Chapter 4

Need for Internet of Things

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ABSTRACT

The emergence of a novel technology always has had a greater influence on the environmental and social conditions of an individual or society. Technology has taken social living to leaps and bounds in the past few decades. Any advancement in the technology has certainly has healthy and adverse implications on the growth engine of the society. The standard of living of the people often gets perturbed by the richness of scientific innovation in the form of technological products. In this context, the emerging innovation that is slowly conquering the social lifestyle in the recent past is internet of things (IoT). IoT offers the advantage of anytime from anywhere, helps in predicting the outcome with accuracy, the transfer of data and in the implementation of flexible electronics. The concept of smart cities to wearable electronics, high-end computing systems applications would not have been possible without IoT. There is another aspect of IoT that has greater influence on the society. The ethical and legal implications are complex to understand, and this book chapter addresses all these issues.
INTRODUCTION

Emergence of a novel technology always had a greater influence on the environmental and social conditions of an individual or society. Technology has taken the social living to undergo the leaps and bounds in the past few decades. Any advancement in the technology has certainly has healthy and adverse implications on the growth engine of the society. Right from Industrial revolution to Information era, the world has seen the advancements in technology and their societal implications. Today cyber physical systems are taking the major share in the growth market of industry and their implications are certainly the most needed topic alongside of their practice in the society.

The standard of living of the people often gets altered by the richness of scientific innovation in the form of technological products (Kowatsch et al., 2012). In this context, the emerging innovation that is conquering the social lifestyle in the recent past is Internet of Things (IoT).

IoT offers advantage of “anytime from anywhere,” helps in predicting the outcome with accuracy, feasible transfer of data and ease in the implementation of flexible electronics. The concept of Smart city to Wearable electronics, high end computing systems applications would not have been a reality without IoT.

Another dimension is the use of IoT applications incautiously. Sometimes, the ethical and legal implications are complex to perceive, where security of the personal information is at stake. The algorithms used for anytime anywhere computing may be foolproof, but in the implementation stages less care would lead to malicious attack on the systems. This may lead to the trepidation among the end user that “Simpler is the concept, Complex is the implementation” (Haroon et al., 2016).

Even though IoT belongs to the smartest class of technological evolution, researchers, engineers and students practicing IoT should be very cautious in weighing the social implications.

Internet of Things

The typical definition of IoT states “as a network of items embedded with sensors, which are connected to the internet.” The term IoT was coined by Kevin Ashton, Proctor and Gamble in 1999 (Kevin, 1999).

Technology convergence was the prime principle behind all the innovations in the recent past. IoT is one such convergence arrived at, where machine learning, sensor networks, automation and embedded systems are contributed.
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