Korean and Vietnamese User Loyalty: KakaoTalk Case

Full papers

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Abstract

This research is a comparative study on user loyalty of mobile-instant messaging (MIM) in Korea and Vietnam. In general, this paper aims to find out whether any differences in user behavior and user loyalty for MIM services between Korea and Vietnam. To serve that purpose, the study theoretically bases on the information systems (IS) success model and expectation-confirmation model (ECM) with appropriate adjustments for this research context. The paper collects the survey data on 644 MIM users in Korea and Vietnam, the chosen MIM service is KakaoTalk. The results show that system quality, perceived usefulness and satisfaction strongly influence on loyalty in case of Korean users; whilst system quality, service quality and satisfaction strongly affect to loyalty in case of Vietnamese users. Contributions and implications are discussed. Moreover, the practical MIM strategies built from research findings might give some helpful suggestions to MIM providers in both Vietnamese and Korean market.

Keywords

Mobile-instant messaging (MIM) services, user loyalty, Korea, Vietnam, KakaoTalk, comparative study.

Introduction

There are many MIM services in Korea, such as Hangouts, iMessage, Facebook Messenger (foreign applications); KakaoTalk, MyPeople, Line, TikTok, NateOn, ChatOn (domestic applications). Among those applications (apps), KakaoTalk had more than 90% of Korea's smart phone owners as December 2012 (Choi, 2014). Moreover, based on a survey on the average time spent on different MIM per day of Korean user as of early November 2012, Korean users clearly stick to KakaoTalk with 3182 seconds per day (approximately 53 minutes) compared to WhatsApp (422 seconds), Viber (531 seconds), Line (401 seconds) (Choi, 2014). These facts partly indicate that Korean users are quite loyal to only one MIM application, namely KakaoTalk and KakaoTalk is totally dominant Korean MIM market.

There are also many MIM services in Vietnam, such as Hangouts, iMessage, Facebook Messenger, Skype, WhatsApp, BBM, Viber, YM!, Tango, KakaoTalk, Line, WeChat (foreign apps); Zalo (the only one domestic app). However, Zalo could not get the favor of Vietnamese users as KakaoTalk receives from its homeland. Another research on the saturation degree in some MIM markets in the world conducted by Spencer (2013) showed that Vietnam has the least number of daily active users (DAU) of MIM among the compared countries (only 44% MIM DAU). However, this country belongs to a moderate saturation market with an average of 2.5 MIMs using per user. These facts represent that Vietnamese user preferences are various and diverse; none of MIM service is completely dominant in the market even though it is a domestic app. This market still remains vague and open-ended.

The above comparison points out that Korea is a mature and developed market for MIM services while Vietnam is still an infant and on-developing market. The antagonism of MIM markets and differences in user behaviors between these two Asian countries give an interesting motivation for this research. From these above real phenomena, the research question is posed as follows.

Is there any difference in user behavior and user loyalty for MIM services between Korean nation and Vietnamese nation?

From the research question, the study tries to address these objectives.

First, what are the determinants to user loyalty for MIM services in Korea and Vietnam?

Second, comparing the differences of the determinants' impacts on Korean and Vietnamese user for MIM services.

Third, drawing practical valuable lessons for Korean and Vietnamese MIM market.

To serve that, the study theoretically bases on the information systems (IS) success model and expectation-confirmation model (ECM). KakaoTalk has been selected as the target MIM service for data survey because it is fairly widely used by both Korean and Vietnamese.

The study could explore the new and interesting findings about the user behaviors, especially user loyalty for MIM services in Korean and Vietnamese market. The practitioners might see some helpful insights for their business practices in these two MIM markets from the research findings.

Literature Review

Information System (IS) Success Model

IS success model developed by DeLone and McLean (1992, 2003) seeks to comprehensively understand an IS success that covers different IS evaluation from post-adoption perspectives. Figure 1 shows the IS success model. The model interpretation is as follows: A system can be evaluated in terms of information, system, and service quality; these characteristics affect the subsequent use or intention to use and user satisfaction. As a result of using the system, certain benefits will be achieved. The net benefits will positively or negatively influence user satisfaction and the further use of the information system.

