

## The Effect of Service Quality Perception on Two Key Manifestations of Attitudinal Loyalty

Chang Chia-Hua<sup>1</sup> and Nguyen Xuan Tho<sup>2</sup>

This study aimed at testing the relevant dimensions of service quality perception of customers in mobile telecommunication sector, and examining the effect of overall service quality on two key manifestations of attitudinal loyalty, including repurchase intention and positive word-of-mouth. A total of 557 valid questionnaires, collected from current mobile phone users in Vietnam, were tested in this study. Prior to employing Structural Equation Modeling (SEM) for testing hypotheses, confirmatory factor analysis verified five distinct factors contributing to overall service quality. These five service quality dimensions consist of call quality, price policy, convenience, customer support, and added services. The results from hypotheses testing indicated that overall service quality has a positive impact on repurchase intention of customers as well as their intention of disseminating positive word-of-mouth. The findings of this study not only added more knowledge to deepen the understanding of service quality and consumer psychology in the field of mobile telecommunication service, but also yielded a number of practical implications for mobile carriers in Vietnam. Based on the study's findings, some suggestions were made so that mobile network operators in Vietnam could retain their customers more effectively.

**Keywords:** service quality, attitudinal loyalty, positive word-of-mouth, structural equation modeling, mobile telecommunication, Vietnam.

Within the past few decades, service quality has become a crucial factor for the business organizations. Service quality has got “a great deal of attention from both practitioners and academicians in the world” (Gautam, 2015). Thus, leveraging this factor can not only help firms attract more new customers but also retain existing consumers, especially in the mobile telecommunication market (Santouridis & Trivellas, 2010). However, the essence of service is intangible and different perspectives have been raised towards components of service quality between consumers and providers (Aydin & Ozer, 2005). Therefore, in order to survive in the competitive markets, enterprises must realize their customers' perceptions instead of their own points of view, and try hard to figure out the most critical dimensions of service quality.

The Vietnamese mobile telecommunication industry emerged in the 1990s and has grown significantly in the early years of the 21<sup>st</sup> century. Nowadays, there are five network operators, but 95% of the market share is being dominated by three of them, including Viettel, Vinaphone, and Mobifone (Ministry of Information & Communications, Vietnam [MIC], 2017). Due to the fierce competition and saturation of the market, mobile network carriers now focus on retaining existing customers and attracting new defected ones from competitors as much as possible. Indeed, mobile network providers emphasize on retaining existing consumers as well as on attracting defected ones from competitors through loyalty programs and word-of-mouth marketing. In order to succeed in this strategy, the most crucial factor is to provide distinguished quality of services bases on their consumers' perception.

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<sup>1</sup> Associate Professor, Department of Industrial Management and Information, Southern Taiwan University of Science and Technology, Taiwan.

<sup>2</sup> Corresponding Author, Ph.D. Candidate, College of Business, Southern Taiwan University of Science and Technology, Taiwan. E-mail: Khoanhkhac2008@gmail.com

The first purpose of this paper is to test the relevant dimensions of service quality, which are based on customers' point of view in the Vietnamese mobile telecommunication sector. Then, the effect of service quality will be examined in terms of its relations with two key manifestation of attitudinal loyalty, emphasizing on the repurchase intention and positive word-of-mouth. Even though some researchers have focused on exploring the indirect relationship between service quality and customer loyalty by considering customer satisfaction, however, almost all of them have employed the concept of satisfaction to measure the level of customer perception about service quality. Thus, it would be not necessary to take satisfaction into consideration in current study instead of the hypotheses will be adjusted for making sense in these relations. The direct link between service quality and consumer behavioral intentions also has been supported by a number of researchers (Boulding, Kalra, Staelin, & Zeithaml, 1993; Casielles, Álvarez & Lanza, 2009; Cöner and Güngör, 2002; Cronin, Brady, & Hult, 2000; Kangis & Zhang, 2000; Ranaweera & Neely, 2003; Santouridis & Trivellas, 2010; Zeithaml, Berry & Parasuraman, 1996).

It is expected that the study will not only contribute to the theoretical aspect, but also explore the practical issues. First of all, with the literature review, this study tried to broadly explore the service quality's components in the mobile telecommunication sector. Secondly, based on customers' perceptions, the findings of this study contribute to consumer psychology in terms of examining the effect of service quality on two crucial manifestations of customer loyalty of cell phone users in the Vietnamese mobile telecommunication market, including repurchase intention and positive word of mouth. Indeed, most previous studies in this field only emphasized on repurchase intention to imply to attitudinal loyalty, even though positive recommendation was suggested by Blery (2003) who conducted a study related to the mobile telecom service. Blery (2003) recognized that positive word of mouth is an important manifestation of loyal customers, but this variable was not included in his research framework. However, the author highly recommended employing this variable for further researches. Hence, more recently, some researchers have paid attention to both repurchase intention and positive word of mouth to allude to attitudinal loyalty (Tho, Lai, & Yan, 2017; Hua & Tho, 2017). Even though two aforementioned studies did not consider service quality in their models, however, the authors also recommended for future research direction that should examine the effect of service quality on both repurchase intention and positive word of mouth.

