CARROT OR STICK? EXPLORING THE EFFECT OF WORD-OF-MOUTH ON MOBILE PAYMENT APPLICATION SWITCHING BEHAVIORS

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ABSTRACT

Consumer switching behaviors are influenced by the word-of-mouth (WOM) phenomenon, yet our knowledge on the relationship between WOM and mobile payment application switching behaviors is rather limited. This paper examines how the valence and targets of WOM influence mobile payment application switching behaviors. Drawing on social influence theory and gender-related works, we examined whether the strength of the paths between WOM and switching behaviors differs across genders. The model was tested using a large-scale survey of 3,785 valid responses. The empirical results suggest that perceived alternative attractiveness and trust bridge the relationship between WOM and switching behaviors. Further, the effects of positive and negative WOM on perceived alternative attractiveness appear greater for females than for males.

Keywords: Switching behaviors; Word-of-mouth; Trust; Alternative attractiveness

1. Introduction

The widespread and increasing usage of mobile payment service—a phrase used to describe making payments for bills, goods, and services through wireless devices—has significantly challenged the dominating role of paperbased currency in customer transactions. Notwithstanding, the core mechanism of different mobile payment applications is homogeneous and the customer turnover rate of such applications is surprisingly high (Acker & Murthy, 2020; Wang, Luo, Yang, & Qiao, 2019), making user retention an essential issue for the success of mobile payment platforms.

Previous studies on technology switching behaviors have largely focused on user attitudes toward incumbent or alternative services (Cheng, Fu, & Yin, 2017; Li & Cheng, 2014; Zhang, Ge, Gou, & Chen, 2018). Many pioneering studies have identified dissatisfaction with incumbent services (Tang & Chen, 2020; Wang, Lin, & Liu, 2021), perceived attractiveness of alternative services (Han, Hwang, Lee, & Kim, 2019; Kim, Park, Park, Kim, & Kimc, 2018), perceived switching costs (Kummitha, 2018; Lai & Wang, 2015; Shin & Kim, 2008), low efficiency (Li & Ku, 2018), technology difference (Kamolsook, Badir, & Frank, 2019), and fatigue with incumbent services (Sun et al., 2017) as significant predictors of user switching behaviors. Besides user attitudes towards multiple mobile payment platforms, studies have found that social influence plays a vital role in determining technology switching (Lv, Zhang, & Li, 2021; Verhagen, Nauta, & Feldberg, 2013). Users typically share the pros and cons of mobile payment applications through interpersonal communications. Mobile payment users may switch to the platforms that are highly praised by their peers (Han et al., 2019). Moreover, mobile payment service is a market with strong network effects that the value of a service increases as the number of users increases (Acker & Murthy, 2020; Wang et al., 2019). Mobile payment users also switch to the platforms that are widely adopted by their peers (Ruvio, Bagozzi, Hult, & Spreng, 2020). This paradigmatic evolution, according to the social influence literature, mirrors the fact that people's

behaviors are influenced by the behaviors, decisions, and opinions of those around them (Khataza, Doole, Kragt, & Hailu, 2018; Liu, Gao, & Agarwal, 2019; Rhue & Sundararajan, 2019; Roethke, Klumpe, Adam, & Benlian, 2020).

Prior studies have identified word-of-mouth (WOM) as a typical example of social influence (Hu, Wang, Jiang, & Yang, 2019; Ruvio et al., 2020). However, the influence of WOM on the switching behaviors of mobile payment service remains unclear. Rahman, Noh, Kim, and Lee (2021) consider WOM to be a significant predictor of mobile payment adoption as the information received from interpersonal communication is perceived as more trustworthy than information from formal sources such as advertisement. Acheampong et al. (2021) show that positive WOM contributes to imbuing trust to mobile payment users and facilitates continuous usage. These have focused explicitly on adoption (Liebana-Cabanillas & Lara-Rubio, 2017; Ramos de Luna, Liebana-Cabanillas, Sanchez-Fernandez, & Munoz-Leiva, 2019) and continuous usage behavior (Lim, Kim, Hur, & Park, 2019; Lu, Wei, Yu, & Liu, 2017; Zhou, 2013), paying scant attention to user switching behaviors within the context of mobile payment services. The external incentives and internal motivations that shape user behaviors in both adoption and continuous stages cannot be generalized to switching behaviors, or the extent of that influence might be different (Furneaux & Wade, 2011; Maier, Laumer, Weinert, & Weitzel, 2015). Some studies have posited that technology continuance and switching decisions are driven by different factors (Turel, 2015). For example, users are more likely to adopt a mobile service due to perceived usefulness and ease of use, while they are more likely to switch mobile services to take advantage of the rewards for new users (Ahuja & Thatcher, 2005; Kamolsook et al., 2019; Maier et al., 2015; Wang et al., 2019). Compared with other mobile services, such as social networking and instant messaging, mobile payment services have unique characteristics. First, mobile payment services require uses to provide their financial information. Second, there are more formalities involved in the set-up process of mobile payment services (i.e. provide identity file and bank account, set up passwords). Privacy concerns and the formalities of starting a new mobile payment service may prevent user switching, even if the current service is not the best one (Wang, Sun, Dai, Zhang, & Hu, 2019). Conclusions drawn from prior literature may not hold for mobile payment services due to their unique characteristics. For example, Picon, Castro, and Roldan (2014) posited that alternative attractiveness is positively associated with switching behaviors in the context of insurance service. Conversely, Wang et al. (2019) asserted that users stay with their incumbent mobile payment applications rather than switching to a better one because of inertia.

Social influence literature suggests that women and men differ in their reactions to social influence. Compared with men, women are more likely to assimilate public information and more likely to conform the behaviors of others because they care more about social relationships and are less independent (Liu, Lin, Wang, & Wang, 2020; Sidhu, Feng, Volberda, & Van den Bosch, 2021; Sun, Lim, Jiang, Peng, & Chen, 2010). While WOM is viewed as a typical form of social influence, the effects of WOM on the switching behaviors of mobile payment services may contingent on gender. Prior studies have not specified the contingency role of gender in the context of mobile payment services yet.

The above gaps motivated us to explore mobile payment switching behavior from the perspective of WOM and examine the gender differences in the persuasion of WOM. In the context of mobile payment services for which a trial use is not pragmatically allowed, WOM plays a vital role in forming user switching decisions. WOM is classified into positive and negative WOM based on its valence, and the causes and consequences of both positive and negative WOM have been extensively examined (Baber et al., 2016; Gopinath, Chintagunta, & Venkataraman, 2013; Hennig-Thurau & Walsh, 2003; Li, 2008; Von Wangenheim, 2005). Yet the other dimension of WOM, targets, has been largely underexamined in existing studies. As WOM may target at either alternative or incumbent services, users' switching decisions can be determined by the disparity between both types of service (Inman & Zeelenberg, 2002). Negative WOM toward incumbent services may drive users to alternatives even if users are satisfied with the current services. For example, when a controversial athlete appeared in one of sports giant Nike's recent advertisements, it triggered a boycotting campaign on social media where burning Nike shoes and cutting off Nike socks became a fashionable phenomenon (USA Today, 2018). One consumer tweeted, "*I love Nike. But, I guess I will never, ever repurchase another Nike product and congratulation[s] to Adidas for a business win.*" This also happened in the U.S. with PayPal. When people started talking about how PayPal was supporting Trump, many people called for a boycott of that payment platform (Titcomb, 2016).