Expectation-Confirmation Model (ECM)

ECM model developed by Bhattacherjee (2001) seeks to explain post-purchase or post-adoption satisfaction which leads to IS continuance. Figure 2 depicts the ECM. The model interpretation is as follows: Users' continuance intention is determined by their satisfaction and perceived usefulness (PU) of IS use. In turn, user satisfaction is influenced by their confirmation of expectation from prior IS use and PU. Post-acceptance PU is influenced by users' confirmation level.

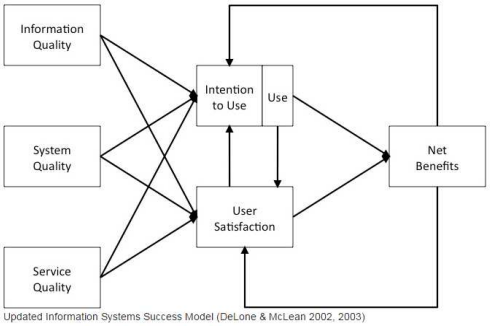

Figure 1. The IS success model

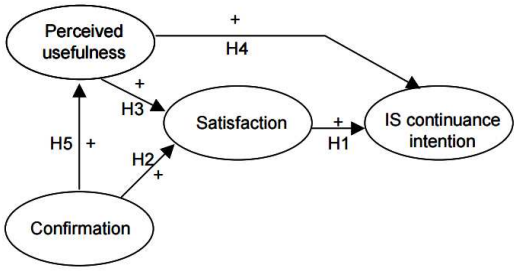

Figure 2. The ECM or A post-acceptance model of IS continuance

Mobile instant messaging (MIM)

MIM service is a mobile-based synchronous and real-time text chat technology. Several previous studies have been conducted in today's worldwide mobile technology context. Some researches mainly focus on user acceptance of IM, for instance comparative study of individual acceptance of IM in the US and China (Li, Chau, and Slyke, 2010); IM continuance intention considering the role of personality (Wang, Ngai, and Wei, 2012). The other MIM researches focus on satisfaction and loyalty, for example Deng et al. (2010) examined customer satisfaction and loyalty of MIM from value-based perspective; Zhou and Lu (2011) examined MIM user loyalty from network externalities and flow experience.

Comparative Study between Korea and Vietnam

Li, Chau, and Slyke did a comparative study on user acceptance of IM in the US and China in 2010. The authors considered the culture differences between the US and China, one as an individualist country and one as a collectivist country, respectively. These culture differences would lead to different IM usage behaviors.

This study has a distinct approach when comparing between Korea and Vietnam that are both Asian countries and have share some cultural similarities. However, their economic development as well as the scientific and technological level is quite different. In addition, their antagonism of MIM markets has not been addressed by previous studies yet. Thus, a comparative research on this topic is quite necessary. It could explore more unknown-insights as well as provide the practitioners some helpful business practices for these two MIM markets, under the context that there are a huge amount of Korean people have been in and resided in Vietnam and vice versa.

Research Model and Hypotheses

Research Model

Based on IS success model, ECM and a deep literature review of related studies, this study suggests a research model and research hypotheses as shown in Figure 3. Briefly, Figure 3 could be interpreted as follows: a user perceived MIM quality including system quality and service quality can affect user confirmation and post-perceived usefulness about a certain MIM service. Then, user confirmation of expectation and post-perceived usefulness are mainly determined user satisfaction. This satisfaction together with perceived usefulness will contribute to user loyalty.

After hypotheses test, a t-test to assess the comparative effect of nation (Korea and Vietnam) will be performed. Several notable points of this research model are explained as follows.

First, why is IS success model combined with ECM? This study examines user behavior of MIM services after post-adoption stage, therefore utilizing ECM is proper. ECM is a strong theory but it does not include any antecedents to explain for PU and confirmation. The IS quality from IS success model seem suitable because the view point of IS model is also post-adoption stage.

Second, why has information quality been removed from IS success model? Information quality is defined as "the quality of the information that the system is able to store, deliver, or produce" (DeLone and McLean, 2003). MIM only transfers user-created contents between users, it does not produce any information or data. Hence, information quality is not a suitable construct; and has not been adopted.

