Chapter 4
Exploring the Adoption of Sports Brand Apps: An Application of the Modified Technology Acceptance Model

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ABSTRACT

The purpose of this article was to apply the modified technology acceptance model (TAM) to examine factors influencing consumers' intention and actual behavior in using sports brand apps. Convenience sampling was conducted for Korean consumers (N = 261) of sports brand apps. Data were analyzed by partial least squares structural equation modeling (PLS-SEM) using SmartPLS 3.0. The results found that the level of enjoyment had a significantly positive effect on the perceived ease of use, while perceived ease of use also positively affected perceived usefulness. Behavioral intention to use sports brand apps was most significantly influenced by perceived enjoyment, followed by perceived usefulness, and then perceived ease of use. Moreover, behavioral intention positively affected actual behavior. In addition, a multi-group analysis carried out found differences between three age groups (20s, 30s, and 40+) regarding the use of sports brand apps. The findings provide a better understanding of consumer behavior when using sports brand apps.

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INTRODUCTION

Due to the development of smartphone technology, smartphones have become one of the most important gadgets in the daily lives of most people. Smartphone penetration has reached 90% in mature markets, such as North America, Western Europe, Japan and mature Asia/Pacific countries (Gartner, 2016). On mobile devices, such as smartphones or tablets, users are able to run various types of mobile software applications (a.k.a. apps) for a broad range of purposes, including searching for online information, playing games, making purchases, and staying connected with others. Mobile apps are software programs "designed to run on smartphones or tablet devices and provide a convenient means for the user to perform certain tasks" (Vodafone Group, 2015, p. 211). Paralleling the increasing adoption of mobile devices, annual downloads of mobile apps are projected to reach 268.69 billion by the end of 2017 (Statista, 2016).

Among various mobile apps, sport and fitness apps are one of the fastest growing categories (Go-Globe, 2015; Statista, 2015). In particular, more than half of all smartphone consumers use an app for the purpose of improving their fitness and managing weight (Forum, 2015). Also, it is reported that 58% of smartphone users have downloaded at least one sports and fitness app onto their mobile devices (Krebs & Duncan, 2015). Due to the increasing demand for sports and fitness apps, sportswear and athletic shoe brands are developing and launching various technology-based services for their consumers, such as the "Nike+ Run Club", "Adidas Train & Run", or "My ASICS Run Training". Moreover, many sports brand companies have started buying out popular fitness apps. For instance, Under Armour® acquired the US fitness app MyFitnessPal; and German fitness app company Runtastic was bought by Adidas® in 2015. In addition, the popular GPS fitness-tracking company Runkeeper was purchased by the Japanese sportswear brand, ASICS, in 2016 in order to compete against other giant sportswear brands (Gibbs, 2016). This indicates that sports brands will no longer focus only on physical products but also digital services (i.e. mobile apps) in order to facilitate demand creation and maintain market dominance.

Given the popularity of sports and fitness apps among smartphone users, researchers have paid a great deal of attention to the usage, content, and user impact of fitness and health apps (Breton, Fuemmeler, & Abroms, 2011; Krebs & Duncan, 2015; Litman et al., 2015; Middelweerd, Mollee, van der Wal, Brug, & te Velde, 2014; West et al., 2012; Yuan, Ma, Kanthawala, & Peng, 2015). Most extant literature emphasizes the functionality and outcomes of using sports and fitness apps. For example, Middelweerd et al. (2014) found that most fitness apps contained five behavior-modifying techniques, including: feedback on performance, self-monitoring, goal-setting, social support, and contingent rewards. A study by Litman et al. (2015) found that the usage of sports and fitness apps is associated with increased levels of exercise and, more importantly, it also improves users' health outcomes (i.e. lower BMI). However, it is surprising that a certain facet of the massive user base possessed by sports brand apps was overlooked in the extant literature (Peng, Kanthawala, Yuan, & Hussain, 2016; Yang, 2013). For instance, Runtastic, which was acquired by Adidas®, has garnered more than 140 million downloads in total, with around 70 million registered users in 2015; and the Runkeeper app, which is owned by ASICS, had over 33 million users worldwide in 2016 (Gibbs, 2016). Despite the large number of sports brand app users, few studies have explored consumers' perception and adoption of sports brand apps (Kang, Ha, & Hambrick, 2015). Therefore, it is imperative to explore various important factors influencing consumers' decision-making processes when using sports brand apps on smartphones (Ha, Kang, & Ha, 2015).

Accordingly, the purpose of this study was to examine factors influencing consumers' use of sports brand apps. This objective was achieved by initially, through literature review, building causal relationships between the factors influencing the usage of sports brand apps. In particular, this study imple-