

Smart and Connected Cities and Communities Minitrack (Introduction)

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Cities around the world are entering a new era of transformation in which residents and their surrounding environments are increasingly connected through rapidly-changing intelligent technologies, sometimes called, smart technologies. This transformation, which has become a top priority for many cities and other local governments, offers great promise for improved wellbeing and prosperity, but it also poses significant challenges at the complex intersection of technology and society.

A smart and connected community can be conceptualized as one that synergistically integrates intelligent technologies with the natural and built environments, including infrastructure, to improve the social, economic, and environmental well-being of those who live, work, or travel. Building on the notion of community informatics, smart communities can be seen as enabling and empowering citizens and supporting the individual and communal quests for wellbeing.

Although the literature is rich in references to smart cities and communities, this is still a developing and fuzzy concept that is not used consistently. Despite the different definitions and studies, there seems to be a common understanding of a smart community as a multidimensional and multifaceted concept that goes beyond the mere use of technology and infrastructure. Although technology is a necessary condition to become smart, it is not the only one. City administration and community management, information integration, data quality, privacy and security, institutional arrangements, and citizen participation are just some of the issues that need greater attention to make a community smarter today and in the near future. The literature on smart cities and communities is fragmented, particularly in terms of the strategies that different cities and communities should follow in order to become smarter. What most of the literature does agree on is that there is no one route to becoming smart and different communities have adopted different approaches that reflect their circumstances.

The four papers included in this minitrack represent different methodologies, theories, conceptualizations, and assessments of smart and connected cities and communities. Together, they offer a platform for discussion of emerging and innovative research in this area as well as on practical tools for professionals involved in the design and implementation of smart cities initiatives.

In the first paper for this minitrack, “Designing Guidelines for Smart City Collaboration Tools”, authors Anouk van Twist, Mark Melenhorst, Mettina Veenstra, Erna Ruijter, Meike Kolk and Albert Meijer seek to provide guidelines to resolving smart collaborative governance challenges. Using a Design Science Research methodology, the authors propose generic high-level guidelines for collaboration tools that support quadruple-helix collaborations in the smart city context. These guidelines also include recommendations on how to resolve dilemmas in the design of collaboration tools regarding their desired outcomes, complexity, and scope.

In the second paper for this minitrack, authors Jesper Jansson, Oscar Johansson and Maryam Roshan describe the design of an exploratory case study focusing on how a public organization initiates a smart tourism ecosystem around a digital platform. In their paper, “Initiating a Smart Tourism Ecosystem: A Public Actor Perspective”, they conduct a qualitative case study to investigate the initiation of a smart tourism ecosystem in the City of Gothenburg. Their contribution extends the existing research on digital ecosystems by investigating a hybrid public-private focal actor and proposing a conceptual model for a smart tourism ecosystem.

In their paper entitled “Public Libraries’ Perceptions of Future Collaborations for the Development of Smart Cities and Communities: Understanding Influential Factors”, Xiaoyi Yerden, J. Ramon Gil-Garcia, Mila Gasco-Hernandez and G. Brian Burke analyze what factors affect the extent, effectiveness, and benefits of public libraries’ future collaboration in developing

smart cities and communities. Based on a national survey to public libraries across the United States, the authors validate their proposed conceptual models through multiple regression analysis. The factors that were identified as having a positive impact on public libraries' future collaboration include consequential incentives, the nature of the task, preexisting relationships, an agreement on initial aims, and a collaborative and supportive leader, which serve as the basis for future studies.

Finally, in their paper, "A Literature Review of Data Governance and Its Applicability to Smart Cities", the authors Yusuf Bozkurt, Alexander Rossmann and Zeeshan Pervez provide an initial perspective for future studies to stimulate research on urban data governance. By using a combination of research methods such as text mining, clustering, an inductive coding approach, the authors provide a comprehensive overview of data governance and the relevant facets embedded in this strand of research. The contribution to research and practice is demonstrated by conceptualizing the construct of data governance, outlining the current structure of research on data governance, and providing a detailed analysis on the dimensions of urban data governance.

These four selected papers advance the goal of this minitrack contributing on our understanding of the foundations of smart cities and communities as a research and practice area. Through these efforts and the impact of the analyzed initiatives, the papers get interesting insights for analytical and practical trends in this area. More specifically, they deepen our understanding of governance aspects and the need for multi-stakeholder collaboration and data governance in the development of smart cities and communities, including the design of collaboration tools and digital ecosystems. They call attention to the challenges of scaling-up smart city pilots and initiatives towards smart cities implementation and smart community development.