An Importance Performance Analysis of smartphone applications for hotel chains

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ABSTRACT

The proliferation of smartphone ownership and mobile travel bookings has persuaded hoteliers to develop mobile strategies and develop applications (apps). To investigate the customer perception of these apps, a two-stage methodology was applied that identifies the available features and functions on 20 hotel chain apps. Next, the importance and performance of these 51 identified features and functions are then rated and analysed using the Importance Performance Analysis (IPA) framework. Most of the features and functions under "Reservation Information" and "Hotel Information" are commonly available, and are rated high in importance and performance, which is located in Quadrant two, "Keep up the good work". "At Hotel Functions" are not commonly available, but rated important by customers, thus placed in Quadrant one, "Concentrate here". Thus, IPA highlights specific, exclusive opportunities for hotels to engage via apps with customers during their stay.

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1. Introduction

The proliferation of smartphones and tablets now extends when and where customers engage with content (ComScore, 2013; Dickinson et al., 2014; Xiang, Wang, O'Leary, & Fesenmaier, 2014). The rising popularity of smartphones and tablets contributes to the development and diffusion of apps (Lu, Mao, Wang, & Hu, 2015), and the market for apps is one of the fastest-growing in the history of consumer technology (Newark-French, 2011). Most of the mobile access is now through apps with consumers showing a preference for mobile apps versus mobile websites (Nielsen, 2014). Though, recent data suggests that apps are reaching their saturation point in number, the amount of time spent on apps is expanding with a reported 21% yearly increase in 2014 (Nielsen, 2014). Meanwhile, the European online travel market continues to grow, partially fuelled by bookings made from smartphones and tablets (Phocuswright, 2013). Similarly, mobile travel bookings are projected to triple, with mobile bookings contributing 20% of European travel, mostly attributable to the mobile apps of online travel agencies (OTAs) stimulating growth (Phocuswright, 2013).

Wang, Xiang, Law, and Ki (2015) emphasise that hotels apps are lagging behind OTA apps in terms of hotel information, integrating with loyalty program, reservation capacity, and app stability. In fact, Freed (2014) reported that OTAs and meta search apps have been installed between 12 and 25 million times, while hotel brand apps have been installed as few as 142,000 to 434,000 times. eMarketer (2014) also stated that for both business and leisure travellers, branded hotel apps are less popular than travel aggregator apps. As such, the hotel industry has yet to profit from the powerful distribution reach and marketing power of apps (Wang et al., 2015). Apps can present less content per screen, and are more challenging and restrictive in features and functions than websites. Consequently, hotels must establish a balance between what information the hotel would want to communicate and the content expectations of guests, within a limited screen space. This has resulted in a somewhat standardized layout and content of both websites and apps to facilitate customers' ease of use and navigation.

For mobile tourism services, Goh, Ang, Lee, and Lee (2010) propose that travellers prefer the basic services such as those providing information about transportation, accommodation and food; but care less about context-aware services and trip planning. The most common available features and functions on the hotel specific mobile apps are; room reservation, property searches, real-time feedback via guest surveys, area information, loyalty account access, restaurant and spa reservations, property maps, etc. (Adukaite, Reimann, Marchiori, & Cantoni, 2013; eMarketer, 2013; Wang et al., 2015). Nonetheless, more recent research reported

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that the main features and functions that travellers want from their smartphones are nearby availability and planning tools with less interest in transactional features (MCDPartners, 2014).

Research on context specific apps is limited (Wang et al., 2015) and focuses specifically on taxonomies and hoteliers' opinions (Adukaite et al., 2013; Chen, Hsu, & Wu, 2012; Eriksson, 2014; Okazaki, Campo, Andreu, & Romero, 2014). New devices and apps have fundamentally reshaped the way people gather information and consume travel and hospitality related products (Buhalis & Law, 2008; Stienmetz, Levy, & Boo, 2013; Wang, Park, & Fesenmaier, 2012). Given the accelerating adoption of apps and mobile websites, the growing ownership of mobile devices, the contribution of mobile travel bookings to the overall travel market, and the proliferation of app development for both IOS and Android platforms and the comparatively low downloading of hotel apps, it is critical to investigate the customer preferences and performance evaluation of the features and functions of hotel apps (Wang et al., 2015).

By examining the gap between the importance and performance ratings of the hotel app features and functions, from a customer perspective, this study will contribute not only to the literature but also to practice. The main contribution to the literature will be in examining the apps market, specifically in the context of hotels using the Importance Performance Analysis (IPA) framework for analysis. Despite the growing importance of apps, there has been limited, academic or empirical research, that both rate the importance and the performance levels of app features and functions from a hotel customers' viewpoint. It will expand to 51 features and functions, significantly extending beyond the 14 functional features in the study by Wang et al. (2015). While other studies investigated only some aspects of hotel apps, they fail to investigate the incongruities between apps developed and their functions and features that are used in the hotel sector (Wang et al., 2015). Thus, this research aims to investigate and fill this gap. It contributes to our understanding of the app usage for both hotel apps users and generic apps users, who may be potential customers for hotels. It further answers a call by previous researchers (Wang, Xiang, & Fesenmaier, 2014b, p.25) that further research on devices "should extend beyond the focus on functionalities". These functionalities and features require investigation, particularly, in a highly competitive environment, where technology expenditure is limited (Murphy & Rappaz, 2014). Hotel specific apps may also provide a competitive advantage to the hotel property, particularly during the stay when the hotel has significant ownership of the guest experience and exclusive features and functions may be shared.

