
Jialin (Snow) Wu

Huddersfield Business School, University of Huddersfield

Chen Zheng

Edge Hill Business School, Edge Hill University

Shun Ye

School of Management, Zhejiang University

Rob Law

School of Hotel & Tourism Management, the Hong Kong Polytechnic University

Love Too Deep or Hard to Leave? A Study of Mobile Application Loyalty

With the increasing choices of mobile Applications (Apps) for tourism purchasing, it is essential for Apps operators to understand how to retain customers so as to ensure long-term profits. This study was designed to investigate the formation of App loyalty from a habit theory perspective. The results of Multigroup Structural Equation Modelling support our model, and indicate that the positive association of App satisfaction on App loyalty is stronger for bookers who do not stick to one brand from computer website to mobile App; furthermore, for those who are with high brand viscosity, habit and switching cost plays an important role in leading to App loyalty. Methodological and implications are also discussed.

Key words: mobile App; loyalty; switching cost; habit; brand viscosity; multigroup structural equation modelling

Jialin (Snow) Wu

Huddersfield Business School

University of Huddersfield

Queensgate, Huddersfield

HD1 3DH

UK

Email: j.wu@hud.ac.uk

Chen Zheng

Edge Hill Business School

Edge Hill University

St Helens Road, Ormskirk

L39 4QP

UK

Email: zhengc@edgehill.ac.uk

Shun Ye

School of Management

Zhejiang University

Hangzhou

China

Email: yeshun1989@163.com

Rob Law
School of Hotel & Tourism Management,
The Hong Kong Polytechnic University
17 Science Museum Road
Hong Kong SAR
China
Email: rob.law@polyu.edu.hk

Dr. Jialin (Snow) Wu is a lecturer at Huddersfield Business School, University of Huddersfield. Her research interests cover digital marketing in tourism, event and hospitality, consumer behaviour and sustainability.

Dr Chen Zheng is a lecturer at Edge Hill Business School, Edge Hill University. His research areas are associated with corporate strategies, corporate governance, determinants of firm performance and digital marketing.

Dr Shun Ye is a Research Fellow in the Department of Hotel and Tourism Management, Zhejiang University, China. His research interests cover entrepreneurship, small business growth, social media and demand analysis.

Dr. Rob Law is a Professor at the School of Hotel and Tourism Management, the Hong Kong Polytechnic University. His research interests are information management and technology applications.

Introduction

With the rapid development of mobile Internet, practitioners in the tourism and hospitality industry are making great efforts to enlarge their online distribution channels and to establish their business in the mobile market (Tan, Lee, Lin, & Ooi, 2017). They are keen to have a better understanding of mobile bookers, in particular what drives loyalty in this mobile digital era. Although loyalty is not a new research question, understanding customer loyalty is still paramount and a challenge for mobile tourism (Wu & Law, 2018). As more developers are launching new mobile applications (Apps) for tourism purchasing, providing a variety of opportunities for customers to switch between different options. With the increasing competitors, how to retain the existing customers? Will mobile bookers continue using the Apps they are currently using? Are customers loyal to a certain App owing to their affection feelings or because it is hard for them to switch?

Despite previous studies, there is still a clear gap in the existing literature. Although there have been a few studies investigating the determinants of e-loyalty, these studies focused primarily on website loyalty (Roger-Monzó, Martí-Sánchez, & Guijarro-García, 2015), while relatively fewer attentions have been paid to mobile App loyalty. Furthermore, the extant research on App loyalty thoroughly examined the influence of affective factors, such as satisfaction (Hsiao, Chang, & Tang, 2016) and perceived value (Wu & Law, 2018). However, little research has been conducted to show the role of habit and switching cost as direct drive of App loyalty, in addition to satisfaction. Even less is known about whether consumers stay with one specific brand for tourism purchasing either from computer website or mobile App has an influence on the relationships between satisfaction, habit, switching cost and loyalty. In this study, we refer the condition of sticking to one brand for hotel booking either from websites or Apps as brand viscosity.