Third, why the final outcome is loyalty instead of continuance intention from ECM? IS continuance intention was replaced by loyalty in this study. Actually, loyalty is a broader concept than continuance intention; as it already includes continuance intention. Furthermore, considering loyalty rather than continuance intention will be more appropriate and significant in this study context.

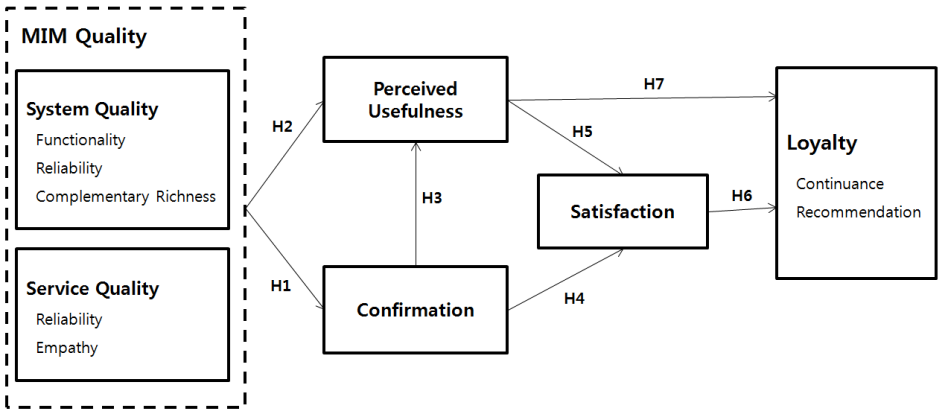

Figure 3. The research model

Hypotheses

MIM Quality (System Quality and Service Quality)

System quality is defined as the measures for desired characteristics of a MIM like functionality, reliability, and complementary richness. Generally, it covers the technical quality of a MIM itself.

Service quality is defined as the measures for the overall support delivered by the MIM provider like reliability, and empathy. Generally, it covers the quality of the support service for that MIM.

H1a – System Quality has positive effect on user Confirmation.

H1b – Service Quality has positive effect on user Confirmation.

H2a – System Quality has positive effect on user PU.

H2b – Service Quality has positive effect on user PU.

Confirmation

Confirmation is defined as a user' positive confirmation congruence between expectation of a MIM service use and its actual performance.

H3 – User Confirmation has positive effect on user PU.

H4 - User Confirmation has positive effect on user Satisfaction.

Perceived Usefulness (PU)

PU is a user's perception of using MIM service will be useful to user communication with others.

H5 – User PU has positive effect on user Satisfaction.

H7 - User PU has positive effect on user Loyalty**.**

Satisfaction

Satisfaction is a most important research topic in the IS area (Au, Ngai, and Cheng, 2008). Satisfaction refers to a user's accumulated positive feelings for a MIM service developed by multiple interactions and usage with that service.

H6 – User Satisfaction has positive effect on user Loyalty.

Loyalty

Loyalty is defined as a user behavioral continuance intention to use the present MIM service, along with the positive trend to recommend that MIM service to user contacts and relations.

Research Design

Questionnaire Design

Table 1 represents the measurement items for the constructs in the research model (5-point Likert scale).

Construct	Items	Sources
System Quality ***Functionality***	1. KakaoTalk has abundant functions. 2. KakaoTalk provides many functions for communication purpose. 3. KakaoTalk has necessary functions for communication purpose. 4. The functions are upgraded frequently. 5. The new functions are added frequently	DeLone, and McLean, 2003 Kuo et al., 2009 Li and Phusit, 2014

