and accessible.

#### 3. *“Research on the impact of digital trade and energy consumption”*

The third contribution extends the discussion into the macroeconomic and environmental domains. By employing quantitative models, this study investigates the complex interplay between digital trade development and energy consumption patterns. The results provide valuable implications for policymakers seeking to balance digital economic growth with carbon reduction goals, offering a critical perspective on the dual challenge of digitalization and decarbonization.

Collectively, these contributions demonstrate that digital transformation, when embedded within service and ecosystem logic, can drive both micro-level innovation (in firms and cultural districts) and macro-level sustainability (in trade and energy systems).

#### 4. Future research directions

The insights from this Special Issue suggest several promising directions for future research.

First, future studies could explore cross-sectoral ecosystem orchestration, examining how public–private–academic partnerships can align digital innovation with resilience planning. Second, there is a need for comparative analyses across regions and industries, particularly in understanding how digital transformation unfolds differently in developing versus developed urban contexts. Third, longitudinal and multi-level research designs could help reveal how servitization strategies evolve over time and how they contribute to social and ecological value creation. Finally, future scholars may integrate emerging technologies such as AI, blockchain, and digital twins into the study of sustainable urban governance, enabling predictive and adaptive policy frameworks.

#### 5. Highlight

This Special Issue offers timely contributions to the ongoing discourse on how digital transformation, servitization, and ecosystem innovation can enhance urban resilience and sustainability. The featured studies collectively advance both theoretical and practical understandings of digitalized service ecosystems, highlighting how technological innovation can coexist with cultural preservation, environmental stewardship, and social inclusion.

As urban systems continue to evolve amid uncertainty, the integration of digital technologies with human-centered design and collaborative governance remains essential. We hope that this Special Issue will inspire further interdisciplinary research and policy experimentation toward more resilient, adaptive, and sustainable urban futures.

#### Use of AI tools declaration

The author declares that no Artificial Intelligence (AI) tools were used in the creation of this article.

#### Conflict of interest

Chunliang Chen is an Editor of the special issue for Urban Resilience and Sustainability and was not involved in the editorial review or the decision to publish this article. The author declares no conflict of interest.



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