Knowing the role of brand viscosity across desktop and mobile platforms in mobile tourism context would fulfil both theoretical and practical needs. The present study developed a conceptual framework considering the predicting effects of habit and switching cost on App loyalty, together with satisfaction. Additionally, the moderating effect of brand viscosity on the proposed model was examined and discussed.

Literature Review

Owing to the importance of customer loyalty in e-Commerce, extensive research has been conducted on its antecedents (Pereira et al., 2016). Recent e-Tourism research has proven that website satisfaction is positively related to website loyalty and mediates the relationships between other variables and loyalty (Pereira et al., 2016). Despite the relatively fewer efforts to mobile App loyalty when compared to website loyalty, emerging studies have offered some valuable empirical support (Ozturk et al., 2016; Wu, Law, & Liu, 2018). Wu et al. (2018) evidenced the positive predicting effect of App satisfaction on App loyalty, which is in alignment with the studies on website loyalty. Online consumer's loyalty toward a mobile App also depends on their satisfaction toward the App. In this current research, App satisfaction refers to positive mobile purchasing experience and the extent to which a mobile booker believes the experience via a mobile App meets his/her requirements, while App loyalty represents a mobile booker's favourable attitude and reusing intention toward a certain App over time. Based on the literature review, we have the following hypothesis:

H1: App satisfaction is positively related to App loyalty.

Prior research has largely documented the influence of habit on consumer satisfaction and the mediating effect of satisfaction on the link of habit and loyalty (Khalifa & Liu, 2007; Pereira et al., 2016). These studies contend that people tend to be more satisfied with an online shopping platform if he/she has the habit of online purchasing. However, it should be noted that, the formation of habit is a developmental outcome of satisfactory experiences

(Aarts, Verplanken, & Van Knippenberg, 1998). A consumer's shopping habit actually reflects his/her history of interacting with service suppliers. Satisfactory purchasing experience generates favourable feelings toward the purchasing actions, thus increasing the tendency to become a shopping routine-habit (Hsiao et al., 2016). The arguments presented formulate the following hypothesis:

H2: App satisfaction is positively related to habit.

It is likely to form a habit with our personal smartphone in the context of purchasing via mobile Apps, as smartphone has become an integral of daily life in this mobile Internet world. In the digital marketing literature, a number of studies have demonstrated that habit is a crucial factor in predicting customer loyalty (Hsiao et al., 2016; Khalifa & Liu, 2007). Mobile bookers tend to purchase via Apps based on their habits to save the cost of thinking and to minimize the searching efforts, particularly when they are under time pressure (Pereira et al., 2016). Thus, the habit of using a certain App is likely to have a positive influence on App loyalty. In accordance with the above reasoning, we propose the following hypothesis:

H3: Habit is positively related to App loyalty.

Switching costs refer to the costs incurred when a customer switches from one supplier to another (Kim, Kliger, & Vale, 2003). As the perceptions of switching costs are based on financial and psychological effort involved in using a new service/product, switching cost thus can increase the possibility to continually use a certain service/product and to become a routine (Deng et al., 2010). Although most of the prior research contended a positive influence of habit on switching cost, this study argued and proposed that a high perceived switching cost may also lead to habitual actions, as the formation of habit is inseparately with people's desire to minimize thinking costs. As such, we propose the hypothesis 4 as follows:

H4: Switching cost is positively related to habit.

As switching costs make it costly for consumers to change from the existing supplier to alternatives, switching cost can be an effective influential factor to loyalty (Wang, Wu, Lin, & Wang, 2011). As such, increasing switching costs to retain customers has become a crucial strategy for industry practitioners. There have been substantial evidence on the positive relationship of switching costs on loyalty. Such relationship is also evident in the online context (Deng et al., 2010; Wang et al., 2011). Recent research on digital marketing contended that online switching costs directly and positively affect customers' loyalty toward online service (Ghazali, Nguyen, Mutum, & Mohd-Any, 2016). Thus, we propose the following hypothesis:

H5: Switching cost is positively related to App loyalty.

