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Mobile app introduction and shareholder returns

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Mobile travel sales for leisure and unmanaged business travel grew from $26.14 billion in 2014 to $52.08 billion in 2015. With this rapid growth, mobile distribution channels have become an important component of hospitality and tourism suppliers' strategy in moving sales to direct channels. But the impact to shareholders is still to be determined. The present study estimated that the introduction of mobile apps in lodging and airline companies can increase shareholder return by 1.32%. The present study complements the mobile technology literature in quantifying the value of mobile app by stock market returns instead of consumer market measures. It also shows that the speed of adopting mobile app does not affect its value.

1. Introduction

Morgan Stanley Research estimated more people would access the Internet through mobile devices than desktop devices after 2014 (Green & Lomanno, 2013). This change of consumer behavior puts a spotlight on mobile distribution channels, which are defined as mobile device-based logistics that allow the company to communicate and engage with customers in an interactive and relevant manner (Keng, Ee-Peng, & Zixing, 2001). The interactive nature of mobile distribution channels increases customer loyalty and brand recognition (Ngai & Gunasekaran, 2007). Attracted by direct access to millions of mobile customers, hospitality companies are experimenting various forms of mobile services to incorporate mobile channels into the existing distribution system (Keng, Ee-Peng, & Zixing, 2001). Proprietary mobile applications (mobile apps hereafter) are a popular form of mobile channels.

In response to the industry's embrace of mobile channels, the academia is starting to research on issues related to mobile channels. Most of the studies focused on consumer attitudes (Swilley, 2008) and adoption (Morosan, 2014; Wang & Wang, 2010). Studies that evaluate the impacts of mobile distribution are generally scarce. The closest one is a study that explored the effects of mobile channel on the consumer/brand relationship (Nysveen, Pedersen, Thorbjørnsen, & Berthon, 2005). As measuring the effects of channel addition remains a challenging task for both scholars and industry players (Geyskens, Gielens, & G.Dekimpe, 2002), the first objective of the study is to measure the shareholder value created by mobile app introduction. The present study was conducted in the context of the hotel and airlines industries because these two industries interact directly with consumers and mobile channels greatly affect their operating, marketing, and distribution activities.

Marketing studies have relied on consumer market performance measures such as sales growth, market share, inter-firm power, retail productivity, brand awareness and satisfaction (Geyskens et al., 2002) to measure channel performance. However, there are calls for evaluating channel performance in terms of shareholder value. According to the Marketing Science Institute, linking key marketing metrics to the investor community, such as stock analysts, represents a top-priority issue on chief marketing officers' agendas (Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004). Zinkhan and Verbrugge (2000) argued that the integration between marketing and finance have become critical as firms increasingly focus on enhancing economic value. The present study aims to fill the gap by quantifying the value of mobile app introduction through the event study methodology.

A performance measure based on shareholder value could address some of the weaknesses of consumer market based indicators. First, mobile app introduction might have opposite effects in different areas, such as increasing operating costs while improving customer satisfaction. Shareholder value reflects the net

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effect of all possible effects. Second, it obviates the need to use accounting measures, which cannot incorporate long-term strategic implications. Third, no matter how a new channel affects customer satisfaction, market share, or accounting profit, the channel ultimate has to create value for shareholders.

The success of distribution channels depends on many factors, including channel power, direct-channel experience, entry order, advertising support, and marketplace characteristics (Geyskens et al., 2002). Among all the factors, entry order has been regarded as an important part of the channel introduction strategy. Entry order is found to closely associate with the direction and magnitude of the financial implications of adding a new channel (Szymanski, Troy, & Bharadwaj, 1995). The second study objective is to test the entry order effect of introducing a mobile app.

The contribution of the present study is threefold. First, given the wide adoption of mobile channels in the hotel and airline industries, the results of the present study could serve as a reality check. Many marketing studies have shown that mobile channels bring value to customers and improve operating efficiency. But the value added to customers and operation might not be translated into shareholder value. Using shareholder value as a benchmark, managers would be able to present their channel strategies in a way that directly appeals to shareholders. Second, the analysis on the entry order effect could help managers decide whether they should devote resources to be a pioneer in this new channel or wait and learn from the mistakes of first movers. Third, by examining both short-run and long-run returns, the results can be used to evaluate the equity market's efficiency in incorporating the value of a mobile channel.

