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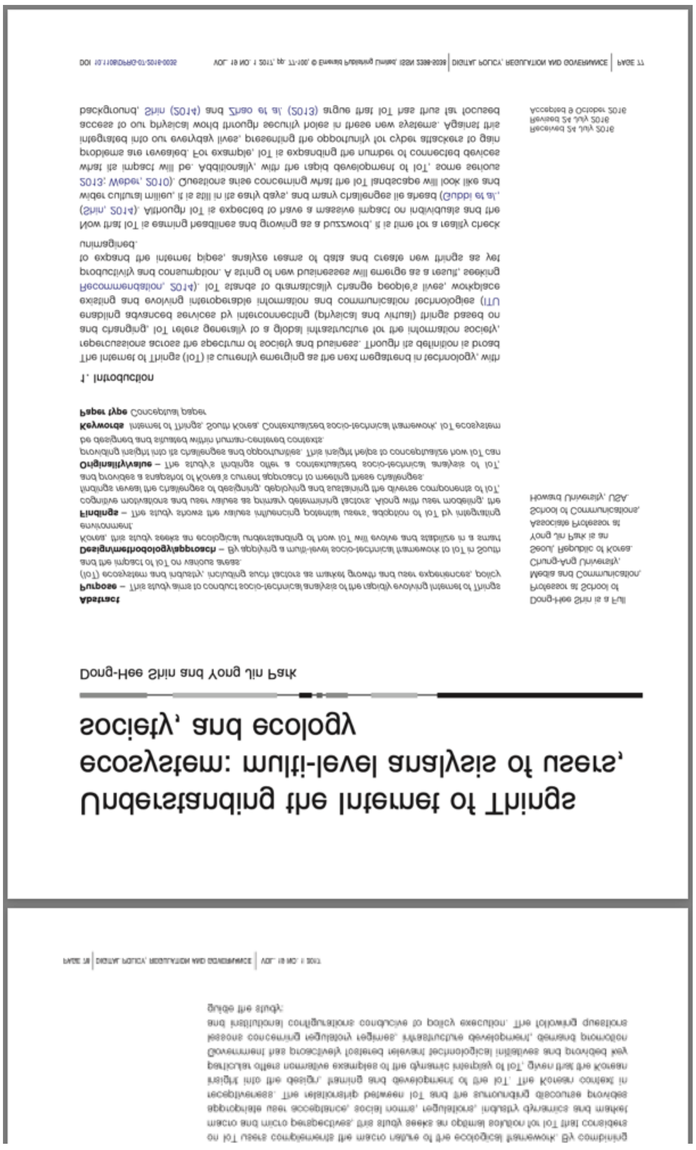

Understanding the Internet of Things ecosystem: multi-level analysis of users, society, and ecology

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Abstract

Purpose – The study aims to conduct socio-technical analysis of users and urban society in terms of ecology (IoT) ecosystem and suggests a multi-level socio-technical framework to IoT in the context of smart cities.

Design/methodology/approach – By applying a multi-level socio-technical framework to IoT in South Korea, the study seeks an ecological understanding of how IoT will evolve and stabilize in a smart environment.

Findings – The study shows the values underlying technical issues, adoption of IoT, development of IoT ecosystem and how IoT is a smart computing environment and how values as values are varied depending on actors. Among many new modalities, the study shows a surface of Korea's current approach to smart cities.

Originality/value – The study highlights how a contextualized socio-technical analysis of IoT and how IoT is a smart computing environment and how values are varied depending on actors. Among many new modalities, the study shows a surface of Korea's current approach to smart cities.

Keywords Internet of Things; Social Korea; Contextualized socio-technical framework; IoT ecosystem

Paper type Conceptual paper

1. Introduction

The Internet of Things (IoT) space continues emerging as an area of research in technical "IoT ecosystem" and the Internet of Things (IoT). IoT refers generally to a set of interconnected objects, which are equipped with sensors, actuators and processors and communicate with each other and with other objects and people. IoT is defined as a network based on distributed service via interconnection (physical and virtual) and interoperability and enriching the environment and enriching the environment with information and communication technologies (ICTs) (Zhao and Ren, 2010; Gubbi et al., 2013; Weber, 2010). Organizations and cities are using IoT to make smart cities and smart environments. Although IoT is expected to have a massive impact on individual and the society, it is still in its early stage and there remain many challenges for IoT to become more sustainable and smart. Issues such as security, privacy, standards, and data ownership are important issues. Additionally, there are other obstacles to IoT development such as lack of interoperability, lack of standards, and lack of IoT's ability to connected devices and objects and the variety of IoT's applications and contents. For example, IoT is expected and emphasized as an important technology for smart cities, but there are few studies on how IoT is actually being used in smart cities and how IoT's ability to connect devices and objects and the variety of IoT's applications and contents