In the online context, website viscosity is an important concept, which refers to the ability of an online platform to increase user stickiness (Li, Cao, & Zhang, 2018). In this study, we define the condition of sticking to one specific brand for online booking as brand viscosity. According to prior research, online user viscosity generates high transfer costs, which further affects users' sensitivity to service performance and continuance usage intention (Li et al., 2018). Thus, the viscosity of a specific brand for online booking (e.g. Expedia and Booking.com) implies a mobile booker's usage habit and possible high perceived costs. When evaluating the relationships between habit, switching costs and satisfaction, mobile bookers with brand viscosity are more likely to convert their usage habit and perceived switching cost into loyalty, rather than those who do not stay with one brand from websites to Apps. As such, we propose:

H6: Brand viscosity moderates the relationships between habit, switching cost, App satisfaction, and App loyalty.

Methodology

An online survey was conducted. Since the target population are consumers who have hotel booking experience via mobile apps and computer websites, two screening questions were formulated to filter qualified participants. In total, 268 usable questionnaires were collected and retained for data analysis. To determine whether using the same brand from computer website to mobile app has an influence on mobile bookers, we also asked the respondents to indicate whether the mobile App and the computer website they used most often are the same brand. App loyalty was measured using four items adapted from Lin and Wang (2006). The scale of App satisfaction was adapted from Kim et al. (2015) including three items. The habit scale was measured with three items adapted from Gefen's (2003) research. Switching cost was measured by three items from Deng et al. (2010).

Data Analysis

Data analyses were performed using SPSS 24.0 and Amos 26.0 software. Descriptive statistics were conducted to evaluate the profiles of the visitors and correlations between factors. Amos 26.0 was used to assess the model fit, and reliability and validity of the factors. The confirmatory factor analysis (CFA) was also analysed by Amos 26.0. To determine the moderating effect of brand viscosity on the model, multigroup SEM with chi-square difference ($\Delta\chi^2$) tests were conducted.

Findings

Structural model

The results of Confirmatory Factor Analysis (CFA) show that the measurement instrument has good reliability and validity, with all the factor loading above 0.60, all the Cronbach's alpha values exceeded 0.80, and all the AVE value above 0.60. Both the measurement model and the structural model show a reasonable model fit to the data. The results of Structural Equation Modelling support H1-H5, with significant evidences showing

that satisfaction, habit and switching costs are all antecedents of App loyalty. Also, according to the results, habit is significantly and positively affected satisfaction and switching costs (see Figure 1).

