

Smart City, Citizen Engagement, and Information System Research

TREO Talk Paper

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Abstract

Cities around the world are piloting combinations of technologies to develop smart cities. As an urban management and governance trend, the smart city idea has moved from concept to mainstream within the past a decade. However, as key stakeholders, city citizens/residents are not always fully empowered to engage in the development of smart city initiatives. Greater engagement, with timely input from citizens, can be achieved with the development of more efficient and effective mechanisms for the collection and analysis of stakeholder feedback. Gaps around the involvement of citizens in all the steps of smart city initiatives have been identified as key challenges in the successful scaling up of the smart city initiatives in pioneering cities. It is therefore important to identify key factors and enablers for effective engagement and involvement of citizens and residents in any smart city project.

Using the primary data generated in a regional Irish city of Cork, we found that (1) local citizens/residents (N=3600) value a shared and collaborative vision of their participation in public issues; they believe that they have positive impact in improving their city, but they don't have many opportunities to participate in the local decision-making. Other findings included (2) two thirds of the citizens/residents volunteered in community activities and those who volunteered have high willingness to participate in smart city projects; (3) the citizens/residents use and want to be contacted via email and mobile text message; and (4) hardware access (i.e. tablet or computer) is still a problem for both urban and rural areas and the problem can be solved by better investment in public libraries and offices. The research showed that (5) digital skills of urban residents are not as proficient as their peers in rural areas; (6) young people – age 15-24, and millennial – age 25-35 were the most digitally proficient groups and their participation was the highest hope for the adoptions of smart city practices. Additionally, other analyses showed a popularity of using social media, i.e. Facebook, and online news for information while two thirds of the citizens/residents wanted to have a local smartphone app for ease of interaction. We applied a holistic behavioral model to generate dynamic and contextualized app content, and found that it is possible to target people with high perceived behavioral control to get them to participate in the city's public and civic activities, enabling them to become more active civic participants.

The findings helped Cork City leaders to develop strategies and tools to stimulate, engage, and maintain citizen engagement in their smart city initiative: Cork Smart Gateway. The data analyses and evidence-based recommendations empowered both local authorities and their citizens/residents via open data access, helping them to collaborate for successful applications of local smart city projects. In addition, the research uncovered some challenging issues around the engagement and empowerment of local citizens/residents. These include data management and citizens' privacy in smart cities' open governance, and secure information systems (IS) for local smartphone apps with the existing IS of cities' governments. Gamification-based apps, information systems (IS) for incentivized participation, avatar-based or real identification applications in engaging in sensitive public issues, ethical issues in adopting image-based, and video analytics applications in public safety solutions are all rich areas for future research.