

Abstract

The world is witnessing the dawn of the Fourth Industrial Revolution known as Industry 4.0, where the ICT-fuelled digital economy is taking off exponentially. In such a context, the essence of the Internet identified as the Internet of Things (IoT) is a revolutionary way of procuring goods and services. IoT refers to scenarios where network connectivity and computing capability extend to objects, sensors, and everyday items not generally considered as computers while allowing them to interact among each other with the least involvement of humans. The application of IoT has already extended to the sectors such as manufacturing, transportation, energy, retail, smart cities, healthcare, and buildings to significantly improve the quality of life by increasing efficiency, productivity, profitability, and innovation. Meanwhile, the construction industry is still suffering from complexity and bottlenecks, whereas IoT has aroused researchers' curiosity to investigate the possibility of achieving more efficient management throughout the whole life cycle of a construction project. In the Sri Lankan (SL) context, the construction industry places a vital role in economic and physical development. Furthermore, in the Sri Lankan economy, Construction is the fourth highest sector after services, manufacturing, and agriculture. Therefore, it is vital to recognize the potential of IoT to be adopted in the industry, and associated barriers within such a process, which is the aim of this study. To attain the aim, an extensive literature synthesis was piloted to acknowledge the concepts and current practices of IoT applications in a global context. Literature synthesis revealed the global construction industry's faithfulness towards IoT applications, following a successful identification of potential barriers. Eventually, a conceptual guideline was developed to specify key variables that influence a phenomenon of interest while guiding SL construction professionals to recognize and adopt IoT applications in their respective fields