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In-store mobile usage: Downloading and usage intention toward mobile location-based retail apps

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ABSTRACT

The purposes of this study were to examine whether characteristics of mobile location-based services (LBS) retail apps—time convenience, interactivity, compatibility, and effort expectancy were related to consumers' affective and cognitive involvement, which in turn were related to their intention to download and use mobile LBS retail apps. Also investigated was the moderating effect of experiential orientation on the links between consumers' affective and cognitive involvements and usage intention. An online survey was administered to mobile Internet users ($n = 853$) from a U.S. consumer panel. Structural equation modeling was employed to test the proposed model. Perceived interactivity and compatibility were influential antecedents that shaped consumers' affective involvement with mobile LBS retail apps, which in turn influenced their intention to download and use the retail apps. The relationship between affective involvement and usage intention was greater for mobile consumers with high experiential orientation than for those with low experiential orientation.

1. Introduction

Consumers are increasing the use of their mobile devices to access the Web as compared to using desktop Web access (MarketingCharts, 2014). For example, from June 2010 to June 2013, the amount of consumers' mobile Internet browsing time increased 359%, compared to just a 4% increase in using desktop Web access (Dusto, 2014). While their devices can be used for a range of activities, almost 87% of mobile device owners (i.e., smartphone, tablet) use their devices as an integral part of their shopping experience and activities (Nielsen, 2014). Mobile location-based services (LBS) allow retailers to provide consumers with discounts or reward opportunities when they physically enter brick-and-mortar stores or scan the barcodes of products using their mobile cameras.

Mobile LBS retail apps connect the mobile channel and the consumers' in-store experience, offering consumer planning tools to assist with purchase decisions, and generating in-store traffic. As an in-store mobile usage and planning tool experience, consumers use the apps to browse and look for products, deals, coupons, and other promotional offers as well as to purchase products after researching them in the store. Consumers greatly prefer apps to mobile websites because the apps are easier to browse through (Clicklabs, 2014). Two-thirds of the 140 million consumers with smartphones in the U.S. are more likely to shop in a brick-and-mortar store that offers a beneficial mobile app than in one that does not (Leggatt, 2014). Well-known Web-only retailers (e.g., Amazon.com Inc., eBay Inc., and Etsy Inc.) are leading the way in engendering the most mobile app traffic (Dusto, 2014). However, several multichannel/omnichannel retailers (e.g., Best Buy, Kohl's) are not far behind as they have implemented location-based promotions to give shoppers notifications inside or near the store. Macy's and J.C. Penney partnered with Shopkick to provide in-store customers with rewards and discounts (O'Brien, 2014). The Macy's app provides customers with exclusive offers for every five minutes that they spend shopping (Clifford & Miller, 2012). The Walmart app includes a map that exhibits where sale products or special offers are located in Walmart's US stores (Clifford & Miller, 2012). Thus, mobile retail apps can assist in significantly improving in-store conversions and keep consumers from being influenced by retail competitors (Siwicki, 2014).

As consumers' in-store mobile usage increases, consumers, retailers, and service providers need to know the underlying factors that affect consumers' intention to download and use mobile LBS retail apps in order to increase consumers' basket size, impact

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brand loyalty, and develop effective consumer-side mobile retail apps and targeted marketing techniques. Furthermore, due to the fact that mobile LBS retail app adoption is still in its nascent stage, limited research exists related to consumer perceptions of and responses to mobile LBS retail apps in terms of their in-store mobile usage behaviors. Thus, this study was designed to address this knowledge gap and identify antecedents to intention to download and use mobile LBS retail apps.

Antecedents investigated included perceived characteristics of innovations (i.e., relative advantage, compatibility, complexity) that can affect adoption decisions. Involvement was selected because it is a motivational construct that partly depends on the antecedent factor of the individual's values and needs (Zaichkowsky, 1986). Involvement with the web was found to be an antecedent of favorable attitude (McMillan, Hwang, & Lee, 2003) and purchase intention using the web (Jiang, Chan, Tan, & Chua, 2010). Thus, the purposes of this study were to examine (1) whether consumers' perceptions of the characteristics of innovations of mobile LBS retail apps were related to their affective and cognitive involvements with the apps, which in turn were related to their intention to download and use mobile LBS retail apps and (2) the moderating effect of consumers' experiential orientation on the links between their affective and cognitive involvements and intention to download and use mobile LBS retail apps. Our findings contribute to the further theoretical understanding of consumers' mobile LBS retail apps usage. Further, the results will enable retailers to develop efficient marketing strategies to improve contextual engagement with their customers, attract in-store traffic, and ultimately create a competitive advantage in mobile retail.

