Who is afraid of the smart transition? Artificial intelligence and spatial asymmetries in marginal contexts

Pierfrancesco Celani (1) - Massimo Zupi (1) - Antonella Pelaggi (1)

(1) University Of Calabria, Environmental Engineering, Rende, Italy

Keywords: Artificial intelligence - Territorial asymmetries - Marginality - Digital planning

Abstract Al offers enormous potential for urban planning, but it requires special attention to ethical, inclusiveness and justice aspects in order to properly manage interactions between humans and Al and the impacts on complex practices. Datadriven technologies and predictive models based on advanced algorithms require an information, digital and organisational infrastructure that fragile contexts (think of the myriad of small municipalities that characterise the Italian territory, but also European ones) do not possess. The digital transition, presented as inevitable and universal, is proving to be selective: inclusive for territories that are already digitally mature, excluding those on the margins.

This contribution proposes a critical reflection on the unequal distribution of the benefits (and costs) of algorithmic transformation applied to planning, highlighting how smart strategies often ignore the geography of marginality. In the absence of structured data, analytical capabilities and technical capital, the adoption of AI in these contexts is limited to sporadic solutions, often imposed 'from above', without local adaptation processes or real decision-making empowerment.

The analysis of significant case studies and comparison with international literature highlight the need for an Al approach to planning not so much as a technological package to be imported, but as a local-based process, built from local knowledge, the actual availability of resources and the participation of local actors. In this perspective, Al can become a tool for rebalancing, provided that the systemic asymmetries that hinder fair access and effectiveness are recognised and addressed.

The purpose of this reflection is to contribute to the debate on the future of smart planning, calling for a pluralist and contextual vision of technological innovation, capable of also including territories currently excluded from the mainstream smart city narrative.