Regarding the practical implications, the findings from this study could offer significant practical suggestions to network operators in Vietnam in terms of strategy to enhance quality of services, which can help them retain their customers more efficiently: firstly, mobile network carriers need to pay attention on developing distinguished and competitive added services to increase assessment's level of customers towards overall service quality; secondly, service providers should not only have competitive promotions but also make the best use of various channels in different campaigns to avoid imitation from competitors.

### **Literature Review**

This section will discuss the relevant literature which serves as a background to the research and helps develop research hypotheses. First, the concept of service quality will be reviewed in detail, including clarification of five service quality dimensions suggested for Vietnam's mobile telecom sector. Then, the relationships between overall service quality and two key manifestations of attitudinal loyalty, namely repurchase intention and positive word of mouth, will be also reviewed in order to develop two hypotheses.

## Service Quality

The concept of service quality was conceptualized in many past studies. Previous researchers have stood on different point of views in their own researches. Even the mobile telecommunication service has attracted a stream of scholars around the world, there was no consensus between various researchers' views yet. Most of the studies conducted in the field of cell phone network service have assessed the service quality regarding overall excellence of provided services from provider. However, evaluating service quality is much more difficult than assessing the quality of product, because of its intangible nature (Aydin & Ozer, 2005; Gautam, 2015).

Regarding dimensions or antecedents of service quality in the mobile telecom service, there seems to be no consensus among a number of studies conducted in different countries. For instance, Woo and Fock (1999) suggested four dimensions which are transmission quality and coverage, pricing policy, staff competence, and customer service for Hong Kong mobile phone industry. While Lee, Lee, and Feick (2001) who conducted research in France supported for scientific community three following dimensions: pricing, overall core services (area coverage, clarity of sound), overall value-added services (access to provider, precision of billing service). In addition, the research conducted in Korea by Kim, Park, and Jeong (2004) found five antecedents of service quality, including call quality, price structure, mobile device, value-added services, and customer support. Moreover, regarding Greek mobile phone services, Santouridis and Trivellas (2010) suggested six components of service quality, including network, value-added services, customer service, mobile devices, price structure, billing system. However, Vranakis, Chatzoglou, and Mpaloukas (2012) argued five aspects which consist of signal quality and network coverage, perceived value, customer services, selection of personnel for their establishment, and customer complain. Aside from, the study of Lim, Widdows, and Park (2006) regarding American telecom sector, the study developed a model related to service quality based on five components including price plans, network quality, data service, billing systems, and customer service quality. The authors identified these five dimensions of service quality in the mobile services context based on what consumers perceive in their service (Lim, Widdows, & Park, 2006).

Arokiasamy and Abdullah (2013), Gautam (2015), Johnson and Sirikit (2002) employed SERVQUAL measurement, suggested by Parasuraman, Zeithaml, and Berry (1988), to measure service quality of the mobile telecom service in India, Malaysia, and Thailand, respectively. Accordingly, the aforementioned authors applied five SERVQUAL dimensions, including tangibility, reliability, responsiveness, assurance, and empathy. However, it seems this approach does not make sense. The first reason is that these five dimensions seem to be overlapped, this problem results in a difficulty for customers to distinguish and evaluate exactly service quality in this sector. Also, the outcome of this approach leads to an abstract significance in terms of assessment of mobile network service. In addition, Jain and Gupta (2004) claimed that overall service quality needs to be measured by consumer's perception only rather than the gap between expectation and perception. Based on the reasons above, this study does not take into consideration applying the SERVQUAL measurement.

Table 1 shows a summary of previous studies with regard to service quality dimensions in the field of mobile telecommunication sector.

Table 1

*Summary of previous studies regarding service quality dimensions in the mobile service*

Authors	Dimensions/ or antecedent factors	Number of dimensions	Market Areas
Kim, Park, & Yeong. (2004)	(1) Call quality, (2) price structure, (3) mobile device, (4) value-added services, (5) convenience, (6) customer support.	5	Korea
Lee, Lee, & Feick, 2001	(1) Pricing, (2) Overall core services (Area coverage, Clarity of sound), (3) Overall value-added services (Access to provider, Precision of billing service).	3	France
Woo & Fock (1999)	(1) Transmission Quality & Coverage, (2) Customer service, (3) Staff competence, (4) Pricing policy.	4	Hong Kong
Santouridis & Trivellas (2010)	(1) Network, (2) value-added services, (3) customer service, (4) mobile devices, (5) price structure, (6) billing system.	6	Greece
Vranakis, Chatzoglou, & Mpaloukas (2012)	(1) Signal quality & network coverage, (2) perceived value, (3) Customer services, (4) Selection of personnel for their establishment, (5) Customer complain.	5	Greece
Lim, Winddows, & Park (2006)	(1) Price plans, (2) network quality, (3) data service, (4) billing systems, (5) customer service quality.	5	America
Gautam (2015); Arokiasamy & Abdullah (2013); Johnson & Sirikit (2002).	(1) Tangibility, (2) Reliability, (3) Responsiveness, (4) Assurance, (5) Empathy.	5	India, Malaysia, and Thailand

