Mediating effects of attitude, subjective norms and perceived behavioural control for mobile payment-based hotel reservations

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\textbf{ABSTRACT}

The impacts of website functionality and usability on the repurchase intention of consumers have been proven by previous literature. However, these impacts, along with the wide adoption of mobile payment for hotel reservations, remain unclear. Hence, this study integrates the conceptual model of website evaluation into theory of planned behaviour (TPB) to examine the impacts of functionality and usability towards mobile payment on the repurchase intention of consumers within a Chinese context by mainly testing the mediating effects of attitude, subjective norms and perceived behaviour control. Based on a quantitative research design, findings revealed that mediating effects exist between mobile usability and customer satisfaction. Furthermore, the mediating effect of customer satisfaction is identified within the context of mobile payment for hotel reservations. Practical implications and ideas for further research are discussed.

1. Introduction

The use of the Internet and the wide application of information and communications technologies enhance information dissemination between suppliers and consumers, such as product distribution and transactions in the hospitality industry (Bhatiasevi and Yoopetch, 2015; DeFranco and Morosan, 2017; Golmohammadi et al., 2012). The number of smartphone users has been increasing globally since 2013; this number exceeded that of traditional personal computer (PC) users in China for the first time in 2014 (Jin, 2014). The market of smartphone users continues to grow, and the market penetration of these users is forecasted to reach 88.9% by 2019. Lamsfus et al., 2015 revealed that the wide adoption of smartphones has changed the behaviours of tourists, such as the way they obtain information, make purchase decisions and share experience. Online travel planning such as hotel reservations is not only performed on PCs or notebooks but also through smartphones (Schegg et al., 2013). According to Yang et al., 2006, mobile travel booking denotes that consumers use portable mobile devices to book hotel rooms, air tickets and other tourism products/services through wireless networks such as wireless fidelity (Wi-Fi). At present, mobile hotel booking is regarded as a key booking platform in China, which leads the mobile hotel booking market through OTAs. OTAs in the present study refer to third-party hotel booking websites in China such as Ctrip. For instance, 40% of hotel bookings on Ctrip, the leading online travel agency in China, are contributed by its mobile platforms (China Internet Watch, 2016). Thus, mobile commerce is gradually occupying the market, especially the mobile payment market in China. Here, smartphones and mobile applications widely support mobile payment, which is a revolution of electronic payment. China’s third-party mobile payment transactions reached USD 27.7 trillion in 2018, which is equal to roughly RMB 190.5 trillion (Global and China Mobile Payment Industry Report, 2019). Fig. 1 shows the volume of mobile payment transactions in China and is expected to reach RMB 264.1 trillion by 2019 (Statista, 2019). Weekly payment reports showed that 60% of tourists in China who responded to a survey of Hotels.com regard the provision of mobile payment as an important factor when they make hotel reservations (Hotel Online, 2015). The survey results show that smartphone hotel reservations using mobile payment can dominate the Chinese market.

Previous studies have conducted website evaluation by mainly considering the impacts of website functionality and usability on the repurchase intention of consumers (Bai et al., 2008; Wong et al., 2018). Nonetheless, the performance of smartphone hotel reservations using mobile payment remains uncertain. Functionality and usability are the two most important dimensions involved in the conceptual model of website evaluation. In the present study, functionality towards mobile payment refers to the information provision of mobile payment, whereas usability towards mobile payment denotes the use of such
Mobile payment is widely accepted among users in China. This trend is continuous in terms of mobile payment for hotel reservations. Previous studies have proven that customer satisfaction is critical in attracting consumers to rebook hotels and is positively connected with repurchase intention given the rapid penetration rate of smartphones. Repeaters can also likely return (Jarvis et al., 2016; Lau and McKercher, 2004). Nevertheless, if the present study only adopts the conceptual model of website evaluation, the detailed aspects of functionality and usability remain unclear.