Furthermore, within mobile payment services, we suggest that user switching behaviors are confounded by the differentiated roles of WOM valence in alternative and incumbent services. In addition, we argue that perceived alternative attractiveness acts as a motivator and that trust in incumbent vendors serves as an inhibitor for users in determining whether to switch or not. Moreover, we posit that the proposed relationships are more salient among females than males.

Our study is driven by the paucity of research focused on switching behaviors in mobile payment services, an embryonic yet increasingly prevalent social phenomenon. By shedding light on the WOM dimensions of valence (positive vs. negative) and targets (alternative vs. incumbent services), this study endeavors to advance the switching

literature with a more holistic and juxtaposed understanding of WOM and gender differences with respect to mobile payment services. This study extends social influence theory in the context of technology switching and unveils the underlying mechanisms between WOM and mobile payment switching behaviors. This study examines the gender differences in the switching behaviors of mobile payment services. This study also advances WOM literature by examining the synergistic effects of WOM valence and targets.

The remainder of this paper is arranged as follows: in Section 2, we review related literature on social influence theory and technology switching behavior. Section 3 introduces the theoretical model and develops the hypothesis. In Section 4 and 5, we present the method, followed by the analysis and results. We close the paper by summarizing the contributions, limitations, and future directions.

2. Social Influence Theory and Technology Switching Behavior

This paper explores the relationship between WOM and user switching behavior through the lens of social influence theory. Social influence literature suggests that individuals make decisions based on their interaction with those around them (Bapna & Umyarov, 2015; Hsu & Lin, 2016). Individuals are affected by close peers because they extract valuable information from the behaviors of peers (Gu, Wang, & Lu, 2020; Lorenz, Rauhut, Schweitzer, & Helbing, 2011). Through an experiment, Acquisti, Brandimarte, and Loewenstein (2015) found that providing consumers with the behaviors of the majority can be influential to their decisions. College students are heavily influenced by their friends in areas such as course selection and club membership (Morrow, 1999). The persuasion of social influence works in two ways. First, people generally use both social and private information to form beliefs and make decisions (Scharfstein & Stein, 1990). Individuals may conform to the behaviors of peers when the social information becomes so powerful that an individual's private information is not persuasive enough to justify their decisions (Banerjee, 1992). The second reason for the social influence phenomenon is the "conformity preference," in which people conform to the behavior of the majority to avoid being a minority (Jones, 1984).

WOM has been recognized as one of the most important information to facilitating social influence. WOM influences consumer behavior due to WOM's interactivity, speed, and lack of commercial bias (Herrando, Jimenez-Martinez, & Jose Martin-De Hoyos, 2019; Hu et al., 2019; Wang, Ren, Wan, & Jie, 2020; Wirtz, Goettel, & Daiser, 2017). As WOM is defined as a non-commercial, person-to-person transmission of experiences regarding a brand, product, or service, studies have found that consumers view WOM as more trustworthy than the advertisements delivered by mass media (Ameri, Honka, & Xie, 2019; Ruvio et al., 2020; Wang, 2021). Therefore, WOM has been regarded as a user's behavioral indicator and emotional release (Philp, Pyle, & Ashworth, 2018; Thomas, Fowler, & Saenger, 2020). For example, previous studies confirmed that WOM influences user attitudes toward products or services (Baber et al., 2016; Liebana-Cabanillas & Lara-Rubio, 2017), acceptance of product recommendation (Falk, Kunz, Schepers, & Mrozek, 2016), and purchase decisions (Han et al., 2019). Furthermore, posting and spreading positive WOM are viewed as a proxy for consumer loyalty (Popp & Wilson, 2018). When consumers have an enjoyable experience, they generate and spread positive WOM to others; that positive WOM, in turn, increases consumer loyalty. Sharing WOM as a means of interaction with others allows consumers to compare their own experiences with those of others and to create a sense of belongingness (Chen & Gao, 2019). Social media enables people to share attitudes, experiences, and opinions with others in real-time. Thus, the exponential growth of social media makes WOM increasingly important for technology switching behaviors (Ameri et al., 2019).

WOM has been classified into two dimensions: valence and targets (Ranaweera & Jayawardhena, 2014; Richins, 1983). Whereas valence captures the nature of WOM (i.e., whether it is positive or negative), WOM may target alternative or incumbent services. These two dimensions divide WOM into four categories (see Table 1). Here, we argue that user switching behaviors might be influenced by the WOM toward both competing services and incumbent services—positive WOM toward an alternative service and negative WOM toward an incumbent service suggesting the service quality of the alternative service outshines that of the incumbent service. In addition, the negative emotions (i.e., anger) that accompany negative WOM toward an incumbent service may facilitate user switching behaviors.

Furthermore, we conjecture that the effect of negative WOM toward incumbent services on switching behaviors is more prominent among newly adopted (fresh) users, as they have yet to obtain significant first-hand experience with the current service. Among the four combinatory constructs, negative WOM toward incumbent services and positive WOM towards alternative services stand out in explaining users switching behaviors. Therefore, we attempt to clarify the roles that negative WOM toward incumbent services and positive WOM toward alternative services play in driving users to switch.

Table 1: The Two Dimensions of WOM

Valence	Positive	Negative
Targets		
Alternative service	Positive WOM toward alternative service	Negative WOM toward alternative service
Incumbent service	Positive WOM toward incumbent service	Negative WOM toward incumbent service

3. Hypothesis Development

3.1 The Valence Framework in Mobile Payment Service

The valence framework employs a decision-making model that investigates user behavior by considering both positive and negative factors. Rooted initially in economic and psychology literature, the valence framework regards perceived risks and perceived benefits as the two fundamental attributes of user decision-making. Valence theory presumes that users are motivated to minimize any expected adverse effects and maximize any foreseeable positive aspects. The explanatory power of the valence framework has been confirmed within various internet contexts (Breward, Hassanein, & Head, 2017; Mou, Cohen, Dou, & Zhang, 2020; Ogbanufe & Kim, 2018; Weeger et al., 2020).