System Quality ***Reliability***	1. KakaoTalk has a stable performance. 2. KakaoTalk is always available for use. 3. KakaoTalk is rarely suspended, or in error. 4. KakaoTalk recovers quickly in case having error or suspending. 5. KakaoTalk does not crash.	
System Quality ***Complementary Richness***	1. Besides the main functions, KakaoTalk has many complementary utilities, e.g. skins, emotional icons, games, gifts, news, etc 2. Besides the main functions, a wide range of support tools (such as image sharing and file transference) is available on KakaoTalk 3. These complementary utilities are updated frequently. 4. KakaoTalk allows me to use rich and varied languages.	
Service Quality ***Reliability***	1. When KakaoTalk provider promises to do something by a certain time, it does so. (such as releasing new version, adding new function, offering promotions, etc) 2. KakaoTalk provider offers its services at the time it promises to do so. 3. KakaoTalk provider has channels to collect my questions or opinions.	DeLone, and McLean, 2003 Shin and Kim, 2008 Deng et al., 2010
Service Quality ***Empathy***	1. KakaoTalk reminds me my unsafe logging in state. 2. KakaoTalk can shield me from unpleasant information, such as advertisement, spam text. 3. KakaoTalk provider is cooperating to other providers to offer additional services out of KakaoTalk main boundary (e.g. coupons, discounts, events tickets, etc)	
Confirmation	1. My experience with using KakaoTalk was better than what I expected. 2. The service level provided by KakaoTalk was better than what I expected. 3. Overall, most of my expectations from using KakaoTalk were confirmed.	Bhattacherjee, 2001
Perceive Usefulness (PU)	1. KakaoTalk is useful for my communication with others. 2. KakaoTalk enhances my efficiency of communication with others. 3. KakaoTalk improves my communication performance.	David, 1989 Li, Chau and Slyke, 2010 Zhou, and Lu, 2011
Satisfaction	1. KakaoTalk can satisfy my demand for instant communication. 2. I am satisfied with my choosing KakaoTalk 3. My overall experience of using KakaoTalk is very satisfied. 4. Compared with other MIM, I am more satisfied with KakaoTalk.	DeLone, and McLean, 2003 Bhattacherjee, 2001 Spreng et al., 1996
Loyalty ***Continuance Use Intention***	1. I will use KakaoTalk whenever I need. 2. I will continue to use KakaoTalk in future. 3. I will consider KakaoTalk as my first choice when doing a mobile chat. 4. Even if close friends recommended another MIM service, my preference for KakaoTalk will not change.	Deng et al., 2010 Gefen, 2002 Zhou, and Lu, 2011
Loyalty ***Recommendation Intention***	1. I will recommend KakaoTalk when someone inquires me for advice. 2. I will encourage my friends to use KakaoTalk. 3. I will recommend my contacts to use KakaoTalk.	

Table 1. Measurement items for the constructs

Sample

In order to limit the effect of differences in telecommunication service quality between Korea and Vietnam (e.g. network transmission speed, connection stability, telecommunication service availability) which may lead to results biases, the authors decided to survey Vietnamese people who are living in Korea and using KakaoTalk, instead of Vietnamese people living in Vietnam. There are three telecommunication service providers in Korea (SK, LG and KT telecom), and their offering service quality is almost equivalent.

In other way, to ensure the same service context between two samples as much as possible, the respondents are Korean people and Vietnamese people living in Korea and using KakaoTalk; for Korea sample (KO) and Vietnam sample (VN) respectively.

Data Collection

The complete questionnaire was made in English and translated in Korean and Vietnamese. Random data sampling was applied through GoogleDoc. 644 valid responses were gathered (KO: 324, VN: 320).

Research Analysis

Firstly, the characteristics of two samples were explored. Secondly, the reliability and validity of each construct were checked (by using the survey data of whole sample).

Demographics Analysis

Table 2 shows the demographical information from two samples. Some similarities are the age of respondents (young age, from 16-26 year olds) and their KakaoTalk using frequency (everyday). However, there are the substantial differences in KakaoTalk using behaviors (KakaoTalk using experience and average in each time use). In addition, the other MIM services that are being used concurrently with KakaoTalk by both samples give another interesting fact.

