

Integrating Internet of Things and Big Data as an Approach for Enhancing the Quality of Life in Egyptian Cities

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Abstract. In modern times, the concept of quality of life (QoL) has been a focal point in numerous studies, offering solutions to challenges faced by residents in new cities worldwide, including Egypt. To ensure citizens enjoy a high quality of life, cities are increasingly leveraging innovative technologies to address various aspects such as the environment, physical health, mobility, social interaction, psychological well-being, and the economy. Among these technologies, the Internet of Things (IoT) plays a significant role in enhancing people's lives. By utilizing IoT as an information technology tool, cities can tackle their unique challenges. Consequently, the IoT method and the information obtained through Big Data (BD) analysis will enhance cities sustainability, safety, and liveability for residents. This research aims to explore the integration of IoT and BD for enhancing the quality of life in Egyptian cities. A qualitative methodology is employed to achieve this goal. Initially, a comprehensive literature review is conducted to uncover the relationship between improving quality of life in Egyptian cities and the use of IoT and BD methods. Additionally, a case study of Busan city, which has successfully implemented several IoT technologies to enhance the well-being of its inhabitants, is presented and analyzed. The findings from both the literature review and the case study highlight the positive correlation between the adoption of IoT and BD technologies and the overall quality of life in cities, spanning dimensions such as transportation, economy, social aspects, and the environment.