We make several extensions and generalize the valence framework to mobile payment service. Importantly, capturing the more competitive features in mobile payment service is vital when examining user switching behaviors. Competition in the mobile payment market demonstrates a typical winner-take-all phenomenon (Holzer & Ondrus, 2011). The winner-take-all phenomenon is caused by the network effects where the utility of service depends on the user volume of that service (Lin, Cheng, Wang, & Chang, 2012; Parker & Van Alstyne, 2005; Zhu, Kraemer, Gurbaxani, & Xu, 2006). Mobile payment applications must therefore engage in fierce competition to attract new users and poach users from competitors. Monetary rewards have been found to be an effective way to influence mobile payment adoption (Schierz, Schilke, & Wirtz, 2010). Alipay, China's largest mobile payment platform, previously released an incentive policy that offers each user a random cashback when using Alipay (Tech Web, 2017). Apple Pay has also released a similar promotional policy (Business Wire, 2015). Therefore, to capture users' responses to the recruiting efforts of alternative mobile payment services, we include perceived alternative attractiveness as the positive valence of switching in our model. To make a mobile payment application work, users must disclose their financial information to operators. The risks caused by handing over financial information make trust in the incumbent service even more critical when the user decides whether to continue using the incumbent mobile payment service or switch to an alternative (Su, Wang, & Yan, 2018). We, therefore, incorporate user trust in incumbent service as the negative valence of switching in our model.

3.2 Model Development

Based on the WOM literature and relevant gender-related studies, we developed a model that attempts to clarify the mechanisms through which positive and negative WOM influences switching behaviors. The model further investigates whether the impact of WOM on switching behaviors differs across genders. We propose that perceived alternative attractiveness serves as a positive valence and trust on incumbent service as a negative valence in predicting switching behaviors. We further argue that positive WOM toward alternative services and negative WOM toward incumbent services influences switching behaviors through perceived alternative attractiveness and trust. Lastly, we argue that the effect of positive and negative WOM on perceived alternative attractiveness and trust is more salient among female users, as women are less independent than men.



Figure 1: The Overall Research Model

3.2.1 The Negative Valence of Switching: The Attractiveness of Alternatives

Perceived alternative attractiveness is defined as the positive perception toward alternative products or services (Kim et al., 2018). Previous studies have confirmed that alternatives are more likely to be attractive to users if they believe the core attributes of the competing services are better (Kamolsook et al., 2019). Studies argued that attraction to alternative services or products is one of the top eight aspects that can influence user switching behaviors (Kim et al., 2018; Li et al., 2018). Convenience, efficiency, and safety are the core attributes that positively affect user attitudes toward mobile payment applications. Those characteristics exemplify alternative attractiveness such that users are more likely to switch to a new mobile pavement application that is safer and faster. For example, earlier studies argued that safety concerns are viewed as a significant barrier to the use of technologies where financial information is managed (Pavlou, Liang, & Xue, 2007; Su et al., 2018). Wang et al. (2019) explored that hypothesis for mobile payment services and found that mobile payment users are more likely to switch to alternative mobile payment when they are attracted by the advantages of an alternative mobile payment application. We thus posit the following:

H1: Alternative attractiveness is positively associated with user switching behaviors.

3.2.2 The Positive Valence of Switching: Trust on Incumbent Service

Trust is defined as a positive psychological state regarding the belief of an exchange party's ability, integrity, benevolence, and predictability with respect to fulfilling obligations in uncertain or vulnerable circumstances (Wang, Xu, & Wang, 2018). Trust is an important variable predicting various post-adoption behaviors. Recently, the critical role of trust in maintaining users has been confirmed in various contexts, such as e-commerce (Wang & Wang, 2019), e-government (Kumar, Kumar, Sachan, & Gupta, 2021; Perez-Morote, Pontones-Rosa, & Nunez-Chicharro, 2020), instant messaging service (Cheng & Lee, 2020; Lien & Cao, 2014), and mobile banking service (Thusi & Maduku, 2020). We expect that the negative effect of trust on switching behavior should hold for mobile payment services. Mobile payment applications are vulnerable to hacker attacks and information leakage. Perceived risks arise due to these security concerns. Feeling secure in conducting monetary transactions via mobile payment applications is one of the most influential antecedents to mobile payment users' switching behaviors. Trust in service providers contributes to mitigating perceived risk. When users trust a mobile payment application, they have confidence in the safety of the monetary transactions. We, therefore, propose that users are less likely to switch if they perceive their service provider as trustworthy.

H2: Trust in the incumbent vendor is negatively associated with user switching behaviors.3.2.3 Positive WOM toward Alternatives

As noted earlier, social influence theory suggests that people imitate others in order to be accepted (Dietz, 2020; Norris, 2019). As providing information on crowd opinions significantly influences consumer decisions (Acquisti et al., 2015), WOM can be regarded as a typical form of crowd opinion. Recent studies indicate that positive WOM typically involves direct or indirect recommendations of products or services (Sivadas & Jindal, 2016). Positive WOM toward alternatives may deliver a message that the services of alternative platforms are better than the incumbent service. Based on social influence theory, we deem that mobile payment users may assume that, compared to themselves, others have more detailed information on alternative services and will therefore feel compelled to also

accept the services. Thus, users may consider competing vendors as more attractive because of positive WOM toward alternative mobile payment applications.

User trust, satisfaction, and attitudes toward technology are flexible (Haselhuhn, Kennedy, Kray, Van Zant, & Schweitzer, 2015). Previous studies have argued that trust is an integrative judgment that includes overall trust and comparative trust (Ingenhoff & Sommer, 2010). The latter refers to a comparison of the integrity among alternatives within a given category. Users' relative appraisal of trust is of great significance in predicting switching behaviors. Within the context of mobile payment services, positive WOM toward alternatives may deliver a message that the competing vendors are more reliable and trustworthy, which may negatively predict trust in the incumbent vendor. We thus propose the following hypotheses:

H3: Positive WOM toward alternatives is positively related to alternative attractiveness.

H4: Positive WOM toward alternatives is negatively related to trust in the incumbent vendor.

3.2.4 Negative WOM toward Incumbents

We define negative WOM as a user's effort to share unfavorable opinions with others. Sivadas and Jindal (2016) suggested that negative WOM usually involves grievances and complaints. Moreover, positive WOM reflects praise and affirmation and enhances consumers' purchase intention, while negative WOM diminishes that intention. Negative WOM is also correlated with dissatisfaction and complaining behaviors (Balaji, Khong, & Chong, 2016). Users ultimately appraise a product or service in both reflective and comparative fashion among alternatives within a given category (Moschis, 1976), and user attitudes toward a product or service are flexible (Jacoby & Chestnut, 1978). The perception of alternative attractiveness may increase if users are not satisfied with incumbent services or products. Therefore, we propose that negative WOM toward incumbent services positively relates to the perceived alternative attractiveness.

Furthermore, negative WOM can be regarded as an expression of negative emotions toward an incumbent vendor. Verhagen et al. (2013) found that, when using a service or technology, users' negative emotions (e.g., anger, sadness) are positively associated with the likelihood of generating negative WOM. For example, feelings of injustice have been identified as critical antecedents to posting negative WOM (Balaji et al., 2016; Verhagen et al., 2013). Studies have also found that feelings of injustice and other negative emotions toward incumbent vendors are negatively related to users' trust perceptions (Kim, Kim, & Kim, 2009; Malik & Hussain, 2017). We, therefore, expect that negative WOM toward incumbent services may negatively predict user trust in the incumbent services. Taken together, we propose the following hypotheses:

H5: Negative WOM toward the incumbent is positively related to alternative attractiveness.

