Development and Evolution of Smart Cities in Latin America and their Impact on Sustainability. A Scoping Review

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Abstract

This paper aims to consolidate the state of the development and evolution of smart cities in Latin America and their contribution to enhancing sustainability following a scoping review. To accomplish that, the journal articles from four known databases were captured and analyzed to map the conversations about the topic. Latin America has unique characteristics, with high rates of population growth intensified with urban migrations and 81.2% of their residents living in urban areas, with unplanned urbanization spread in slums, usually located in mountainous areas, and highly stratified, making it one of the biggest challenges for their effects on the environment and people. The common topics identified, were mapped under 4 categories: People & Society, Technology & Innovation, Environment & SDGs, and Governance & Infrastructure. The findings highlighted the use of technology to support a smart operation on cities, from governance to infrastructure and services for the citizens, and many challenges related to data literacy and adoption. Even though the concept of smart cities is not new, in the last years it had an important growth in Latin America, leveraged by Covid-19 pandemic, facilitating the adoption of citizens, academia, public and private sectors to improve communications and services.

Keywords
Smart Cities, Latin America, Sustainable Development, Information and Communication Technologies (ICT) and Governance.

Biographies
Sergio Mastrogiovanni is an Associate Professor and Researcher at New York University, New York, USA, and Doctorate Program IAE Business School, Buenos Aires, Argentina. Senior data scientist, executive, entrepreneur, lecturer, and educator with career success leveraging advance data analytics and technology integration to boost sustainable revenue, manage change through digital transformation and continuous improvement, and his passion in this world is about making data accessible to people. Researchers focused on Smart Cities and Sustainable Development. Masters in Analytics at Stevens, NJ, USA; MBA at NYU Stern; Columbia Data Scientist; MIT AI practitioner and certified Six Sigma Black Belt.

Guilherme Luz Tortorella is a professor of Operations Management and Industrial Engineering. With more than 19 years of practical and academic experience on the subject, he has worked as Continuous Improvement Manager and Industrial Manager in automotive companies in countries such as Brazil, Uruguay, Mexico, the United States and England. With more than 240 journal articles published, 2 books and 15 book chapters, his research is mainly focused on Operations Management, more specifically on Lean Management, Industry 4.0, and Supply Chain Management. He is the Editor-in-Chief of Journal of Lean Systems, and Associate Editor of the International Journal of Quality & Reliability Management, International Journal of Lean Six Sigma, Production Journal, and Operations Management Research Journal.