Hence, the present study integrates the conceptual model of website evaluation into theory of planned behaviour (TPB) to reflect how the detailed aspects of functionality and usability affect the repurchase intention of consumers. Theory of planned behaviour is a fundamental concept that explains and predicts consumer behaviour (Ajzen, 1991), which includes three main elements, namely, attitude, subjective norms and perceived behavioural control. Attitude refers to favourable or unfavourable attitude towards a certain behaviour (Ajzen, 1985). Fishbein and Ajzen (1975, p. 302) defined subjective norms as ‘the degree to which individuals perceive that most people who are important to them think they should or should not use the system’. Perceived behavioural control denotes the ability of consumers to control behaviour. For example, antecedents such as privacy concerns influence the information disclosure of consumers (Hui et al., 2007) and reputation or trust (Metzger, 2006). Thus, people are expected to perform their actions when opportunities arise given by a certain degree of actual control. When applying the aforementioned three elements into the present study, attitude refers to favourable or unfavourable attitude towards the use of mobile payment for hotel reservations. Subjective norms refer to the perceptions of most people in their social networks towards the use of mobile payment for hotel reservations. Perceived behavioural control reveals the ability of consumers to use mobile payment for hotel reservations.

Mobile payment is widely accepted among users in China. This trend is continuous in terms of mobile payment for hotel reservations. Previous studies have proven that customer satisfaction is critical in attracting consumers to rebook hotels and is positively connected with repurchase intention given the rapid penetration rate of smartphone usage (Jarvis et al., 2016; Oh and Kim, 2017; Su et al., 2016). Nevertheless, the applicability of this relationship to the context of mobile payment for hotel reservations remains unknown. Hence, there is an urgent need to reconsider the measurements of service quality model SERVQUAL (tangibility, reliability, responsiveness, empathy, and assurance) that lead to customer satisfaction since at present consumers are interacting more with technology rather than with service personnel. Thus, the present study integrates the conceptual model of website evaluation into theory of planned behaviour to examine the impacts of functionality and usability towards mobile payment on the repurchase intention of consumers within Chinese context. The objectives of this study are (1) to test the mediating effects of attitude on the relationship between mobile functionality/usability and customer satisfaction; (2) to test the mediating effects of subjective norms on the relationship between mobile functionality/usability and customer satisfaction; (3) to test the mediating effects of perceived behavioural control on the relationship between mobile functionality/usability and customer satisfaction; and (4), to test the mediating effects of customer satisfaction on the relationship between attitude/subjective norms/ perceived behavioural control and repurchase intention within the context of mobile payment for hotel reservations. As a result, the present study contributes to the literature by proving the impacts of functionality/usability towards mobile payment on customer satisfaction within the context of mobile payment for hotel reservations as well as exploring up-to-date measurements of the service quality model SERVQUAL to fit into mobile technology context.

2. Literature review

2.1. Application of theory of planned behavior with mobile payment context

2.1.1. Attitude towards mobile payment for hotel reservations

Mobile payment is an emerging topic, but limited studies investigated this area. Most previous studies examined the attitude towards using websites or smartphones. For example, Ladhari (2010) found that high quality information determines the positive attitude of consumers towards the use of a website. Tussyadiah and Wang (2014) further explored attitude. Three patterns are identified based on a sample of a total of 275 students in Hong Kong, China. Results revealed that users travelling may perform three actions once they receive a push recommendation from their smartphones. The first one is following the recommendation (i.e. 67.4%), which indicates that users show a favourable attitude to recommendations. The second one is the opposite (i.e. 7.2%), which indicates rejection of recommendation. Therefore, users indicate an unfavourable attitude to recommendations. The third one is holding the decision (i.e. 17.4%). In this case, users do not make immediate decision, which shows that they may use the recommendation as a reference for future decisions. Tussyadiah and Wang (2014) also proved that recommendations for smartphones may not warrant the immediate decision of users travelling. According to Okazaki et al., 2016, convenience and information access are the perceived benefits of mobile technology, and customers show a positive attitude towards adopting mobile technology. In summary, previous studies reveal that functionality and usability are positively related to attitude towards the certain behaviour. Since mobile payment is a commonly adopted technology in China, it is proposed that functionality towards mobile payment is positively related to attitude, and usability towards mobile payment is also positively related to attitude within the context of mobile payment for hotel reservations.

2.1.2. Subjective norms toward mobile payment for hotel reservations

Most studies in the mobile context discussed subjective norms towards mobile phone use. For example, Schepers and Wetzels (2007) found that subjective norms positively affect the intention of consumers to use smartphones. This relationship is more likely found within the western society context than in the non-western society context. People commonly turn to certain groups for their standards or judgements towards a particular behaviour, but few studies addressed the impact of subjective norms on mobile payment. For example, Wang et al., 2016a, 2016b argued that when consumers intend to search for travel information sources, they use social networking platforms to communicate with their friends and families via their smartphones. Findings also indicated that instant feedback about information sources positively affect the decision making of consumers. Moreover, in terms of the impact of mobile usability on subjective norms, Mauri and Minazzi (2013) found that consumers read the reviews posted by hotel guests when they search for hotel information in online travel agencies; these reviews significantly affect the decision making of other consumers. As a revolution of payment technology, mobile payment is expected to share similar characteristics with mobile functionality and usability (de Reuver and Ondrus, 2017). Based on previous studies, functionality and usability affect subjective norms within the mobile context. It is
inferred that mobile payment shares the similar attributes. Hence, it is proposed that within the context of mobile payment for hotel reservations, functionality towards mobile payment is positively related to subjective norms, and usability towards mobile payment is also positively related to subjective norms.

2.1.3. Perceived behavioural control towards mobile payment for hotel reservations

Perceived behavioural control is considered an important aspect for consumers given the attitude towards certain behaviour and the reference group of others within the society. Perceived behavioural control refers to the potential constraints of intended actions, such as available resources (Liska, 1984) and opportunities (Sarver, 1983). Thus, perceived behavioural control refers to the ability of individuals to control a given behaviour (Hsu and Huang, 2012). Limited literature examined perceived behavioural control towards mobile payment. Oliveira et al., 2016 pointed out that information related to compatibility and perceived technology security has significantly direct impacts on the perceived behavioural control of users. Szymanski and Hise (2000) also proved that financial security is a major concern when customers make hotel purchases online. Lee et al. (2015) found that the perceived ability to control risks positively affects the confidence of users when consumers are involved in the interaction process (e.g. performing requested activities). Similar to the relationships proposed for attitude and subjective norms, based on the previous literature, it is proposed that within the context of mobile payment for hotel reservations, functionality towards mobile payment is positively related to perceived behavioural control, and usability towards mobile payment is also positively related to perceived behavioural control.

2.1.4. Customer satisfaction and repurchase intention

Previous studies have proven the relationship between customer satisfaction and repurchase intention (Bai et al., 2008; Oh and Kim, 2017; Su et al., 2016). Although customer satisfaction is not a new concept, academic researchers are very much interested in exploring the measurements of service quality that lead to customer satisfaction. The original service quality model (SERVQUAL) includes tangibles, reliability, responsiveness, assurance, and empathy (Parasuraman et al., 1994). Later, modified SERVQUAL such as DINESERV was introduced to hospitality (Stevens et al., 1995). Recently, along with the rapid development page of technology, particularly the evolution of mobile payment for hotel reservations, there is an urgent need to reconsider the dimensions and attributes of SERVQUAL. Thus, the present study integrates the conceptual model of website evaluation (Bai et al., 2008) into theory of planned behaviour to achieve the aforementioned goal. Since 2010s, many studies have been evaluating service quality in the online environment. For example, Ye et al., 2014 analysed 43,726 online reviews among 774 star-rated hotels to examine how price influences the perceived service quality and value of consumers. A positive impact of price on the perceived service quality is found. However, few researchers investigated the application of service quality model to mobile technology, mobile sites or smartphones. For example, Kim et al., 2015 investigated the impacts of enjoyment (i.e. attitude) and value (i.e. subjective norms) on customer satisfaction within the mobile shopping context. They found that these factors have significant positive impacts on customer satisfaction. Shiau and Luo (2012) also proved that the reputation of social exchange significantly affects consumer satisfaction towards online group buying. In terms of perceived behavioural control, that is, the belief that a factor can facilitate or hinder the performance of a behaviour, Elbeltagi and Agag, 2016 found that privacy and safety are predictors of e-customer satisfaction on the basis of their investigation of online shopping behaviour of consumers. Thus, the positive impact of functionality towards mobile payment on customer satisfaction is proposed, and positive impact of usability towards mobile payment on customer satisfaction is also proposed within the context of mobile payment for hotel reservations.

Several studies proved that customers develop repurchase intention if they are satisfied (Ladhari and Michaud, 2015; Liu et al., 2000). Customer satisfaction is an antecedent of repurchase intention in hotel reservations, and it significantly affects the repurchase intention of hotels (Chang and Chang, 2010; Kim et al., 2009). For example, Bai et al. (2008) examined the increasing popularity of online shopping; they developed a conceptual model to examine the impact of website quality (i.e. functionality, usability) on customer satisfaction and purchase intention. Results showed that website quality directly and positively affects customer satisfaction, and customer satisfaction directly and positively affects purchase intention. Ladhari and Michaud (2015) examined the influence of comments written by Facebook friends on the intentions of booking a hotel by designing an experiment. After conducting a survey of 800 university students, the finding revealed that comments generated on Facebook have influenced the decision-making process of users. The finding is similar to that of the studies of Mauri and Minazzi (2013) and Ye et al., 2011; they found that favourable reviews concerning a hotel increase the likelihood of booking intention of consumers. By conducting a questionnaire survey in a world heritage site in China, Su et al. (2016) proved that customer satisfaction fully mediates the relationship between service quality and the revisit intention of tourists. Hence, based on the previous literature, the positive impact of attitude on the repurchase intention of consumers, the positive impact of subjective norms on the repurchase intention of consumers, the positive impact of perceived behavioural control on the repurchase intention of consumers, as well as the positive impact of customer satisfaction on the repurchase intention of consumers, are proposed.

Within the context of online environment, website functionality and usability are generally perceived as important measurements of service quality from the perspective of consumers. Moreover, following previous studies, consumers are also affected by their attitudes, social communities and ability to control the behaviour. Therefore, functionality and usability may not directly affect customer satisfaction. The three most important elements of TPB, namely, attitude, subjective norms and perceived behavioural control, may mediate the relationship between functionality and customer satisfaction and between usability and customer satisfaction. Thus, the following hypotheses are proposed within the context of mobile payment for hotel reservations based on the previous literature.

H1a. Attitude mediates the relationship between functionality towards mobile payment and customer satisfaction.

H1b. Attitude mediates the relationship between usability towards mobile payment and customer satisfaction.

H2a. Subjective norms mediate the relationship between functionality towards mobile payment and customer satisfaction.

H2b. Subjective norms mediate the relationship between usability towards mobile payment and customer satisfaction.

H3a. Perceived behavioural control mediates the relationship between functionality towards mobile payment and customer satisfaction.

H3b. Perceived behavioural control mediates the relationship between usability towards mobile payment and customer satisfaction.

Although the positive relationship between customer satisfaction and repurchase intention of consumers has been provided by previous studies on hospitality (Kim et al., 2009), limited research has considered the impact of customer satisfaction on repurchase intention within the context of mobile payment for hotel reservations. Thus, the present study tests whether customer satisfaction directly and positively affects repurchase intention within the context of mobile payment for hotel reservations. This study also examines the existence of the mediating effects of customer satisfaction. Hence, based on the previous literature, the following hypotheses are proposed within the context of
mobile payment for hotel reservations.

H4a. Customer satisfaction mediates the relationship between attitude and repurchase intention.

H4b. Customer satisfaction mediates the relationship between subjective norms and repurchase intention.

H4c. Customer satisfaction mediates the relationship between perceived behavioural control and repurchase intention.

3. Methodology

3.1. Data collection

Data were collected by Sojump, the largest data collection company in China. The company was established in 2005 by the Shanghai Information Technology Company. Comparable to its Western counterpart Qualtrics, Sojump is a professional online panel survey and consumer dialogue website used for conducting self-designed, online-questionnaire based surveys (Sojump, 2017). To minimize the common method bias, temporal separation, common scale property elimination, as well as scale item ambiguity elimination were taken into consideration in the present study (Podsakoff et al., 2012). After pilot testing, data were collected in 2017 through an online questionnaire. A screening question (“Have you made any hotel reservation through online travel agency via your smartphone and used mobile payment for the transaction over the past six months?”) has been in place to filter and address qualified participants. A total of 879 valid responses were used for further data analysis.

3.2. Measurements of dimensions and attributes within the context of mobile payment for hotel reservations

Measurements of functionality towards mobile payment include ‘mobile payment information,’ ‘mobile payment flow’ and ‘types of mobile payment (i.e. Alipay, WeChat Pay, Apple Pay)” (Alipay, 2019; Karnouskos, 2004). The measurements of mobile usability include ‘adoption of different operation systems,’ ‘instant mobile payment notification,’ ‘convenience,’ ‘speed,’ as well as ‘safety’ (Lee et al., 2015; Morosan and DeFranco, 2015; Paypal, 2016).