2. Conceptual background and hypotheses development

2.1. Perceived characteristics of innovations

The perceived characteristics of innovations (PCI) framework (Rogers, 1995) was used to explain the antecedents of involvement and intention to download and use mobile LBS retail apps. According to Rogers' (1995) PCI framework, there are five characteristics of innovations (i.e., relative advantage, compatibility, complexity, trialability, observability) that can affect an individual's adoption decision. However, previous researchers demonstrated that only relative advantage, compatibility, and complexity demonstrated a consistent connection to innovation adoption (Agarwal & Prasad, 1998; Tornatzky & Klein, 1982). Therefore, in the context of mobile LBS retail apps, only these three characteristics of innovations were applied to the proposed model.

Time convenience and interactivity were examined as perceived characteristics of innovations that represent the relative advantage of mobile LBS retail app services. Kleijnen, De Ruyter, and Wetzels (2007) reported that one of the benefits that represent the relative advantage of mobile transaction services is time convenience. Lee (2005) reported that as a noteworthy advantage of mobile commerce, mobile interactivity can deliver customized, relationship-based, timely and location-specific packets of information to a consumer. In terms of perceived characteristics of innovations that represent the compatibility of mobile LBS retail app services, this study focused on the fit between the mobile LBS retail app services and the consumer's service needs, which integrates findings from recent previous research in the m-commerce domain (e.g., Kleijnen et al., 2007). Additionally, Hourahine and Howard (2004) revealed that need fulfillment is the main advantage reported by mobile consumers. Finally, with regard to perceived characteristics of innovations that represent the complexity of mobile LBS retail app services, effort expectancy of mobile LBS retail app usage was examined because effort expectancy of mobile commerce was found to be one of the predictors of favorable attitude toward using mobile technology (Park, Yang, & Lehto, 2007).

2.1.1. Relative advantage: Time convenience

Relative advantage was operationalized as time convenience offered by the mobile LBS retail apps. In retailing, consumers' perceptions of the benefit of time convenience lead to the attainment of services. This is particularly pertinent for time-critical services, such as limited-time travel offers, last-minute reservations, order status tracking, and stock quote requests (Hourahine & Howard, 2004). Time convenience of mobile LBS retail apps allows consumers to access LBS retail mobile web service anytime and anywhere in today's time-deprived environment. Previous researchers found that time convenience had a positive influence on the perceived value of mobile channel usage (Kleijnen et al., 2007) and on the experiential value of using advanced mobile service consumption (e.g., mobile e-mail, mobile chat, mobile games) (Tojib & Tsarenko, 2012). The time convenience characteristic of mobile LBS retail apps may fuel both consumers' emotional and utilitarian motives for using the apps. Thus, consumers who link time convenience to using mobile LBS retail apps may believe that using mobile LBS retail apps is appealing and interesting (i.e., affective involvement) and needed and important (i.e., cognitive involvement). Thus, the following hypotheses were formulated:

H1. Time convenience is positively related to (a) affective involvement and (b) cognitive involvement with mobile LBS retail apps.

2.1.2. Relative advantage: Interactivity

Relative advantage was operationalized as interactivity offered by the mobile LBS retail apps. Interactivity refers to "the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized" (Liu & Shrum, 2002, p. 54). The common concept of interactivity entails a sense of connection with users and making information available to them; interactivity has been considered a value vital to successful communication, marketing, advertising, web design, and mobile commerce (Cyr, Head, & Ivanov, 2009; Goggin & Spurgeon, 2007; Lee, 2005; Macias, 2003; Teo, Oh, & Liu, 2003). Previous researchers found that web interactivity and mobile interactivity affected e-retailers' operational performance (Gu, Oh, & Wang, 2013). Furthermore, interactivity has been shown to have both cognitive or utilitarian (e.g., Kim & Niehm, 2009; Sicilia, Ruiz, & Munuera, 2005) and affective or hedonic (e.g., Koufaris, 2002; Menon & Kahn, 2002; Yoo, Lee, & Park, 2010) effects. The higher the level of interactivity afforded by a mobile website, the greater the perceived level of usefulness and enjoyment of the mobile website, which in turn influenced behavioral intention to use the mobile website (Coursaris & Sung, 2012). Zhou and Lu (2011) demonstrated that two factors of interactivity, ubiquitous connectivity and contextual offering, had a significant impact on flow experience, including perceived enjoyment, perceived control, and attention focus. Subsequently, interactivity was found to be a predictor of the perceptions of hedonic value in an online shopping context (Yoo et al., 2010), pleasure and enjoyment in online shopping (Koufaris, 2002; Menon & Kahn, 2002), and an enjoyable sense of total involvement (Sicilia et al., 2005). Based on these research findings, it was expected that consumers who connect interactivity to mobile LBS retail apps may believe that using mobile LBS retail apps is appealing and interesting (i.e., affective involvement) and needed and important (i.e., cognitive involvement). Thus, the following hypotheses were formulated: