Chapter 60

An Empirical Investigation of Smartphone Adoption in Pakistan

Mohsin Ikram
National University of Sciences and Technology, Pakistan

Sarah S. Khan
North Carolina State University, USA

Bong-Keun Jeong
Coastal Carolina University, USA

ABSTRACT

Smartphone use has proliferated globally. However, there is a lack of understanding regarding the fast adoption of the technology at individual level, specifically for personal use. Technology adoption varies across geographic regions, and smartphone adoption is no exception. This article investigates smartphone adoption in Pakistan, which is one of the fastest growing smartphone markets. With the help from the Technology Acceptance Model (TAM), the authors build a research model by looking at the unique characteristics of the smartphone technology and Pakistan's market. The research model is empirically tested among 289 smartphone users. The results show perceived smartphone usefulness and the ease of use contributing significantly towards users' intention to adopt smartphone. Also, smartphone design, availability of smartphone applications, and social norms increases the smartphone use. However, technical difficulty in smartphone use negatively affects its adoption. The authors also discuss the implications and future research.

INTRODUCTION

Smartphones provide personal computing experience from anywhere at any time (Woodcock, Middleton, & Nortcliffe, 2012). Litchfield (2010) defines smartphone as a device that "runs an operating system and is permanently connected to the Internet" (p. 20). Smartphones are capable of supporting multitude of electronic devices such as fitness trackers, smart watches, home automation control, blood pressure

and diabetes monitors, microscope for remote diagnosis, and ultrasound systems etc. (Pai, 2013). With the rapid advancements in smartphones, their adoption merits further study.

Global smartphone market has seen a shift towards developing countries like Africa and South Asia (McKitterick, 2016). Developing countries differ from developed countries in technology adoption (Zefferer & Teufl, 2011). In African region, smartphones are considered more beneficial to users as compared to personal computers, causing an increase in Internet usage (Rappleye, 2014). In Malaysia, the largest smartphone consumer market consists of young males with purchasing power, who pay attention to technical aspects of smartphones (Osman, Talib, Sanusi, Yen, & Alwi, 2011). Developing markets are also driving innovation in mobile devices and services. In developing countries, users' need for mobile phone supported services, flexible platforms and availability of communication technology drives the innovation. Developing markets are the new sources of innovation such as mobile banking (Boor, Oliveira, & Veloso, 2014). Markets such as Nigeria (Ekwenchi & Morah, 2015) and Korea have been studied recently for smartphone use (Kim, Wong, Chang, & Park, 2016). However, there is still a need for exploring this research area further, while considering the unique characteristics of growing markets.

Pakistan is the fifth largest mobile phone market in Asia (Web Desk, 2013). With the total population of almost 200 million, smartphone market in Pakistan is growing with 36% urban users and about 64% rural users (Wasti, 2014). Heavy investments made by telecom companies such as Etisalat, Orascom, Telenor, and China mobile (Imtiaz, Khan, & Shakir, 2015) have fuelled this growth. Smartphone market growth has created several opportunities for businesses and government. For instance, Pakistani application developers are generating economic growth by developing mobile apps for local and international market (Ali, 2016). Moreover, Pakistan has witnessed a significant growth in e-commerce start-ups (e.g. daraz.pk, rozee.pk, bookme.pk, checkin.pk, ols.com.pk etc.). This study aims at exploring factors that contribute towards smartphone adoption in Pakistan. We build our research model by using Technology Acceptance Model (TAM) and including unique characteristics of smartphones and Pakistan's market. Our results provide novel understanding of the factors that affect the users' decision about smartphone use. The results demonstrate that technology adoption behaviour varies across technologies, as well as across markets. Hence, our results motivate the need for further understanding these fast-growing smartphone markets by exploring smartphone adoption in other developing markets through compartmental studies. Further, the results of this study give us insights into the adoption of a technology that will form a basis of several critical services in health, finance, security etc. These areas have significant implications on human quality of life. The results may also play a role in developing a framework to study upcoming smart technologies.

In sum, this study proposes and tests the factors affecting the smartphone adoption in Pakistan, which is one of the fastest growing smartphones market. The rest of the paper is structured as follows. Section 2 discusses the literature and presents the research model. Section 3 discusses the methodology, followed by results, discussion and future research.

LITERATURE REVIEW AND HYPOTHESES

Smartphones possess increased computing power, inter-device communication capability, ability to install third party applications, and technologies support such as sensors, accelerometers, digital compass, gyroscope, sensors, GPS, microphone and camera (Weiss & Lockhart, 2012). Smartphone are also considered as the enablers for the "Internet of Things" (Mattern & Floerkemeier, 2010). This convergence of

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