Measurements of attitude towards mobile payment have four aspects, including from bad to good, foolish to fun, unenjoyable to enjoyable, and unpleasant to pleasant (Anand and Sternthal, 1990). Liébana-Cabanillas et al. (2018) continued to adopt the measurements of attitude from the study of Anand and Sternthal (1990). Measurements of studying consumer behaviour towards the use of mobile payment systems are also applied. The measurements range from dislike to like, absurd to intelligent, boring to interesting and unpleasant to pleasant. Hence, based on previous and recent studies (Anand and Sternthal, 1990; Liébana-Cabanillas et al., 2018), the present study uses the measurements of attitude from four aspects to measure attitude towards mobile payment. The measurements are ‘Mobile payment for hotel reservation is good,’ ‘Mobile payment for hotel reservation is fun,’ ‘Mobile payment for hotel reservation is enjoyable,’ and ‘Mobile payment for hotel reservation is pleasant.’

In reference to the measurements of subjective norms towards mobile payment based on previous studies (Hsu and Huang, 2012; Yang et al., 2012), the four adjusted questions indicated below are considered suitable for measuring norms within the context of mobile payment for hotel reservations; these norms include the following: ‘Most people in my social network use mobile payment for hotel reservations’, ‘Most people in my social network wish me to use mobile payment for hotel reservations’, ‘Most people in my social network support me to use mobile payment for hotel reservations’ and ‘If people in my social network use mobile payment for hotel reservations, I will use mobile payment for hotel reservations’.

Ajzen (2002) categorised the measurements of perceived behavioural control into two aspects: self-efficacy and controllability. Thus, the two statements measuring perceived behavioural control within the context of mobile payment for hotel reservations are indicated below. The statement that reflects self-efficacy is ‘I am confident in using mobile payment for hotel reservations’, whereas the statement that reflects controllability is ‘mobile payment for hotel reservations is not beyond my control’.

Two statements used as the measurements of customer satisfaction within the context of mobile payment for hotel reservations are based on the study of Bai et al. (2008). These statements include: ‘I am satisfied with mobile payment experience for my most recent hotel reservation’ and ‘My choice of using mobile payment to make my recent hotel reservation is a wise one’. The two statements used in the present study to measure hotel repurchase intention via mobile payment are: ‘I will make hotel reservations using mobile payment through the mobile websites of OTAs in the next 12 months’ and ‘I will make hotel reservations using mobile payment through the APP of OTAs in the next 12 months.’

4. Findings and discussion

4.1. Social demographics

Table 1 reveals the main socio-demographic information of the 879 respondents. Males comprise 46.9% of the respondents, whereas the remaining 53.1% are female. In terms of the age groups of respondents, 24.6% belong to the age group ‘18 to 27’; 49.0% belong to the age group ‘28 to 37’ and 21.5% belong to the age group ‘38 to 47’. Less than 5% of the respondents are aged 48 or above. Results indicate that nearly 75% of the respondents belong to the young generation. In terms of monthly household income of respondents, most of them have a monthly household income of USD 2,150 or below, or USD 2,151 to 3,500. Moreover, respondents have relatively low monthly household income. Regarding mobile payment methods that consumers use for hotel reservations, 75.8% use Alipay, whereas few respondents use WeChat Pay, Apple Pay or other mobile payment methods.

Table 2 reveals the correlations between each dimension among seven constructs. Fornell and Larcker (1981) suggested comparing AVE and CR.