Measure	Items	KO (size = 324)		VN (size = 320)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	127	39.19	180	56.25
	Female	197	60.81	140	43.75
Age	Below 16	4	1.24	5	1.57
	16-26	**202**	62.34	**200**	62.5
	27-36	97	29.94	95	29.69
	37-46	13	4.01	15	4.68
	47-56	8	2.47	5	1.56
	Above 56	0	0	0	0
How long use KakaoTalk	Within 6 months	2	0.62	35	10.94
	6 months – 1 year	7	2.17	63	19.69
	1 year – 2 years	49	15.12	**86**	26.88
	More than 2 years	60	18.51	77	24.06
	More than 3 years	**206**	63.58	59	18.43
How often use KakaoTalk	Everyday	**312**	96.29	**240**	75
	1-2 days/week	2	0.62	30	9.38
	3-5 days/weeks	7	2.16	45	14.05
	Every few weeks	0	0	5	1.57
	Less often	3	0.93	0	0
How long each time use KakaoTalk in average	< 30’	36	11.11	**105**	32.81
	30’ – 1 hour	52	16.05	92	28.76
	1 hour – 2 hours	72	22.22	38	11.88
	2 hours – 3 hours	58	17.90	31	9.68
	> 3 hours	**106**	32.72	54	16.87
Other MIM services are using	Line	**68**		**68**	
	Tiktok	24		0	
	Nateon	44		0	
	Skype	37		27	
	MyPeople	16		0	
	FbMsg	**172**		**69**	
	Viber	5		**90**	
	Hangouts	0		13	
	Wechat	0		35	
	Tango	0		13	
	Whats app	0		11	
	YahooMsg	0		9	
	Zalo	0		**100**	

Table 2. Characteristics of respondents (total = 644)

Reliability (Exploratory Factor Analysis) and Validity Test (Confirmatory Factor Analysis, Convergent Validity and Discriminant Validity)

Table 3 shows the results of reliability, confirmatory factor and convergent validity check. The Cronbach's alphas of six constructs are well satisfactory with all the values are over 0.7. All average variance extracted (AVE) values of six constructs are greater than 0.5.

Construct	Item	Standardized Item Loading	Cronbach's alpha	CR	AVE
System Quality	Funct_Avg* Relia_Avg* ComRichness_Avg*	0.716 0.728 0.780	0.779	0.829	0.550
Service Quality	Relia_Avg* Emp_Avg*	0.852 0.766	0.773	0.859	0.656
Confirmation	Confirm1 Confirm2 Confirm3	0.856 0.916 0.833	0.843	0.911	0.755
PU	PU1 PU2 PU3	0.862 0.894 0.850	0.917	0.940	0.754
Satisfaction	Satis1 Satis2 Satis3 Satis4	0.905 0.811 0.878 0.801	0.939	0.907	0.722
Loyalty	Cont_Avg* Recom_Avg *	0.804 0.730	0.940	0.877	0.589

*** These variables are an average composite of corresponding items in the questionnaire.**
CR (Composite Reliability)

Table 3. Exploratory factor analysis, Confirmatory factor analysis and Convergent validity

Table 4 represents the discriminant validity of the constructs. The square roots of AVE of all constructs are greater than the correlation shared between the construct and other constructs.

Construct	System Quality	Service Quality	Confirmation	PU	Satisfaction	Loyalty
System Quality	**0.742**					
Service Quality	0.503	**0.810**				
Confirmation	0.567	0.557	**0.869**			
PU	0.547	0.605	0.642	**0.868**		
Satisfaction	0.464	0.505	0.534	0.653	**0.849**	
Loyalty	0.607	0.574	0.509	0.526	0.538	**0.767**

Table 4. Discriminant validity

Hypotheses Test

The results are shown in Figure 4 (KO sample) and Figure 5 (VN sample).

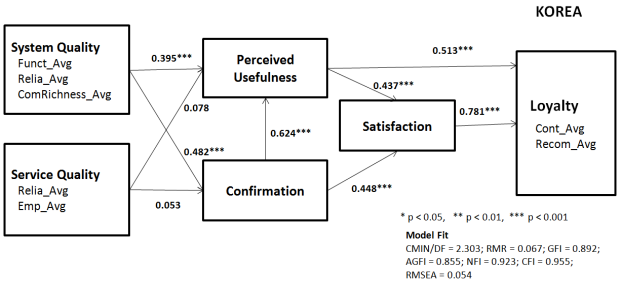

Figure 4. Results of structural equation model analysis (Korea dataset)

