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Developing a Mobile Applications Customer Experience Model (MACE)-Implications for Retailers

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ABSTRACT

This paper examines the customer experience in relation to retailers' m-commerce mobile applications. The research aims to understand the variables capable of influencing the customer experience during use of retailers' m-commerce mobile applications, resulting in the development of a Mobile Application Customer Experience Model (MACE). Through the use of structural equation modelling on a sample of 1024 consumers, the findings of the research highlight the importance of utilitarian factors in driving an effective customer experience. In contrast to the e-commerce environment with regard to flow theory, this research highlights that customers are conscious of the length of time spent completing an activity on an m-commerce mobile application, thus should customers perceive to spend longer than necessary using the application, it will result in a negative customer experience. Additionally, the findings illustrate that gender and smartphone screen-size play a moderating role on the customer experience. The findings provide key managerial implications for retailers on how to provide an excellent customer experience through mobile applications as a service delivery channel.

1. Introduction

Mobile applications (apps) continue to emerge as a powerful and ubiquitous service delivery channel enabling retailers to offer consumers a variety of products and services on the go (Garg & Telang, 2012). The rapid advancement of mobile technology and the subsequent service innovation deriving from it is causing consumer behaviour to evolve in terms of how consumers interact and utilise service delivery channels that are accessible to consumers anytime, anywhere (Shankar et al., 2016). The number of smartphone users is expected to continuously grow with 5.5 billion people expected to be using smartphone devices by 2022 (WARC, 2017), while at the same time, consumers' willingness to use mobile commerce (m-commerce) is witnessing rapid growth beyond expectations (Chaffey, 2017). Due to the increase in the number of smartphone users and the willingness to adopt mobile commerce, marketers are increasingly using the mobile service delivery channel to meet the demands of such consumers (Shankar et al., 2016; Ono, Nakamura, Okuno, & Sumikawa, 2012). Retailers, in particular, are allocating large percentages of their marketing budget to enhance the customer experience through mobile applications (WARC, 2015).

Traditional retailers (brick and mortar) have encountered numerous strategic challenges and opportunities over recent years (Blazquez, 2014). First was the introduction of e-commerce websites that

challenged the existence of many retailers with numerous well-known brands exiting the market. However, over the years, retailers who have continued to compete have adapted their strategy to include an online presence through an e-commerce website (Martin, Mortimer, & Andrews, 2015). The Internet continues to be an essential factor in the evolution of the retail landscape. Numerous retailers have taken significant advantage of what the channel has to offer (Klaus & Nguyen, 2013) including the expanded reach, reduced costs, lower geographical barriers, as well as 24/7 availability (Christodoulides, Michaelidou, & Argyriou, 2012).

Following the adoption of the Internet, numerous retailers have further adapted to an Omni-channel retail strategy, Omni being the Latin for 'every', where retailers operate multiple service delivery channels including, in-store, website and on mobile app (Piotrowicz & Cuthbertson, 2014). The term 'mobile app' has become a popular abbreviation for mobile applications among industry professionals, academics and consumers over recent years. Mobile applications are associated with software that is downloaded to a smartphone's operating system from an online store platform such as the App Store or the Google Play Store (Garg & Telang, 2012). From a marketing perspective, mobile apps are defined as a software that is downloadable to a mobile device, which prominently displays a brand identity, often via the name of the app and the appearance of a brand logo or icon, throughout the customer experience while using the app (Bellman,

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Potter, Treleaven-Hassard, Robinson, & Varan, 2011). The added benefit for retailers, unlike websites, is that mobile apps can utilise the hardware and features of the smartphone to deliver a tailored experience to users, i.e. scanning of bar codes through the use of the built in camera function or offering location specific content through the use of GPS. Thus, mobile apps are also seen as end-user software applications that are designed for a mobile phone operating system and extend the phone's capabilities by enabling users and app providers to perform specific tasks (Purcell et al., 2010).

However, due to the nature of mobile devices, consumers are now presented with a different interface and size of device to interact with. Thus, during an experience with mobile devices, interfaces have shifted from computer mice to touchscreens (Brasel & Gips, 2014). Therefore, the interface change may subsequently alter the response of consumers using and viewing content with a different set of variables influencing the customer experience. Retailers are adopting 'm-commerce' at an exhilarant rate and part of an Omni-channel strategy (Brynjolfsson, Hu, & Rahman, 2013). Mobile applications can be seen as an important part of m-commerce, yet we have little understanding on what influences the customer experience during use of m-commerce mobile applications. Previous research has focused on the scope of mobile marketing (Shankar & Balasubramanian, 2009), mobile service delivery (Kleijnen, De Ruyter, & Wetzels, 2007), the mobile interface (Venkatesh, Thong, & Xu, 2012), mobile browsing (Adipat, Zhang, & Zhou, 2011), how mobile applies to retailing (Shankar, Venkatesh, Hofacker, & Naik, 2010), the demand for mobile apps (Garg & Telang, 2012), mobile advertising (Andrews, Luo, Fang, & Ghose, 2015) and mobile shopping (Wang, Malthouse, & Krishnamurthi, 2015).