<table>
<thead>
<tr>
<th>Socio-demographical Information</th>
<th>Frequency</th>
<th>Percentage</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>412</td>
<td>46.9</td>
<td>46.9</td>
</tr>
<tr>
<td>Female</td>
<td>467</td>
<td>53.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Age group</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18–27</td>
<td>216</td>
<td>24.6</td>
<td>24.6</td>
</tr>
<tr>
<td>28–37</td>
<td>431</td>
<td>49.0</td>
<td>73.6</td>
</tr>
<tr>
<td>38–47</td>
<td>189</td>
<td>21.5</td>
<td>95.1</td>
</tr>
<tr>
<td>48–57</td>
<td>35</td>
<td>4.0</td>
<td>99.1</td>
</tr>
<tr>
<td>58 or above</td>
<td>8</td>
<td>0.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Monthly household income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>USD 2150 or below</td>
<td>278</td>
<td>31.6</td>
<td>31.6</td>
</tr>
<tr>
<td>USD 2150 to 3500</td>
<td>334</td>
<td>38.0</td>
<td>69.6</td>
</tr>
<tr>
<td>USD 3501 to 5050</td>
<td>147</td>
<td>16.7</td>
<td>86.3</td>
</tr>
<tr>
<td>USD 5050 to 6,500</td>
<td>58</td>
<td>6.6</td>
<td>92.9</td>
</tr>
<tr>
<td>USD 6501 or above</td>
<td>62</td>
<td>7.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Mobile payment methods</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alipay</td>
<td>666</td>
<td>75.8</td>
<td>75.8</td>
</tr>
<tr>
<td>WeChat Pay</td>
<td>162</td>
<td>18.4</td>
<td>94.2</td>
</tr>
<tr>
<td>Apple Pay</td>
<td>21</td>
<td>2.4</td>
<td>96.6</td>
</tr>
<tr>
<td>Others</td>
<td>30</td>
<td>3.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>
with the squared correlations for each pair of the dimensions to test
discriminant validity. This finding means that if AVE is greater than
squared correlations, then the discriminant validity can be proven.
Results show that discriminant validity is achieved. Moreover, AVE
is greater than 0.50, which confirms convergent validity. In addition, the
attributes involved in each dimension are representative because con-
struct reliability of each dimension is greater than 0.70. Moreover, the
Cronbach’s alpha in each dimension ranges from 0.920 to 0.974.

Findings of confirmatory factor analysis indicate that chi-square
value $\chi^2$ is equal to 994.088 (df = 168, $p = 0.000$). Large $\chi^2$
value is normally due to two reasons: one is large sample size and another reason
is observed variables are not equally distributed (Cheng and Furnham,
mally due to two reasons: one is large sample size and another reason is
discrepancy in
square error of approximation (RMSEA) indicates a measure of the
tailed).

Table 2
Correlations (squared correlations), reliability, AVE and mean.

<table>
<thead>
<tr>
<th></th>
<th>MF</th>
<th>MU</th>
<th>ATT</th>
<th>SN</th>
<th>PBC</th>
<th>CS</th>
<th>RI</th>
</tr>
</thead>
<tbody>
<tr>
<td>MF</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MU</td>
<td>.385(148)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATT</td>
<td>.350(123)</td>
<td>.642(709)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN</td>
<td>.328(108)</td>
<td>.865(748)</td>
<td>.847(717)</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC</td>
<td>.386(149)</td>
<td>.946(895)</td>
<td>.868(753)</td>
<td>.891(794)</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS</td>
<td>.314(099)</td>
<td>.857(734)</td>
<td>.808(652)</td>
<td>.840(706)</td>
<td>.882(778)</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>RI</td>
<td>.295(087)</td>
<td>.816(666)</td>
<td>.795(632)</td>
<td>.810(656)</td>
<td>.839(704)</td>
<td>.793(629)</td>
<td>1.00</td>
</tr>
<tr>
<td>Reliability</td>
<td>.920</td>
<td>.974</td>
<td>.967</td>
<td>.966</td>
<td>.966</td>
<td>.839</td>
<td>.755</td>
</tr>
<tr>
<td>AVE</td>
<td>.854</td>
<td>.888</td>
<td>.909</td>
<td>.879</td>
<td>.906</td>
<td>.743</td>
<td>.652</td>
</tr>
<tr>
<td>Mean</td>
<td>5.709</td>
<td>5.484</td>
<td>5.144</td>
<td>5.178</td>
<td>5.590</td>
<td>5.378</td>
<td>5.138</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.469</td>
<td>1.587</td>
<td>1.531</td>
<td>1.496</td>
<td>1.577</td>
<td>1.498</td>
<td>1.543</td>
</tr>
</tbody>
</table>

Note:
Correlation is significant at the 0.01 level (two-tailed).
MF = mobile functionality, MU = mobile usability, ATT = attitude, SN = subjective norms, PBC = perceived behavioural control, CS = customer satisfaction,
RI = repurchase intention, and AVE = average variance extracted. Mean values are based on seven-point scales. All correlations are significant at 0.01 level (two-
tailed).