H6: Negative WOM toward the incumbent is negatively related to trust in the incumbent vendor.

3.2.5 Gender Difference

Psychosocial literature suggests that people establish different social roles in the process of socialization (Nasr, El Akremi, & Coyle-Shapiro, 2019). Females are characterized as having more emotional traits (communal), while males are described as having more instrumental traits (agentic). Previous studies have found that, compared to females, males are more task-oriented and more concerned about the utility of information technology (Krasnova, Veltri, Eling, & Buxmann, 2017; Mann & DiPrete, 2016). Specifically, females tend to emphasize the emotional aspects of technology usage, such as relationship preservation and interpersonal communication, while males tend to care more about utility improvement and problem-solving (Gefen & Straub, 1997). As defined above, alternative attractiveness emphasizes users' pursuit of increased utility. When using mobile payment services, females are more about that relationship (Gefen & Straub, 1997). Thus, we believe that, regarding mobile payment switching behaviors, females are less responsive than males when presented a seemingly better alternative. As noted above, trust is regarded as a typical intrinsic state in which users are willing to accept vulnerability due to their positive expectations regarding the behaviors of others (Wang & Wang, 2019). It is thus reasonable to predict that, when determining whether to switch to an alternative service, female users consider trust more important than their male counterparts. Hence, we propose the followings:

H7: The positive effect of alternative attractiveness on switching behavior will be stronger for male users than for female users.

H8: The negative effect of vendor trust on switching behavior will be stronger for female users than for male users.

As proposed above, WOM toward both alternative and incumbent services influences perceived alternative attractiveness and trust in the incumbent vendor. We further argue that these effects are moderated by gender. Social influence literature submits that people comparatively make decisions and are powerfully influenced by the opinions (such as WOM) of those around them (Bapna & Umyarov, 2015; Norris, 2019; Roethke et al., 2020). As discussed above, individuals conform to peer behaviors because when their personal information is not persuasive enough to

justify going against the decisions of the majority (Bapna & Umyarov, 2015) and to avoid being a minority and better fit into society (Hsu & Lin, 2016).

Men have been found to be more concerned about themselves and more independent and assertive; in contrast, women have been found to be concerned more about both themselves and others, less independent, and more susceptible (Batz-Barbarich, Tay, Kuykendall, & Cheung, 2018). Females' conformity preference might be higher than that of males because females typically care more about social relationships and are less independent. The above arguments suggest that the effect of social influence would therefore be more prominent among females. Generalizing the same logic to the context of mobile payment services, we conjecture that women are more likely than men to be influenced by WOM. We thus hypothesize that the effects of both positive and negative WOM on perceived alternative attractiveness would be stronger for female users than for male users. Therefore, the following hypotheses are proposed:

H9: The effect of positive WOM toward alternatives on perceived alternative attractiveness will be stronger for female users than for male users.

H11: The effect of negative WOM toward incumbents on perceived alternative attractiveness will be stronger for female users than for male users.

As Haselhuhn et al. (2015) argued "Trust is a psychological state in which individuals are willing to accept vulnerability due to their positive expectations of the intentions (p.104)". As Eagly and Wood (1991) posited, men are more purposive, whereas women are more emotional and psychologically sensitive. Females are more relational in their self-construal than are men (Cross & Madson, 1997). It may speculate that compared with male users, female users are more likely to build a relationship with mobile payment services in the face of WOM. We therefore posit the followings:

H10: The effect of positive WOM toward alternatives on vendor trust will be stronger for female users than for male users.

H12: The effect of negative WOM toward the incumbent on vendor trust will be stronger for female users than for male users.

4. Methodology

4.1 Survey Deployment and Data Collection

In this study, we attempted to understand the antecedents of mobile payment switching behaviors. Figure 2 shows the user volumes of top mobile payment applications worldwide. We tested our hypotheses on Alipay because of its worldwide popularity (Statista, 2018). Our empirical data was collected through an online survey. We conducted a preliminary study to improve the quality of data and recruited 50 Alipay users from a university located in Western China to participate. From these 50 participants, we received 42 valid responses and preceded to examine the reliability, validity, and wording of the survey items.



Figure 2: User Volumes of Top Mobile Payment Platforms Worldwide¹

With the assistance of a marketing survey firm, we administered our main survey using a snowball sampling strategy. The marketing survey firm maintains a panel of Alipay users. We randomly selected 2,000 Alipay users from that panel and sent invitations to each of them through emails. We then asked respondents to complete the survey and distribute the survey link to their friends. The survey has two parts: the first part measured the demographics of Alipay users and the second part measured the constructs used in the hypothetical model. The survey was left open for 4

¹ The data is drawn from <u>https://www.statista.com/statistics/278487/number-of-mobile-payment-users-in-china/.</u>

weeks and an email was sent to non-respondents at the beginning of the third week. Incomplete or rushed responses² were dropped and the final sample consists of 3,785 valid responses.

Variables	Level	Early respondents (N=2708)		Late respon	Difference	
		frequency	percentage	frequency	percentage	_
Gender	Male	1426	52.65%	579	53.76%	$\chi^2(1)=0.694$
	Female	1282	47.35%	498	46.24%	(p=0.151)
Age	<20	226	8.35%	98	9.10%	$\chi^2(3)=1.082$
	20–29	1534	56.64%	550	51.07%	(p=0.792)
	30–39	612	22.60%	268	24.88%	-
	>39	336	12.41%	161	14.95%	
Monthly income	<¥1,000	899	33.20%	317	29.43%	$\chi^2(3)=2.372$ (p=0.505)
	¥1,000-¥3,000	825	30.47%	385	35.75%	A
	¥3,000-¥10,000	921	34.01%	334	31.01%	
	>¥10,000	63	2.32%	41	3.81%	
Length of use ³	<1 year	203	7.50%	63	5.85%	$\chi^2(2)=0.831$ (p=0.712)
	1–3 years	935	34.53%	388	36.03%	•
	3–6 years	1570	57.97%	626	58.12%	
Education	High school or below	241	8.90%	108	10.03%	$\chi^2(2)=1.442$
	3- or 4-year college	1735	64.07%	625	58.03%	(p=0.488)
	Graduate school or higher	732	27.03%	344	31.94%	

Table 2: Demographics of Respondents (*N*=3,785)

Table 2 reports the demographics of our respondents. To further establish the quality of data, we tested for potential self-selection and non-response bias. Ideally, we should have compared the demographics of our sample to those of the whole Alipay population to rule out self-selection bias; however, the official demographics of Alipay users were unavailable. As both Zhou (2013) and Choi and Sun (2016) used the same data source⁴ as the one used in this study, we compared the demographics of our sample with those of Zhou's (2013) and Choi and Sun's (2016) and found no systematic differences. To rule out non-response bias, the demographics of early respondents were compared to those of late respondents (Miller & Smith, 1983). The chi-square tests suggest that the demographics of the early respondents do not differ significantly from those of the late respondents. We thus conclude that there is no statistical evidence that self-selection bias or non-response bias compromised the data used in this study.

