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Trends in Smart Cities: Implications for Research and Practice in Developing Economies

Technology Research, Education, and Opinion (TREO)

The concept of a smart city is an emerging one that has attracted strong interest from researchers and practitioners (Guo, Gao, Li, & Xue, 2018; King & Kraemer, 2019; Kulkarni & Robles-Flores, 2019). Despite the growing trend in smart cities, there is still not a clear and consistent definition among practitioners and researchers (Kulkarni & Robles-Flores, 2019; Mohanty et al., 2016; Ramaprasad, Sánchez-Ortiz, & Syn, 2017). In a simple definition, smart cities can be defined as a technologically advanced and modernized territory with a certain intellectual ability that deals with various social, technical, economic aspects of growth based on smart computing techniques to develop superior infrastructure constituents and services (Rana et al., 2019).

A myriad of research has focused on the adoption of smart cities, components of smart cities (Chovani & Jokonya, 2019; Dewi et al., 2018), use of smart and open data in smart cities (Guimarães Belizario & Galarraga Berardi, 2019), solutions for smart cities (Liu, Nielsen, Heller, & Gianniou, 2017), the influence of IoT and big data analytics in smart cities (Alavi, Jiao, Buttler, & Lajnef, 2018; Bibri, 2018; Dremel, Wulf, Maier, & Brenner, 2018; Mohanty et al., 2016), and public engagement in smart city planning (Dambruch, 2018). However, following a systematic review of smart city trends, little research has been done on the implications of the trends in smart cities for researchers and practitioners, especially in developing economies. As an emerging concept, there are key lessons to be learned from cities that have been able to build sustainable smart cities. With some developing economies initiating smart city projects (Ra & Lee, 2015; Cilliers, Flowerday, & Mclean, 2016), it will be interesting to know the issues researchers and practitioners should pay attention to when it comes to the fast-moving trends in smart cities (King & Kraemer, 2019; Ramaprasad et al., 2017).

Following a review of trends in smart cities, this TREO paper provides an understanding of the implications of smart city trends for both researchers and practitioners in developing economies. Key among these implications are as follows; developing economies looking to build smart cities should consider a collaboration among public authorities, private businesses, and academia. Key stakeholders in the government and private sector could establish IS policies that will guide smart city initiatives. Developing economies should also understand the concerns for testing in closed environments, and pay attention to data breaches or cyberattack.

REFERENCES

- Alavi, A.H., Jiao, P., Buttler, W.G., and Lajnef, N.J.M. 2018. "Internet of Things-Enabled Smart Cities: State-of-the-Art and Future Trends," (129), pp. 589-606.
- Bibri, S. E. 2018. "The IoT for smart sustainable cities of the future: An analytical framework for sensor-based big data applications for environmental sustainability," (38), pp. 230–253.
- Cilliers, L., Flowerday, S., and Mclean, S. 2016. "A crowdsourcing, smart city model for a developing country". (2019:3).
- Chovani, T., and Jokonya, O. 2019. "Exploring Factors Influencing the Adoption of Smart Parking".
- Dambruch, J. 2018. "Computing Feedback For Citizens' Proposals In Participative Urban Planning." (4:4), pp. 35–42.
- Dewi, M. A. A., Hidayanto, A. N., Purwandari, B., Kosandi, M., and Budi, N. F. A. 2018. "Smart City Readiness Model Using Technology-Organization-Environment (TOE) Framework and Its Effect on Adoption Decision," Proceedings of the 22nd Pacific Asia Conference on Information Systems. pp.

268–281.

- Dremel, C., Wulf, J., Maier, A., and Brenner, W. 2018. "Understanding the value and organizational implications of big data analytics: the case of AUDI A," *Journal of Information Technology Teaching Cases* (8:2), pp. 126–138.
- Guimarães Belizario, M., and Galarraga Berardi, R. C. 2019. "Use of smart and open data in smart cities," *Proceedings of the 25th Americas Conference on Information Systems*, (2013), pp. 1–10.
- Guo, H., Gao, S., Li, J., and Xue, H. 2018. "A conceptual framework for smart city international standards," *Proceedings of the International Conference on Electronic Business* (2018), pp. 1–8.
- Kaur, K., & Rampersad, G. 2018. "Investigating key factors influencing the adoption of driverless cars," (48), pp. 87–96.
- King, J. L., and Kraemer, K. L. 2019. "Policy: An information systems frontier," (20:6), pp. 842–847.
- Liu, X., Nielsen, P. S., Heller, A., and Gianniou, P. 2017. "SciCloud: A scientific cloud and management platform for smart city data," *Proceedings of the International Workshop on Database and Expert Systems Applications*, (2017:3), pp. 27–31.
- Mohanty, S. P., Uma, C., and Elias, K. 2016. "Everything You Wanted to Know," *IEEE*.
- Ra, P., & Lee, O. D. 2015. "Identifying Risks in IT Projects for Developing Economies"
- Ramaprasad, A., Sánchez-Ortiz, A., and Syn, T. 2017. "Ontological Review of Smart City Research," pp. 1–10.
- Rana, N. P., Luthra, S., Mangla, S. K., Islam, R., Roderick, S., and Dwivedi, Y. K. 2019. "Barriers to the Development of Smart Cities in Indian Context," *Information Systems Frontiers* (21:3), pp. 503–525.