4.3. Mediating effect of customer satisfaction

Similarly, to test the mediating effects of customer satisfaction on
the relationships between attitude and repurchase intention, subjective
norms and repurchase intention, and perceived behavioural control and

findings of previous research to a certain extent (Diatemika et al., 2016;
Doosti et al., 2016; Mao and Lyu, 2017; Schüz et al., 2017). For ex-
ample, the recent study of Schüz et al. (2017) in psychology found that
attitude, subjective norms and perceived behavioural control act as
mediators of TPB. Moreover, by adopting technology acceptance model,
the mediating roles of attitude between perceived usefulness and be-

havioural intention and between perceived ease of use and behavioural
intention have been proven in the study of Diatemika et al. (2016).
Doosti et al. (2016) also proved the mediating effects of attitude be-
tween electronic word-of-mouth (e-WOM) and the intention of tourists
to visit a destination. Attitude also mediates the relationship between
perceived value and repurchase intention of Airbnb, Moreover, sub-
jective norms mediate the relationship between e-WOM and repurchase
intention of Airbnb. However, perceived behavioural control does not
mediate the relationship between familiarity and repurchase intention
of Airbnb (Mao and Lyu, 2017).
repurchase intention within the context of mobile payment for hotel reservations, bootstrap method was adopted. Findings show that perceived behavioural control significantly affects repurchase intention \((p = 0.07)\) whereas attitude \((p = 0.409)\) and subjective norms \((p = 0.268)\) do not have significant effects on the repurchase intention the context of mobile payment for hotel reservations. Within the context of destination selection, Lam and Hsu (2006) argued that attitude and perceived behavioural control positively affect the intention of Mainland Chinese tourists to visit Hong Kong. Findings of the present study match with the findings of Lam and Hsu (2006). Although Bhattasevi and Yoopetch (2015) found that social norms are positively related to the intention of using e-booking, as well as the reuse intention of consumers and Gao et al. (2018) found that social influences significantly affect the intention of consumers to use mobile payment services, these findings are not applicable to the context of mobile payment for hotel reservations.

Table 4 reveals the direct effects and indirect effects on the relationships between attitude/subjective norms/perceived behavioural control and customer satisfaction, as well as the positive relationship between customer satisfaction and repurchase intention. Although Mittal and Kamakura (2001) and Chen and Chen (2017) did not find a relationship between customer satisfaction and repurchase intention. To analyse the mediating effects of customer satisfaction between attitude/subjective norms/perceived behavioural control and repurchase intention, 95% confidence interval was set through bootstrap method. Findings show that the indirect effects between attitude and customer satisfaction range from 0.033 (lower bounds) to 0.902 (upper bounds). The indirect effects between subjective norms and customer satisfaction range from 0.044 (lower bounds) to 1.672 (upper bounds). The indirect effects between perceived behavioural control and customer satisfaction range from 0.132 (lower bounds) to 5.602 (upper bounds). Since the confidence intervals do not include 0, the mediating effects of customer satisfaction between attitude/subjective norms/perceived behavioural and repurchase intention exist.

In summary, the impacts of attitude, subjective norms and perceived behavioural control on repurchase intention are transferred through customer satisfaction. In other words, the mediating effects of customer satisfaction on the relationships between attitude and repurchase intention, between subjective norms and repurchase intention and between perceived behavioural control and repurchase intention are proven within the context of mobile payment for hotel reservations. Nevertheless, based on the statistics, customer satisfaction was determined by attitude, subjective norms and perceived behavioural control, and the impact of perceived behavioural control on repurchase intention is larger than that of attitude and subjective norms.

### 5. Implications

Mobile payment is regarded as a revolution of e-commerce and is widely adopted for mobile hotel reservations in China. However, limited studies evaluated the performance of mobile payment for hotel reservations. Considering functionality and usability are the two main measurements of website/mobile performance, this study integrated the conceptual model of website evaluation into theory of planned behaviour to investigate the impacts of functionality and usability on repurchase intention within the context of mobile payment for hotel reservations. The study also investigated the detailed aspects (i.e. mobile functionality, mobile usability) that are related to attitude, subjective norms and perceived behavioural control. In addition, the study improves the conceptual model of website evaluation by examining the mediating effects of attitude, subjective norms and perceived behavioural control on the relationships between mobile functionality and customer satisfaction, and between mobile usability and customer satisfaction. Findings show that attitude, subjective norms and perceived behavioural control are mediators on the relationship between mobile usability and customer satisfaction. However, these dimensions are not mediators on the relationship between mobile functionality and customer satisfaction.