This paper aims to add to our theoretical understanding of mobile applications through exploring the variables capable of influencing the customer experience during use of retailers' m-commerce mobile apps. Mobile apps offer consumers an alternative channel for browsing and shopping and are unique in terms of the functions they can offer consumers and retailers (Wang et al., 2015), hence, understanding the variables that influence the customer's experience is of significant value. In particular, traditional retailers offer an interesting area of study due to their continued adaptation to new, digital, service delivery channels. As a result, two research objectives stem from our aim (1) to develop an understanding of the key variables influencing the customer experience with retailers' mobile applications and (2) to develop a Mobile Application Customer Experience Model (MACE), providing a theoretical understanding of the customer experience with m-commerce mobile applications.

2. Literature review

2.1. Customer experience

The theoretical foundation of the customer experience is based on the concept that a customer's experience is the combination of all cues and touch-points a customer has with an organisation, which in turn creates an overall experience (Homburg, Danijel, & Kuehnl, 2015; Mclean & Wilson, 2016; Payne, Storbacka, & Frow, 2008). Meyer and Schwager (2007, p.18) define the customer experience as, 'the internal and subjective response that customers have to any direct or indirect contact with a company'. However, more recently, Homburg et al. (2015, p.8) follow on from Verhoef et al. (2009) and suggest that 'the customer experience is the evolution of a person's sensorial, affective, cognitive, relational and behavioural responses to a brand by living through a journey of touchpoints along pre-purchase, purchase and post-purchase and continually judging this journey against response thresholds of co-occurring experiences'. As a result, the customer experience can be seen as a holistic process and combination of both cognitive and affective, components leading to take away impressions (Edvardsson, 2005; McLean & Osei-Frimpong, 2017; Schembri, 2006; Verhoef et al., 2009). A key distinction between the customer

experience and service quality is the acknowledgement of customer emotions within the experience (Edvardsson, 2005; Schembri, 2006). Customer emotions are often vividly recalled, yet difficult to describe, thus numerous researchers have applied psychology theories adopting the PAD model (Mehrabian & Russell, 1974), the PANAS theory (Watson, Clark, & Tellegen, 1988) as well as the differential emotion theory (Izard, 1977) to assist in understanding and measuring the customer experience. Some research studies have focused on the measurement of the cognitive dimension of the customer experience (Lemke, Clark, & Wilson, 2011) through only assessing satisfaction with the experience, however it is important that researchers include customer emotions as part of the measurement of the customer experience (Mclean & Wilson, 2016; Juttner, Schaffner, Windler, & Maklan, 2013; Verhoef, Kannan, & Inman, 2015; Edvardsson, 2005).

Satisfaction, trust, re-visit intention, re-purchase intention and loyalty have all been outlined as outcomes of a positive customer experience (Shobeiri, Mazaheri, & Laroche, 2015; Verhoef et al., 2009). Regardless of the service delivery channel, i.e. in-store, online website or mobile application, customers always have an experience; this experience may be good, bad or indifferent and occurs whenever a customer buys a product or encounters service from a retailer (Berry, Carbone, & Haeckel, 2002). The focus on the online customer experience has emerged due to the transition from static websites to dynamic and interactive e-commerce sites (Klaus, 2013). Similarly, mobile applications provide a further dynamic channel to browse and purchase products, yet little is known on what influences the customers experience with such software (Pousttchi, Tilson, Lyytinen, & Hufenbach, 2015). A number of variables are capable of influencing the cognitive and affective components of a customer's experience in the offline and online environment. In order to provide the study with further theoretical understanding, the following section will provide an overview on the variables outlined as influencing the customer experience during use of the online web environment.

2.2. Variables influencing the customer experience

A comprehensive review of the literature spanning over the last fifteen years finds numerous key variables that are capable of influencing the customer experience in the online web environment namely, ease of use, customisation/personalisation, convenience/usefulness, web aesthetics, enjoyment, telepresence, time distortion and flow (see: Zeithaml, Parasuraman, & Malhotra, 2000, Yoo & Donthu, 2001; Loiacono, Watson, & Hoodhue, 2002; Yang, Peterson, & Cal, 2003; Gounaris, Dimitriadis, & Stathakopoulos, 2005; Lee & Lin, 2005; Parasuraman, Zeithaml, & Malhotra, 2005; Kim, Kim, & Lennon, 2006; Loiacono, Watson, & Goodhue, 2007; Song & Zinkhan, 2008; Hoffman & Novak, 2009; Lee & Jeong, 2010; Lee & Crange, 2011; Rose, Clark, Samouel, & Hair, 2012; Mcgrath & McCormick, 2013; Klaus, 2013; Faiola, Newlon, Pfaff, & Smyslova, 2013; Martin et al., 2015; Mclean & Wilson, 2016). More recently, Bilgihan, Kandampully, and Zhang (2015), Hsiao, Chang, and Tang (2016), Wang et al. (2015), Kang, Mun, and Johnson (2015) and Kim, Yoon, and Han (2016) suggest that both utilitarian and hedonic variables influence consumer behaviour during use of mobile applications. A review of such variables from both Information Science and Marketing literature may help us gain an understanding into the potential variables capable of influencing the customer experience with retailers' m-commerce mobile applications.

2.3. Utilitarian factors of technology

Deriving from the Technology Acceptance Model (TAM) (Davis, 1989), Rose et al. (2012) outline ease of use as an important variable capable of influencing customer emotions within the online retail environment. Based on the Theory of Reasoned Action, the TAM continues to be an important foundation in understanding customers' use of technology (Yang, 2013). Ease of use refers to the ease in which a