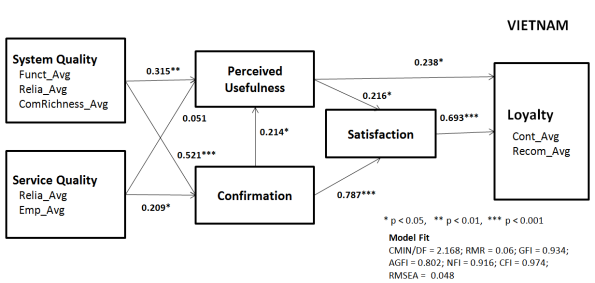

Figure 5. Results of structural equation model analysis (Vietnam dataset)

T-test (on the Difference of Path Coefficient)

In order to compare whether the paths differences are statistically significant across the two samples (KO and VN), t-test was adopted for this step, by following Chin's procedure (1998).

Table 5 shows the results of t-test.

First, three paths differences were not supported, which means these paths have similar impact between KO and VN sample (System Quality → Confirmation, System Quality → PU, Service Quality → PU).

Second, six paths differences were supported, which means these paths have a certain different impact between KO and VN sample.

Hypo-thesis	Path	Coefficient (KO size = 324)	Coefficient (VN size = 320)	T-value	Statistically significant difference
H1a	System Quality → Confirmation	0.482***	0.521***	- 1.394	Not supported
H1b	Service Quality → Confirmation	0.053	0.209*	- 5.548***	Supported
H2a	System Quality → PU	0.395***	0.315**	0.969	Not supported
H2b	Service Quality → PU	0.078	0.051	1.040	Not supported
H3	Confirmation → PU	0.624***	0.214*	3.677***	Supported
H4	Confirmation → Satisfaction	0.448***	0.787***	- 6.327***	Supported
H5	PU → Satisfaction	0.437***	0.216*	2.011**	Supported
H6	Satisfaction → Loyalty	0.781***	0.693***	2.572**	Supported
H7	PU → Loyalty	0.513***	0.238*	4.581***	Supported

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 5. T-test on the difference of path coefficient between 2 samples

Discussion

The hypotheses test results and the comparative analysis results are summarized in Figure 6. The unsupported hypotheses were deleted whilst the strongest supported hypotheses were highlighted in red color showing the main perception flow of each sample.

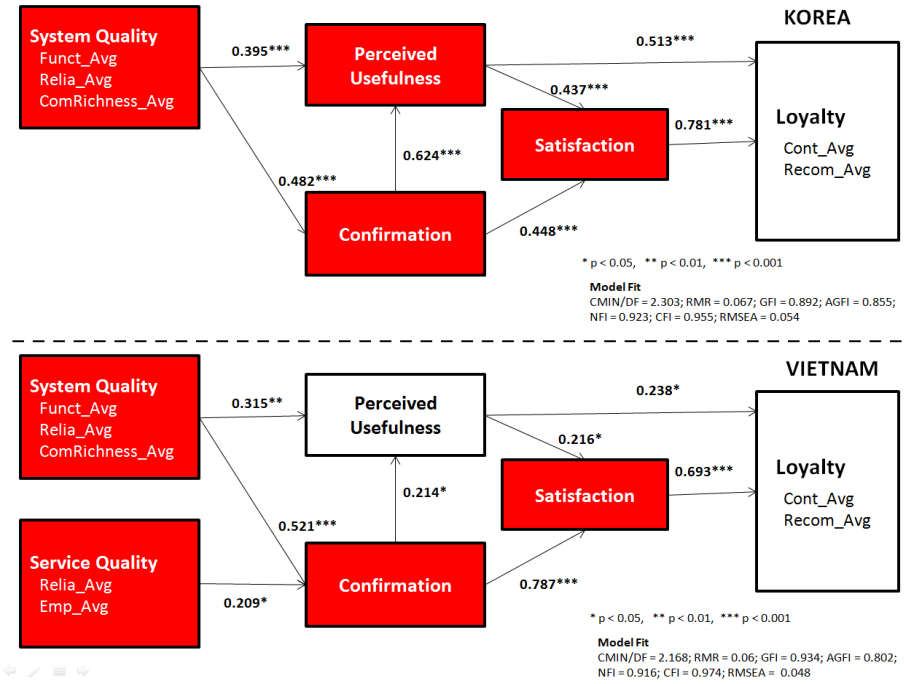

Figure 6. Summarized results of each sample

Main findings about different behaviors between Korean and Vietnamese users from Figure 6 are as follows.