This study also tests the applicability of theory of planned behaviour to the context of mobile payment for hotel reservations. Although previous research proved that customer satisfaction is a decisive factor that affects the repurchase intention of consumers, whether the effect is transferred through attitude, subjective norms and perceived behavioural control is uncertain within the context of mobile payment for hotel reservations. Results of this study show that customer satisfaction mediates the relationships between attitude/subjective norms/perceived behavioural control and repurchase intention. In other words, customer satisfaction is a mediator of relationships between attitude

### Table 4

<table>
<thead>
<tr>
<th>Direct effects</th>
<th>( \beta )</th>
<th>S.E.</th>
<th>C.R.</th>
<th>p</th>
<th>Indirect effects</th>
<th>( \beta )</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT ( \to ) CS</td>
<td>0.139</td>
<td>0.013</td>
<td>10.505</td>
<td>0.000</td>
<td>ATT ( \to ) RI</td>
<td>0.123</td>
</tr>
<tr>
<td>SN ( \to ) CS</td>
<td>0.228</td>
<td>0.014</td>
<td>16.806</td>
<td>0.000</td>
<td>SN ( \to ) RI</td>
<td>0.196</td>
</tr>
<tr>
<td>PBC ( \to ) CS</td>
<td>0.612</td>
<td>0.013</td>
<td>47.422</td>
<td>0.000</td>
<td>PBC ( \to ) RI</td>
<td>0.556</td>
</tr>
<tr>
<td>CS ( \to ) RI</td>
<td>0.644</td>
<td>0.234</td>
<td>2.750</td>
<td>0.006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATT ( \to ) RI</td>
<td>0.030</td>
<td>0.036</td>
<td>0.826</td>
<td>0.409</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SN ( \to ) RI</td>
<td>0.062</td>
<td>0.056</td>
<td>1.109</td>
<td>0.268</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PBC ( \to ) RI</td>
<td>0.261</td>
<td>0.144</td>
<td>1.810</td>
<td>0.070</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
and repurchase intention, between subjective norms and repurchase intention and between perceived behavioural control and repurchase intention within the context of mobile payment for hotel reservations.

When consumers use mobile payment for hotel reservations, consumers focus more on usability than functionality. For practitioners is important to know that mobile usability does not directly affect customer satisfaction. The effect of mobile usability is transferred through attitude, subjective norms, and perceived behavioural control within the context of mobile payment for hotel reservations. Thus, hotel managers should communicate with their cooperating OTAs to assure the convenience of mobile payment and its speed of process and service transactions. The measurements of usability towards mobile payment make consumers feel that they can control mobile payment well for hotel reservations because perceived behavioural control not only affects customer satisfaction but also the repurchase intention of consumers. Hence, simplifying the operation can be considered by hotel managers and their cooperating OTAs as a possible way to enhance the convenience of mobile payment and improve the speed of mobile payment transaction for hotel reservations.

6. Conclusions and future research

Given the limited attention on the performance of mobile payment for hotel reservations regardless of its rapid development in China, this study minimises the gap by investigating the impacts of functionality and usability towards mobile payment on the repurchase intention by combining theory of planned behaviour and the conceptual model of website evaluation. Findings also prove the partial applicability of theory of planned behaviour to the conceptual model of website evaluation within the context of mobile payment for hotel reservations. In addition, mobile payment does not significantly affect customer satisfaction, whereas the impact of usability towards mobile payment on customer satisfaction is transferred through attitude, subjective norms and perceived behavioural control. Moreover, the impact of customer satisfaction on repurchase intention has been proven within the context of mobile payment for hotel reservations. Thus, hotel managers and their cooperating OTAs should improve usability towards mobile payment to enhance the repurchase intention of consumers.

This study has certain limitations. First, only mobile payment for hotel reservations within the Chinese context is investigated. Future studies can consider cultural or psychological elements to examine the behavioural differences of consumers in different cultural backgrounds. Second, future studies can identify the behavioural differences of consumers using demographic information such as age. Third, different mobile payment ecosystems can be examined and compared.

References

Coelho, de Reuver, M., Onrub, J., 2017. When technological superiority is not enough: the struggle to impose the SIM card as the NFC secure element for mobile payment platforms. Telecom. Policy 41 (4), 253–262.
Oh, H., Kim, K., 2017. Customer satisfaction, service quality, and customer value: years
S. Sun, et al.

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