This research will also contribute to managerial practice in a number of ways, for example, to identify value-added opportunities for app functions and features. For practitioners, the presentation and analysis of attributes on the four quadrants of IPA are easy to understand, and will assist managers in allocating resources to the most critical areas (Martilla & James, 1977). Finally, the wider app market is very competitive and more recent statistics by Nielsen (2015) show that if you are not established as one of the "favourite 27" of apps installed, then adoption is likely to be short term. This is emphasized by the most recent data that states that travel and entertainment apps are the most readily discarded (Nielsen, 2015). This raises questions over the efficacy of app development which may lead to vital financial and technology resources being depleted by developing hotel specific apps.

This research paper is presented in the following order. After the introduction, the relevant literature and research on smartphone, tablet and apps research is presented to provide the theoretical foundation of this research. The methodology section details the research design, population and sample, data collection and data analysis procedure. Key findings are presented in the results and

are followed by the discussions section. Finally, the conclusion, implications of the findings and research limitation are elaborated.

2. Theory/Issues

The Internet has empowered hotel customers with better information and more choices, and consequently accelerated change in customer communication, particularly the growth of mobile marketing (Dickinson et al., 2014; tom Dieck & Jung, 2015; Hao, Yu, Law, & Fong, 2015; Ho, Lin, & Chen, 2012; Ling, Guo, & Yang, 2014; Lu et al., 2015; Sparks & Browning, 2011; Vermeulen & Seegers, 2009; Wang et al., 2015; Xiang et al., 2014). Given the intangible nature of many of the hotel services and the ubiquitous nature of smartphones and apps, they seem to offer the potential to reach hotel guests by providing access to online information before, during, and after phases of travel (Brown & Chalmers, 2003; Gretzel, Fesenmaier, Formica, & O'Leary, 2006). Researchers propose that the next wave of innovation will come from the accelerating growth in mobile technology, particularly the extension of their functionality and their applications (Coussement & Teague, 2013; Dickinson et al., 2014; Wang, Park & Fesenmaier, 2012; Wang & Xiang, 2012; Wang et al., 2015).

2.1. Mobile technology – smartphones and tablets

Smartphones and tablets support ubiquitous computing, contextual computing, pervasive computing, ubiquitous connectivity to the Internet, and the integration of various sensors (Dickinson et al., 2014; Lamsfus, Wang, Alzua-Sorzabal, & Xiang, 2014; Morosan, 2014; Wang, Park, et al., 2012, 2014b; Wang & Xiang, 2012). The portable nature of smartphones and tablets have led researchers to investigate pre-trip, during trip and post-trip traveller behaviours (Eriksson, 2014; MacKay & Vogt, 2012; Wang, Park, et al., 2012; Wang, Xiang & Fesenmaier, 2014a). Other research has focused on consumer behaviour as customers have migrated from passive information receivers to active and mobile information retrievers, deciding when and where they want the interactions (with companies) to take place (Coussement & Teague, 2013). Smartphones have transformed behaviours, information needs, decision making, experiences, documenting and sharing (Dickinson et al., 2014; Lamsfus et al., 2014; Wang et al., 2014b), thus altering the way hotels market their products and services to customers. The perceived benefits to consumers of using mobile technology have also been identified, e.g. ubiquity, convenience, immediacy, personalization, information access, pragmatism, money savings, innovation, planning capacity, and entertainment (Kim, Park, & Morrison, 2008; Okazaki et al., 2014). Notwithstanding, there are barriers to the use of mobile technology, which are reported as high entry costs, usage costs, security issues, poor technology capability and a lack of relevant services (Eriksson, 2014; Lu et al., 2015). Kim and Law (2015) provide a review of smartphones in tourism and hospitality marketing, emphasising, amongst other aspects, "the evolution of the smartphone consumers' value perceptions in the mobile marketing context" (p.707).

2.2. Apps: taxonomies and categorizations

An application (app) refers to "software, tailor made for mobile devices which improve the delivery of mobile services" (Dickinson et al., 2014, p. 86). There are also several taxonomies that have been identified by researchers for travel apps. Kennedy-Eden and Gretzel (2012) have specified seven categories, including navigation, social, mobile marketing, transactional, security/emergency, entertainment and information. Wang and Xiang (2012) classify travel apps