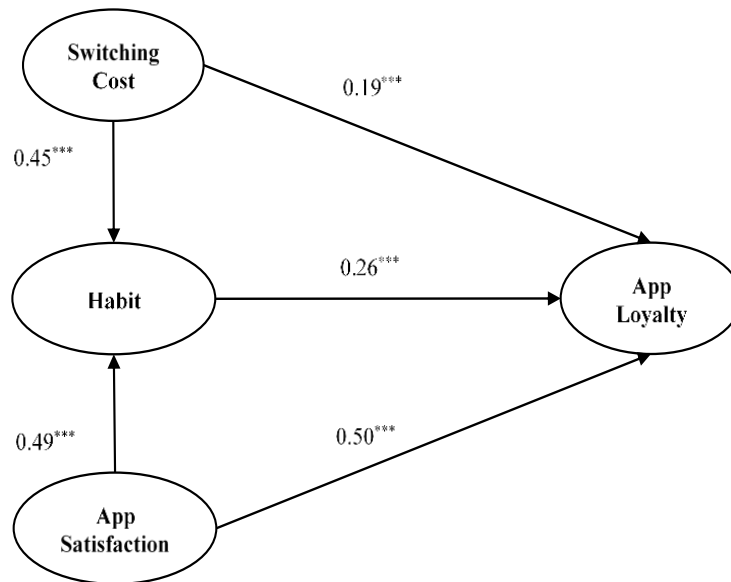


Figure 1. Results of SEM

Moderating effect of brand viscosity

Multigroup SEM approaches were performed to test the whether a moderating effect of brand viscosity exists on the relationships between habit, switching cost, satisfaction and loyalty. The results of multigroup SEM showed that there is a significant χ^2 difference between the unconstrained and constrained model, suggesting the brand viscosity group and non-viscosity group were different at the model level. The positive effect of habit and switching cost on App loyalty was significant only for those bookers with brand viscosity (using same brand for hotel booking via mobile App or computer website). For those who did not use same brand for online hotel booking, habit and switching cost no longer showed a significant impact on App loyalty. The results also revealed that the predicting effects of satisfaction on App loyalty and Habit were stronger for those who do not have brand viscosity.

Conclusion

This study has proposed the new concept of *brand viscosity* that is an extension of an original concept of user viscosity in the context of e-Commerce. Incorporating with the results of Multigroup SEM, the moderating effects of brand viscosity on the relationship among switching cost, habit, satisfaction, and App loyalty shed new lights on the development of digital marketing strategies for practitioners. As prior studies found the positive effects of habit on switching cost, this study further witnesses the two-way relationship between switching cost and habit. The switching cost can determine habit, which implies practitioners to pay a special attention on the role of switching cost in leading on App loyalty. Furthermore, other than cultivating user viscosity of using App, brand viscosity is another critical factor when investigating App loyalty. The role of brand viscosity acts a significant role in strengthening the relationships among switching cost, habit, and App loyalty, which implies that switching cost and habit are effective determinants of App loyalty for firms with strong brands.

References

- Deng, Z., Lu, Y., Wei, K. K., & Zhang, J. (2010). Understanding customer satisfaction and loyalty: An empirical study of mobile instant messages in China. *International Journal of Information Management*, 30(4), 289-300.
- Gefen, D. (2003). TAM or just plain habit: A look at experienced online shoppers. *Journal of Organizational and End User Computing*, 15(3), 1-13.
- Ghazali, E., Nguyen, B., Mutum, D. S., & Mohd-Any, A. A. (2016). Constructing online switching barriers: examining the effects of switching costs and alternative attractiveness on e-store loyalty in online pure-play retailers. *Electronic Markets*, 26(2), 157-171.
- Hsiao, C. H., Chang, J. J., & Tang, K. Y. (2016). Exploring the influential factors in continuance usage of mobile social Apps: Satisfaction, habit, and customer value perspectives. *Telematics and Informatics*, 33(2), 342-355.

- Kim, M. J., Chung, N., Lee, C. K., & Preis, M. W. (2015). Motivations and use context in mobile tourism shopping: Applying contingency and task–technology fit theories. *International Journal of Tourism Research, 17*(1), 13-24.
- Lin, H. H., & Wang, Y. S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information & Management, 43*(3), 271-282.
- Pereira, H. G., de Fátima Salgueiro, M., & Rita, P. (2016). Online purchase determinants of loyalty: The mediating effect of satisfaction in tourism. *Journal of Retailing and Consumer Services, 30*, 279-291.
- Roger-Monzó, V., Martí-Sánchez, M., & Guijarro-García, M. (2015). Using online consumer loyalty to gain competitive advantage in travel agencies. *Journal of Business Research, 68*(7), 1638-1640.
- Ryu, M. H., Kim, J., & Kim, S. (2014). Factors affecting application developers' loyalty to mobile platforms. *Computers in Human Behavior, 40*, 78-85.
- Wu, J. S., & Law, R. (2018). Analysing behavioural differences between e-and m-bookers in hotel booking. *International Journal of Hospitality Management, in press*,
Doi:10.1016/J.IJHM.2018.10.023