The measurement items were drawn from prior studies wherever possible. The wording of items was revised to fit the mobile payment setting. The items were measured using 7-point Likert scales, with responses ranging from 1 (strongly disagree) to 7 (strongly agree). Items for both negative and positive WOM were drawn from Shih, Lai, and Cheng (2013). We adopted a four-item scale for perceived alternative attractiveness that was developed by Picon et al. (2014). Trust was measured using items from McKnight, Choudhury, and Kacmar (2002). To measure switching behavior, we used items from Hsieh et al. (2012). We controlled for *age*, *education*, *income*, and *length of use* to rule out the effects of demographics on user switching behavior. Prior studies suggest that perceived switching cost and satisfaction may influence switching behavior (Picon et al., 2014); therefore we controlled for those two variables as well.

Because all survey items were drawn from English literature, we followed the standard translation approach to translate the original English items into Chinese (Wang, Hu, Yan, & Mei, 2020; Wang, Yan, Lin, & Cui, 2017). First, two colleagues independently translated the English items into Chinese. Then they were asked to discuss the items

² In the preliminary study, we estimated that it would take at least 10 minutes to fully read each of the items and make corresponding answers. Therefore, responses completed in less than 10 minutes were considered "rush" responses.

³ The Alipay application was released in 2011, thus the maximum length of use possible was 6 years.

⁴ Both studies involved a survey of Alipay users.

one by one until they reached a consensus on the meaning. Next, two different colleagues who were familiar with the topic of this study translated the Chinese items back into English. We compared the original English items to those retranslated items and found no semantic discrepancies. Finally, to ensure the validity of measurement items, we asked two Ph.D. students with backgrounds in technology switching to review and comment on the measurement items prior to use.

5. Data Analysis and Results

5.1 Measurement Model

5.1.1 Reliability and Validity

We used three indicators—composite reliability, Cronbach's alpha, and average variance extracted (AVE)—to test the reliability of the measurement scales (Fornell & Larcker, 1981). The thresholds for the above three indicators were 0.7, 0.7, and 0.5, respectively. The results presented in Table 3 suggest that the constructs measured in this study were reliable.

	Mean	S.D.	α	C.R.	AVE	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.SB	3.01	1.10	.835	.869	.689	.830						
2.AA	4.68	0.92	.824	.861	.607	.301	.779					
3.TRU	4.77	0.90	.822	.860	.607	343	106	.779				
4.PWOM	4.25	0.97	.829	.897	.687	.252	.429	019	.829			
5.NWOM	4.63	1.02	.828	.887	.664	.199	.124	.108	009	.815		
6.SAT	4.21	1.12	.831	.916	.685	267	215	.133	057	.119	.828	
7.SC	5.11	0.94	.860	.902	.754	322	060	.054	.012	.027	.122	.868

Table 3: Descriptive Statistics and Correlations

Notes:

1. S.D., standard deviation; α, Cronbach's alpha; C.R., composite reliability; AVE, average variance extracted.

2. SB, switch behavior; AA, alternative attractiveness; TRU, trust; PWOM, positive word-of-mouth toward alternatives; NWOM, negative word-of-mouth toward incumbent; SAT, satisfaction; SC, switching cost.

3. The square roots of each AVE are shown at the diagonal.

We tested the discriminant validity in two ways. First, Table 4 shows that the loadings of items on their respective constructs were higher than the cross-loadings on any other constructs. Second, to demonstrate sufficient discriminant validity, the square roots of AVEs should be larger than the correlations among the constructs (Barclay, Higgins, & Thompson, 1995). Results presented in Table 3 meet the requirement, suggesting high discriminant validity. The loadings and cross-loadings of the items are shown in Table 4. The loadings of items on their respective constructs were higher than 0.7 (Nunnelly, 1978), indicating high convergent validity.

Table 4: Loadings and Cross-Loadings

Items	SB	SC	SAT	AA	PWOM	NWOM	TRU
SB1	0.854	-0.147	-0.197	0.241	0.120	-0.021	-0.238
SB2	0.803	-0.151	-0.169	0.244	0.118	0.108	-0.145
SB3	0.833	-0.229	-0.297	0.212	0.156	0.115	-0.157
SC1	-0.224	0.848	0.082	0.063	0.014	0.007	0.117
SC2	-0.307	0.869	0.072	0.085	0.033	0.075	0.105
SC3	-0.289	0.887	-0.019	0.011	-0.009	0.024	0.124
SAT1	-0.046	0.009	0.721	-0.100	-0.096	-0.106	0.288
SAT2	-0.176	-0.014	0.831	-0.118	-0.011	-0.024	0.113
SAT3	-0.158	-0.023	0.789	-0.032	-0.021	-0.011	0.155
SAT4	-0.309	-0.062	0.840	-0.189	-0.050	-0.157	0.082
SAT5	-0.213	0.007	0.793	-0.135	-0.183	-0.044	0.132
SAT6	-0.207	-0.062	0.817	-0.132	-0.023	-0.163	0.149
SAT7	-0.246	-0.074	0.856	-0.309	-0.058	-0.128	0.204
AA1	0.233	-0.149	-0.189	0.782	0.223	0.118	0.016
AA2	0.298	-0.061	-0.139	0.759	0.199	0.056	0.034

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AA3	0.328	-0.226	-0.206	0.831	0.163	0.037	-0.093
AA4	0.129	-0.208	-0.243	0.742	0.224	0.017	-0.015
PWOM1	0.117	0.144	0.003	0.195	0.869	0.011	-0.014
PWOM2	0.142	-0.014	-0.062	0.222	0.874	0.101	0.048
PWOM3	0.127	0.032	-0.003	0.172	0.801	0.069	0.077
PWOM4	0.174	0.086	0.071	0.149	0.766	0.083	0.063
NWOM1	0.249	0.013	-0.023	0.128	0.043	0.746	-0.263
NWOM2	0.222	0.106	-0.043	0.112	0.058	0.857	-0.116
NWOM3	0.100	0.119	-0.122	0.097	-0.010	0.852	-0.049
NWOM4	0.199	0.120	-0.185	0.130	0.026	0.799	-0.072
TRU1	-0.386	-0.072	0.077	-0.009	0.026	-0.021	0.776
TRU2	-0.155	0.010	0.143	0.032	0.070	-0.074	0.740
TRU3	-0.220	0.024	0.164	0.008	0.138	-0.147	0.791
TRU4	-0.307	0.064	0.155	0.054	0.109	0.016	0.807

5.1.2 Common Method Bias

One factor which might call our analysis into question is the potential for common method bias (CMB). To help prevent this possibility, we employed several recommended design procedures to limit such bias prior to the data collection. First, the filler tasks (demographic questions) were placed between the dependent and independent variables, creating a psychological separation (Fulmer, Barry, & Long, 2009). Second, the order of items was randomized to reduce the possibility that respondents would become aware of the patterns between measurement constructs (Cook, Campbell, & Day, 1979).