2. Literature review

2.1. Mobile distribution channels

Based on Go and Pine's (1995) definition, a distribution channel has two major functions: providing information to potential buyers and enabling buyers to complete the purchase. The information function is important because of the intangibility (O'Connor & Frew, 2004) and inaccessibility (Go & Pine, 1995) of tourism offerings. Distribution channels provide accurate, timely, high quality information to help consumers make purchase decisions. To facilitate purchases, convenience of the reservation and payment processes is critical (Castleberry & Hempell, 1998). Consumers have incentives to choose the most easily accessible product from a pool of competing offerings. This creates competition between third-party channels and service providers' direct channels. Issues related to customer data, experience control, and distribution costs further exacerbate the conflicts between intermediaries and suppliers (Lee, Denizci Guillet, & Law, 2013). An increasing number of hospitality and tourism companies have come to realize that direct channels should be at the heart of their distribution strategy (Connolly, Olsen, & Moore, 1998; Thakran & Verma, 2013). With the development of technology, mobile technologies have allowed information to flow with great efficiency, security and accuracy (Bhatiasevi & Yoopetch, 2015). This has facilitated a rapid growth in mobile booking and this rapid growth came at the expense of desktop booking (Peltier, 2016). As a result, mobile channels have become a key component of suppliers' direct distribution strategy (Qi, Law, & Buhalis, 2013).

Mobile travel sales for leisure and unmanaged business travel were estimated to be $26.14 billion in 2014 and $52.08 billion in 2015. During the same time period, travel sales from desktop devices slowed from $119 billion to $115.91 billion (eMarketer, 2015; Schaal, 2015). Orbitz reported that about one third of hotel bookings are from mobile devices in 2014 and the figure is 20% for Expedia. An Expedia/Egencia survey on 8856 employed adults from 25 countries indicated that the share of mobile bookings varies across the world, with Asia Pacific leading the way and Brazil and Germany lag behind (Schaal, 2015).

Travelers who book through mobile devices demonstrate certain unique booking patterns. Mobile bookings tend to be for shorter and last minute stays, especially on OTAs. Based on studying over 2 billion search and booking events of major airlines, hotels, and OTAs, Phocuswright and Adara found that 70% of mobile bookings on OTA and 30% of mobile bookings on hotel sites are for same-day or next-day check-in (Quinby, Walsh, & Jain, 2014). Travelers seems to prefer OTAs to hotels for mobile bookings due to the convenience of price comparison for last minute bookings. Mobile device users tend to be young and adapt to technology. A 2016 survey of 1557 internet users showed that while only 24% of the sample book through mobile devices, the percentage increases to 41% for those between 25 and 34 of age (O'Donnell, 2016). While the use of mobile channels is relatively low compared to other online channels, it is expected to grow as younger generations age and become major markets.

Two popular mobile channels are small screen friendly mobile websites and proprietary mobile apps. Based on the data pulled from more than 500 travel companies around the world, Criteo (an ad technology company) found that travel booking sales are evenly split between mobile websites and mobile apps as of September 2015. But mobile app bookings are growing at a much faster rate than mobile web bookings (Peltier, 2016). It is estimated that 51% of travelers will have downloaded a mobile app from hotels and 39% from OTAs in 2016 (Peltier, 2016). According to MMGY Global's Portrait of American Travelers study, 36% of travelers have booked a travel service (e.g., accommodations, flights, and car rentals) through a smartphone app in 2015. For those who have used mobile devices to book a hotel, an Expedia/Egencia survey shows that 58% had used an app and 42% had not (Schaal, 2015). A survey estimated that 70% of business travelers have travel apps on their smartphones and 64% preferred to access travel services through mobile apps rather than mobile web (TNS, 2012).

Common features of a hotel mobile app can be organized into four categories: booking, stay management, stay enhancement, and loyalty program management. The booking feature does not only allow travelers to book a room but also let users sort and filter hotel properties by distance, price or brand. The apps also provide detailed information and photos of the facilities and amenities. For airlines, this feature further allows users to check the most updated flight status. Stay management features enable users to check in, check out, modify bookings, and view charges. Stay enhancement features include mobile key, booking a spa, ordering room service, make special requests and providing local tourism information. For airlines, this component provides opportunities for ancillary revenues from in-flight purchases. The features for managing loyalty program account are a very important component for moving travelers to direct channels. This group of features strengthen the tie between repeat travelers and suppliers.

Based on a survey of 2126 U.S. travelers, when asked what is the most useful feature in a hotel app, 36% of travelers point to interactive maps, followed by local coupons/discounts (27%), room service function (23%), and loyalty program management (14%) (Park, 2014). All of the above preferences point to a strength of mobile apps over traditional online booking devices: personalization. With geolocation information, mobile apps can offer users timely information, offers, and promotions. While consumers are interested in the offers tailored to their interests and needs, they might be reluctant to share their data for concerns about security. Besides security, another reason that slows the adoption of mobile apps is the difficulty of filling out payment details on a mobile