First, Service Quality has no effect on PU (both Korea and Vietnam). It could be explained because PU is a more functional and utilitarian construct which would be more affected by System Quality.

Second, Service Quality has no effect on Confirmation (only Korea). It reflects the reality is that Korean people are still using KakaoTalk a lots despite the fact that KakaoTalk has not fixed a certain very old problems yet (e.g. spam text, game invitation from strangers). This could be explained as Korean users may not care about it much; or they accept and ignore because the benefits from System Quality could compensate for it.

Third, Korean users pay more attention to System Quality (Functionality, Complementary Richness) and PU. The effect of Service Quality could be transmitted through System Quality. PU and Satisfaction strongly influences on Loyalty.

Fourth, Vietnamese users care both System Quality and Service Quality. Satisfaction has a strong effect on Loyalty. PU does have effect on Loyalty but it is not much crucial. It could be explained because the users can experience similar functions from other MIM apps.

Implications

Theoretical Implications

Most of existing comparative studies usually selected two contradictory countries in terms of culture, social values. This paper most has a different cross-country comparison approach.

This research compared two Asian nations that have a close similarity in social values, culture and history (e.g. influenced by Confucianism, had a civil war after World War 2, sped up the economic development since 1980s) but still distinguishable itself from another by the economic development. After thirty years, Korea is a nearly developed country while Vietnam is a developing country with a high growth rate. The results have shown more unknown valuable insights. Those findings could be the good references for both countries' researchers. Moreover, those findings could help to broaden the existing knowledge boundary of users' behaviors in MIS discipline, especially Korean users and Vietnamese users.

Practical Implications

From the study insights, several practical strategies are suggested to MIM services providers and business practitioners, as follows.

Korean users or Korean MIM market is suitable for an aggressive strategy strongly focusing on System Quality (such as functions, utilities, complementary richness, etc), Confirmation and PU. Enhancing their experiences on those factors would quickly dominate the MIM market, and once they are familiar with that MIM service, they will not switch to another easily because of a high loyalty built from Satisfaction and PU.

Vietnamese users are suitable for a slow, patient and long-term strategy focusing on Service Quality, System Quality, and Confirmation. The strategy should not be aggressive and no need to be dominant in the MIM market.

First, improving Service Quality will make better impact on users' positive confirmation of MIM service (such as spam text and advertisement removal, language support, intuitive user manual, online Q&A). Furthermore, it would help to draw a distinction compared to other MIM services.

Second, because of the fierce competition with abundant MIM providers, it is better to keep a stable number of users and try not to lose the current users to other MIM apps. Building those users' loyalty by maintaining or enhancing their satisfaction over time will keep MIM services providers surviving.

Third, in order to enhance users' Confirmation, MIM providers should not exaggerate when advertising their apps, but under-evaluate their app instead.

Conclusion

The other huge benefits a MIM app could bring for MIM provider can be seen through KakaoTalk case. These days, KakaoTalk is not simply one of the MIM services, but has become a value-added mobile social platform in Korea, from entertaining apps (KakaoGame, KakaoTV, KakaoMusic, KakaoStyle, KakaoStory) to utility apps such as KakaoPay (digital wallet), KakaoTaxi (Korean replacement for Uber taxi service) KakaoPlace (Korean replacement for GoogleMap). It has proved that MIM service providers could enjoy much greater benefits from a very simple MIM start-up app once it grows sustainably. The valuable lessons from KakaoTalk case is the beneficial experiences for other MIM providers in attractive Vietnamese market.

Several limitations of this study are the age of respondents (the majority are young from 16 to 26), a possible bias caused by translating the questionnaire into Korean and Vietnamese, a possible bias caused by the influence of Korean culture on Vietnamese users. These limitations should be addressed in the next future research.

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