Although these procedural remedies can minimize CMB, they may not eliminate it entirely. Therefore, we also used a three-step confirmatory factor analysis (CFA) to estimate the influence of CMB (Hu & Bentler, 1999; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Specifically, we estimated the following models: We first established a methodonly model (M1). In M1, all items were confined to load on one factor, referred to as the "method factor" ($\chi^2/df=5.16$, CFI=0.485, GFI=0.412, AGFI=0.377, RMSEA=0.274). Then we established a trait-only model (M2). In M2, each item was confined to load on its respective scale ($\chi^2/df=2.16$, CFI=0.952, GFI=0.919, AGFI=0.833, RMSEA=0.049). Lastly, we established a trait and method model (M3). Items were allowed to load on their respective theoretical constructs as well as the method construct. The method construct was set to be uncorrelated with the other constructs ($\chi^2/df=2.14$, CFI=0.952, GFI=0.920, AGFI=0.835, RMSEA=0.047). The results suggest that M2 is a better fit with the data than M1. We compared M2 and M3 using a chi-square test. Results show that the difference between the two models was not significant ($\chi^2_{(2)}=0.011$, p=n.s.).

5.2 Structural Model

To test hypotheses H1–H6, we ran the structural model using the full sample, the results of which are summarized in Figure 3. We analyse the model using AMOS 24.0. The structural model estimates the path coefficients with tvalues and the explanatory power of the constructs. According to Figure 3, perceived alternative attractiveness positively (β =0.277, p<0.001) influences switching behaviors, so H1 is supported. H2 is also supported because the path coefficient between trust and switching behaviors is negative and significant (β =-0.318, p<0.001). The model on switching behaviors explains 32.6% of the variance. Positive WOM toward alternatives is positively related (β =0.295, p<0.001) to perceived alternative attractiveness and negatively related (β =-0.101, p<0.05) to trust in incumbent service. Thus, H3 and H4 are supported. Negative WOM toward incumbent service is positively related (β =0.167, p<0.01) to perceived alternative attractiveness and negatively related (β =-0.224, p<0.001) to trust in incumbent service. Both H5 and H6 are therefore supported. The variances explained in perceived alternative attractiveness and trust are 21.2% and 16.1%, respectively.

The above results show that both alternative attractiveness and trust may act as mediators between WOM and switching behaviors. Following Shrout and Bolger (2002), we use bootstrapping techniques to test the mediation effects. The 5,000 resamples generated 95% confidence intervals (percentile) for the mediator. The results are presented in Table 5. As shown, both the direct and indirect paths were significant, and the confidence intervals do not include zero. These results suggest that trust and commitment partially mediate the relationships between WOM and switching behaviors.



Figure 3: Structural Models for the Full Sample

Note: *p<0.05,	** <i>p</i> <0.01,	***p<0.001	(two-tailed test).	
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	β	95% confidence interval	Type of mediation
Direct effect			
PWOM→SB	0.189**	[0.142, 0.237]	
Indirect effect			
PWOM→AA→SB	0.082^{***}	[0.062, 0.103]	Partial mediation
PWOM→TRU→SB	0.028^{*}	[0.021, 0.035]	Partial mediation
Direct effect			
NWOM→SB	0.114**	[0.086, 0.143]	
Indirect effect			
NWOM→AA→SB	0.046**	[0.035, 0.058]	Partial mediation
NWOM→TRU→SB	0.071***	[0.053, 0.089]	Partial mediation

Table 5: Results of the Mediation Tests

Notes:

1. *PWOM*, positive word-of-mouth; *NWOM*, negative word-of-mouth; *TRU*, trust; *SB*, switching behavior; *AA*, alternative attractiveness.

2. **p*<0.05, ***p*<0.01, ****p*<0.001.





Note: p<0.05, p<0.01, p<0.001 (two-tailed test). The dotted line represents that the relationship was insignificant.



Figure 5 Results of the Structural Model for the Male Group Note: p<0.05, p<0.01, p<0.001 (two-tailed test).

Our sample was split into male and female groups. We ran the models separately in the two groups (results are shown in Figures 4 and 5). Specifically, we followed the group comparison method introduced by (Keil et al., 2000). We first calculated the path coefficients and standard errors in the two structural models. We then performed a t-statistic to see whether the effects of corresponding constructs were significantly different. The t-value of group comparisons can be calculated using the following formula:

$$S_{pooled} = \sqrt{\left\{ \left[\frac{N_1 - 1}{N_1 + N_2 - 2} \right] * SE_1^2 + \left[\frac{N_2 - 1}{N_1 + N_2 - 2} \right] * SE_2^2 \right\}}$$
$$t = (PC_1 - PC_2) / [S_{pooled} * \sqrt{(1/N_1 + 1/N_2)}]$$

Specifically, S_{pooled} denotes the pooled estimator for the variance, N_i denotes the sample size for group *i*, SE_i denotes the standard error of the path coefficient in the structural model of group *i*, PC_i denotes the path coefficient in the structural model of group *i*, and *t* denotes the t-statistic with (N_1+N_2-2) degree of freedom.

The results of the path coefficient comparisons between the two groups are shown in Table 6. The table demonstrates that the effect of perceived alternative attractiveness on switching behaviors was significantly stronger for male users than for female users, providing support for H7. Further, the effect of trust on switching behaviors was significantly greater for females than for males, supporting H8. The effects of positive WOM toward alternative services and negative WOM toward the incumbent service on perceived alternative attractiveness were more salient within the female group than within the male group. These results support H9 and H11. H10 is not supported, however, as the relationship between positive WOM toward alternatives and trust was insignificant in the female group. H12 was also not supported, as the findings were opposite to our predictions. H12 suggests that the effect of negative WOM toward incumbent service on trust will be greater for females than for males, but contrary to our predictions, we found that the effect of negative WOM on trust to be significantly stronger for males than for females.

	Path	Female group (N ₁ =1780)		Male group (N ₂ =2005)		Difference (t-value)	Supported?
		β_1	SE ₁	β_2	SE_2		
H7	AA→SB	0.205(5.123***)	0.040	0.289(4.214***)	0.069	$0.084(45.0^{***})$	yes
H8	TRU→SB	-0.342(7.428***)	0.046	-0.287(6.545***)	0.044	$0.055(37.5^{***})$	yes
H9	PWOM→AA	0.332(5.875***)	0.057	0.260(6.024***)	0.043	0.072(44.1***)	yes
H10	PWOM→TRU	-0.053(1.514)	0.035	-0.112(2.337*)	0.048	-	no
H11	NWOM→AA	0.213(3.116**)	0.068	0.155(2.826**)	0.055	$0.058(28.9^{***})$	yes
H12	NWOM→TRU	-0.207(2.650**)	0.078	-0.237(2.704**)	0.088	0.030(11.0***)	no

Table 6: Comparisons of Path Coefficients between the Male and Female Groups

Notes:

1. **p*<0.05, ***p*<0.01, ****p*<0.001 (two-tailed test).

