

## **The Most Significant Urban Big Data Challenges: an Exploratory Study in Tehran, Iran**

A fundamental source for setting-up any urban management and planning mechanism is knowledge and one major challenge and hindrance in urban policy making processes is the lack of knowledge management framework encompassing accurate, potential, accessible and integrated information. Tehran has a multiplicity of decision-makers, policy-makers or participants who produces data and information but they do not share these data and information. Urban big data as one of the most important sources of urban data continuously provides planners with a wealth of records about the patterns of behavior of the massive number of urban and rural residents, the functions of cities and how they could manage them.

the application of this type of data has expanded to meet the uncertainties and provide the needs of decision-making systems in urban and regional studies in the world. This means that access to new data sources is necessary to reduce the uncertainties and constraints in decision making in Tehran and can be used as an opportunity to strengthening its planning function. In addition, it could be considered as a tool to confront with the challenge of sharing data and information at inter-organizational, inter-sectional, and inter-regional levels, and between public and private sectors. It can also be used to promote the use of information resources and to publicize data and intelligence and new information services. Also, by increasing the production, transfer and use of accurate information, the establishment of knowledge-based information systems in Tehran transition to smart city is facilitated.

Big data is certainly enriching our experiences of urban planning and management, and it is offering many new opportunities for more informed urban decision-making and planning. In the city of Tehran, big data as one of the data resource -along with other types of data- can help to shaping and development of knowledge-based planning and management system. Big data production in Tehran has begun in some governmental and non-governmental organizations by development of new information technologies. The big data can be used to acquisitor and analyze behavioral data to determining the travel behavior, especially for managing urban transport and traffic, improving land use patterns, and distributing services and managing crisis in Tehran.

The present study investigated the function of big data in Tehran and how to utilize them to make Tehran as a smart city. Big data and its analytics have attracted the attention of governments, academics, and practitioners due to the explosion of data in recent years and the increase in its commercial application, particularly in the Smart city and urban planning. At the same time, given the phenomenon's newness, entrepreneurship literature lacks a thorough understanding of the contextual challenges faced by urban big data. As a result, the purpose of this study is to contribute to the literature on big data entrepreneurship by identifying the environmental challenges of urban big data and investigating the priority of these challenges in the context of Iran, a developing IT and ICT market country. Our research method is divided into two phases: identifying the challenges of big data startups through in-depth interviews and questionnaires, and prioritizing such challenges based on expert assessments through a fuzzy analytic hierarchy process. Our findings revealed that the most significant challenges of urban big data in a developing context are a lack of specific laws and policies for big data, a lack of transparency, data mismanagement, financial challenges, technological and educational weaknesses, ignorance of big data benefits, and a lack of willingness to use it.

The main purpose of covering this subject in the summer school is to provide students with a thorough understanding of Iran's place in the field of urban big data science.