2. The relationship between PWOM and TRU was insignificant in the female group, so the t-test for group differences was not performed.

3. Although the gender difference was found in the relationship between NWOM and TRU, it was contrary to our expectations.

5.3 Robust Check

Our sample primarily focuses on Alipay users which may create self-selection bias as Alipay is the mobile service platform with the highest user volume. Solely using Alipay respondents, it makes sense to assume that the subjects have exercised herding behaviors by mimicking the behavior of the larger crowd, as presented in the paper. Whether our results hold among the users of other mobile payment platforms remains open. Another concern is that the impact of users utilizing multiple services from different platforms was not controlled.

To address these concerns, we conducted a supplemental survey that targets the general population of mobile payment platforms. The supplemental survey receives 213 valid response (*Female*=0.541, *Age*=23.41, *Monthly Income*=2637.5). We use three dummy variables to control the impact of users utilizing multiple services on mobile payment switching behaviors⁵. We run our model using the response from the supplemental survey and the results were shown in Figure 6. The effects of the three dummy variables, Alipay, WeChat pay, and JD pay, on switching behaviors, were not significant. The results run with the supplemental sample are identical to those of the main analysis. The supplemental analysis shows that our results are robust across mobile payment users from multiple platforms.



Figure 6: Results of the Structural Model for the Supplemental Survey (N = 213) Note: *p < 0.05, **p < 0.01, ***p < 0.001 (two-tailed test).

6. Discussions and Implications

6.1 Discussions of the Findings

This study was designed to explore the antecedents of mobile payment switching behaviors. We proposed a model delineating that positive WOM toward alternative services serves as the "carrot" that entices users to switch. Meanwhile, negative WOM toward incumbent service acts as the "stick" that compels users to switch. Perceived alternative attractiveness and trust in incumbent services mediate the relationships between WOM and switching behaviors. We further argued that the strength of the relationships discussed above differs across genders. Our theoretical model was tested using a large survey that included 3,785 mobile payment users. In total, 10 out of 12 hypotheses were supported.

We found that perceived alternative attractiveness facilitates switching behaviors and that trust hinders switching behaviors. The effect of perceived alternative attractiveness on switching behaviors is more prominent among males than females, while the effect of trust on switching behaviors is more prominent among females than males. Positive WOM toward alternative services and negative WOM toward the incumbent service significantly influence perceived alternative attractiveness and trust. We also confirmed that the influence of positive and negative WOM on perceived alternative attractiveness is greater for females than for males.

Prior literature found that females are less independent and are more apt to be affected by WOM than males (Sun, Song, House, & Kwon, 2019). Following this knowledge, we posited that the effects of positive and negative WOM on trust would be greater for females than for males (H10 and H12). However, these two hypotheses failed to be statistically significant. More surprisingly, the effect of negative WOM toward the incumbent on trust was found to be less salient for females than for males, which was contrary to our expectations. This unprecedented yet interesting finding could be accounted for by the results of a recent study conducted by Haselhuhn et al. (2015), which suggests that females are less apt than males to lose trust following an external stimulus. In addition, Haselhuhn et al. (2015) found that women have a greater relational investment in service providers. In other words, women are more likely to build and maintain intimate relationships with vendors while using technology. Women's heightened concern about

⁵ The three dummy variables are: Alipay, WeChat pay, and JD pay. Alipay is going to be 1 if the respondent primarily uses Alipay and 0 otherwise.

relationships and greater relational investment may facilitate the maintenance of trust. Therefore, we may surmise that the effects of negative WOM on trust will be less prominent for women than men, as women are less apt to lose trust in face of an external stimulus.

6.2 Theoretical Contributions

Based on the empirical evidences demonstrated above, this study contributes to theory in three ways. First, the persuasiveness of social influence in guiding human behaviors has been identified in various settings (Philp et al., 2018; Ruvio et al., 2020). Theorizing WOM as a typical example of social influence, we extend social influence literature to the context of mobile payment services by unveiling the underlying mechanisms between WOM and technology switching behaviors. The literature submits that users may compare the merits of the incumbent services with those of the alternatives to determine whether to switch or not (Kamolsook et al., 2019; Li et al., 2018; Wang et al., 2019). Given that trial usage is not allowed for mobile payment services, WOM has become a critical outlet for users to understand the pros and cons of alternatives. The relationships between mobile payment switching behaviors and WOM, therefore, warrant validation. Marketing literature has identified various consequences of WOM, such as initial adoption (Ameri et al., 2019), brand identification (Popp & Wilson, 2018), and purchase intention (Paley, Tully, & Sharma, 2019). However, the relationships between switching behaviors and WOM have yet to be deeply investigated. We filled this gap and investigated the underlying mechanisms through which WOM influences mobile payment switching behaviors. As a typical source of social influence, WOM towards alternative or incumbent services significantly predicts the trust perceptions of users. According to the valence framework, we identified trust serves as negative valence and alternative attractiveness as the positive valence of mobile payment switching. Our empirical results confirmed the above logic that WOM indoctrinates the perception of trust and alternative attractiveness which in turn positively predict mobile payment switching. Understanding how WOM predicts mobile payment switching informs mobile payment applications on how to retain existing users through intervening in customer opinions.

Second, literature has revealed the gender differences in reactions to social influence (Liu et al., 2020; Sidhu et al., 2021; Sun et al., 2010). The current study extends this line of works by discussing the moderating role of gender on the relationships between WOM and mobile payment switching. Compared with other services, mobile payment services have unique characteristics that could drive different responses in male and female users. To utilize a mobile payment application, users must provide their financial information to service providers. However, females have been found to exhibit a higher level of self-regulatory efficacy than males when it comes to the protection of personal privacy information (Acquisti et al., 2015; Manes & Tchetchik, 2018; Su, Swanson, Chinchanachokchai, Hsu, & Chen, 2016). Additionally, in comparison to other services, mobile payment service involves more formalities in the registration process, and females show less technology efficiency than males (Zhou, 2013). Therefore, examining gender differences in switching behaviors within the context of mobile payment services (as we did in this study) brings valuable insights to research and practice in mobile internet environments.

Third, this study broadens the scope of WOM literature by examining the synergistic effects of WOM valence and targets. While prior studies on WOM mainly focused on differentiating the effect of positive and negative WOM, this study ushers in the targets of WOM. Since users spontaneously evaluate the merits of incumbent mobile payment services with those of the alternatives, user decisions to switch are likely to be the joint result of WOM toward both incumbent services and alternatives. The model considering the juxtaposed effects of WOM valence and targets addresses that concern and broadens the current understanding of mobile payment switching behaviors. 6.3 Managerial Relevance

This study also has several managerial implications. First, we demonstrate that perceived alternative attractiveness and trust play critical roles in user switching behaviors, as these two factors explained 47.9% of the variance of switching behaviors. Therefore, mobile payment vendors are encouraged to enhance all elements of both aspects. Perceived alternative attractiveness is determined by an alternative service's combination of service quality, technological features, and price relative to the incumbent service. To influence user perceptions of alternative attractiveness, three strategies are recommended. Mobile payment vendors should keep track of the developments among their competitors and make their service offerings competitive. The mobile payment market presents a typical form of network effects (Holzer & Ondrus, 2011). In a market characterized by network effects, the value of a service depends on the volume of its users (Zhu et al., 2006). Perceived alternative attractiveness also decreases as the user volume of the incumbent service increases. Further, trust is a critical factor inhibiting switching behaviors in mobile payment applications that maintain users' financial information. Service providers are therefore encouraged to establish and reinforce user trust by developing intimate relationships with users (Rempel, Holmes, & Zanna, 1985), improving brand reputation (Chen, 2010), and guaranteeing a safe transaction procedure (Choi, Kim, & Jiang, 2016).

Second, the effects of WOM on the switching behaviors of mobile payment users reflect advisable actions for both current vendors and their competitors. We found that WOM toward alternative and incumbent services predicts user turnover in both cases. Specifically, positive WOM toward alternative services serves as a "carrot" that entices users to switch. Meanwhile, negative WOM toward incumbent services acts as a "stick" that compels users to switch. Newcomers or competing vendors should strengthen positive WOM to attract potential users. When dissatisfied with a given service, users have two options: complain to the firm or transmit negative WOM (Goldenberg, Libai, Moldovan, & Muller, 2007). Studies suggest that few dissatisfied consumers are given the option to bring their complaints to the firm, and that the negative effects of WOM may be higher than previously assumed (Charlett, Garland, & Marr, 1995), thus mobile service vendors are advised to prompt users to submit their complaints to the firm rather than generate negative WOM. For example, vendors can establish active feedback mechanisms and speed up response times to lessen dissatisfied consumers' intention to create negative WOM.

Third, the operators of mobile payment applications should be aware of the potential differences between females and males. Females tend to care more about trust-building with their current vendor, while males are more likely to look for new mobile payment applications that they perceive as better. We also found that females are generally less independent than males and are more likely to be influenced by WOM. Accordingly, companies could enact different strategies for acquiring females and male users. For example, social and emotional values were found to be critical in trust formation (Chou, Hsu, Shiau, Huang, & Chou, 2018; Haselhuhn et al., 2015). To facilitate user switching behaviors, competing vendors should try to highlight the intrinsic quality of their respective mobile payment services to men and signal their social and emotional values to women.

6.4 Limitations and Future Directions

This study has several limitations. First, our integrated model accounts for both the valence (positive or negative) and targets (toward alternative services or incumbent services) of WOM. This two-dimensional concept of WOM generates four combinatory constructs: positive WOM toward alternatives, negative WOM toward alternatives, positive WOM toward incumbents, and negative WOM toward incumbents. Our model has primarily incorporated positive WOM toward alternatives and negative WOM toward incumbents into the empirical analysis, as we assumed that these two constructs may explain users' switching behaviors. Future switching research should examine the effects of WOM from a more comprehensive view by integrating all four combinatory constructs. Second, previous gender studies on IT switching behaviors suggest that gender differences are closely related to culture (Venkatesh & Morris, 2000; Zhang, Lee, Cheung, & Chen, 2009). As our sample population was limited to a single country, the moderating effect of gender may not be generalized to other cultural contexts. It would be interesting to consider both the biological dimension (e.g., male vs. female) and the cultural dimension (e.g., masculine vs. feminine) of gender to gauge which outperforms the other in predicting user switching behaviors. Third, we were unable to capture the dynamics of switching behaviors. In light of the dynamics of switching behaviors, we believe a gradual transition period exists where users may adopt new services and simultaneously use the incumbent service (Chang, Liu, & Chen, 2014). Future research should therefore take a longitudinal perspective to further investigate the transition process from incumbent services to alternatives.

7. Conclusion

Mobile payment vendors have huge potential for financial achievement if they can succeed in retaining existing consumers and enticing new ones. That said, application providers also face the challenge of losing existing consumers because of WOM from other users. This study draws on the existing literature on WOM and social influence theory to conceptualize the mechanisms through which negative and positive WOM influence user switching decision-making. Our findings suggest that positive WOM toward alternative services and negative WOM toward incumbent services significantly influence perceived alternative attractiveness and trust, which in turn impels user switching behaviors. Additionally, the effects of positive and negative WOM on perceived alternative attractiveness are stronger for females than for males. Thus, this paper enriches existing literature by differentiating the roles of WOM toward alternative and incumbent services and examining how gender moderates the relationships between WOM and switching behaviors. The findings of this paper inform mobile payment vendors on how to best respond to positive WOM toward incumbents.

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Appendix: Items and Sources

Positive word-of-mouth of alternatives (Shih et al., 2013)

PWOM1: People speak favorably about other mobile payment apps.

PWOM2: People explain the positive properties of their mobile payment experience on other mobile payment apps.

PWOM3: People positively comment on the services of other mobile payment apps.

PWOM4: People make positive service ratings on other mobile payment apps.

Negative word-of-mouth of incumbents (Shih et al., 2013)

NWOM1: People speak passively about Alipay.

NWOM2: People explain the negative properties of their mobile payment experience on Alipay.

NWOM3: People negatively comment on the services of Alipay.

NWOM4: People make less positive service ratings on Alipay.

Satisfaction (Picon et al., 2014)

S1: This mobile payment application meets my needs.

S2: This mobile payment application is as good as or even better than others.

S3: My claims or problems are always dealt with quite well.

S4: This mobile payment application is very competent.

S5: This mobile payment application gives me the service that I expect.

S6: This mobile payment application gives excellent service.

S7: In general, my experience with the mobile payment application is positive.

Trust (McKnight et al., 2002)

TRU1: I believe that the operator of the mobile payment application is trustworthy.

TRU2: I believe that the operator of the mobile payment application is honest.

TRU3: I believe that the operator of the mobile payment application is frank and sincere.

TRU4: I believe that the operator of the mobile payment application will keep its commitment.

Switching behavior (Hsieh, Hsieh, Chiu, & Feng, 2012)

SB1: Regarding the frequency of usage, I use other mobile payment applications more than Alipay.

SB2: Regarding daily maintenance time, I spend more time on other mobile payment platforms than on Alipay.

SB3: Alipay is not my first choice when completing a mobile payment.

Perceived switching costs (Jones, Mothersbaugh, & Beatty, 2000)

SC1: In general, it would be difficult to switch to other mobile payment apps.

SC2: It would take a lot of time and effort to switch to other mobile payment apps.

SC3: I would lose a lot if I were to switch to other mobile payment apps.

Attractiveness of alternatives (Picon et al., 2014)

AA1: I believe that another mobile payment app could benefit me more than my current vendor in achieving my aims.

AA2: I would feel more satisfied with the services of another mobile payment app than I am with my current vendor.

AA3: I would probably be happy with the features and services of another mobile payment app.

AA4: I think that a new mobile payment app would offer me a complete range of services.