It can be concluded that there are various dimensions of service quality identified by different past studies around the world. The current study was conducted in Vietnam where the market structure and legal framework have not been completed yet (Tho, Lai, & Yan, 2017, Hua & Tho, 2017). Also, due to the difference of market characteristics in diverse countries, it may be resulted in different perspectives towards service quality in terms of customers' perception. In addition, many scholars suggested that "dimensions of service quality depend on the type of service under study" (Gautam, 2015). According to Gautam (2015), researchers need to modify the service quality dimensions to fit the market's characteristics where the research is conducted. Hence, dimensions of service quality are suggested for Vietnamese mobile telecommunication services, explained in table 2 below, will be taken into consideration in this study. This suggestion was based on evaluation of customers because expectation of consumers with regard to the performance of services was confirmed to be the main components of perceived service quality (Lee, Lee, & Feick, 2001).

Table 2

*Five service quality dimensions are proposed for Vietnam's mobile telecom sector*

Variable	Explanation
Call quality	Call quality is always a primary consideration for any customer looking to utilize a mobile network. Call service is the core service from mobile network carriers. Normally, network admin could implement solutions on their own networks to enhance call quality for consumer.
Price policy	Price policy refers to any policy related to service price, charge package, recharge sim card, and type of payment, etc.
Convenience	Convenience refers to subscription procedure, and connection with the mobile network operator (MNO).
Customer service/support	Customer service refers to the customer support system and complain processing (Kim et al., 2004)
Added service	Added service refers to the extra services from mobile network carriers in Vietnam's Market.

## Service Quality and Key Manifestations of Attitudinal Loyalty

The concept of customer loyalty can be approached from either behavioral or attitudinal perspective, or both of them. However, the behavioral approach was criticized because it did not take into account the psychological perspective of loyalty (Oliver, 1999; Casielles, Álvarez, & Lanza, 2009; Ansari & Riasi, 2016; Tho, Lai, & Yan, 2017; Hua & Tho, 2017). On the other hand, attitudinal loyalty takes into account the psychological consideration and explains the reasons of customer loyalty (Cronin & Taylor, 1992; Oliver, 1999; Maity & Gupta, 2016; Hua & Tho, 2017). The attitudinally loyalty customers are invaluable gifts for service providers because they add strength to the current brands and disseminate the positive recommendations to friends and family members, resulting in increasing consumptions and attracting more customers.

According to Casielles, Álvarez, and Lanza (2009), there are three key manifestations of attitudinal loyalty, including repurchase, positive recommendation, and price tolerance. However, with competitive characteristics in the mobile telecommunications market, a level of reasonable price would be considered as an antecedent or dimension which can be integrated with other factors to enhance service quality. In addition, in the intensely competitive status of Vietnam's mobile telecommunication market, it is impossible for network providers to increase service price much more than counterparts. For the above reasons, repurchase intention and positive word-of-mouth were confirmed as two key manifestations of attitudinal loyalty in the mobile telecommunication services (Tho, Lai, & Yan, 2017; Hua & Tho, 2017).

Repurchase intention has received a great deal of attention not only from scholars but also from enterprise managers, especially because customer retention is a crucial factor in the mobile telecommunication market (Hua & Tho, 2017). Previous studies have verified the link between service quality and repurchase intention. For instance, Boulding, Kalra, Staelin, and Zeithaml (1993) found the positive relationship between service quality and repurchase intention. Similarly, Ranaweera and Neely (2003) found that service quality perception plays as a driver of customer retention, and the higher level of service quality lead to the greater level of repurchase intention. In addition, Cöner and Güngör (2002) confirmed that service quality would lead to better customer loyalty. In regard to the mobile telecom industry, Eshghi, Roy, and Ganguli (2008) supported for this relation that when the services reach or surpass the subscribers' needs, they would be more likely to continue using the same provider's services for the long term. Thus, the first hypothesis is proposed:

H1: The higher perception of service quality, the greater level of customer repurchase intention

Many previous studies have employed positive recommendation to others as one of manifestations of customer loyalty (Ganesh, Arnold, & Reynolds, 2000; Eshghi, Roy, & Ganguli, 2008; Casielles, Álvarez, & Lanza, 2009; Tho, Lai, & Yan, 2017). According to Zeithaml, Berry, & Parasuraman (1996), once customers meet their expectation towards the services they underwent, they will recommend the service to friends, relatives or colleagues. Eshghi, Roy, & Ganguli (2008) also found the evidence to support a significant positive effect of service quality on recommendation. By using regression analysis, the authors identified the evidence that service quality could explain approximately 40 percent variance in recommendation. Moreover, the direct linkage between service quality and positive word-of-mouth was also supported by Johnson and Sirikit (2002), who conducted research regarding Thai telecommunication industry. Thus, the second hypothesis is proposed:

H2: The higher perception of service quality, the greater level of customer intention of spreading on positive word-of-mouth

### The Research Framework

The conceptual framework was based on the literature mentioned above, as well as relied on customers' points of view in the pilot phase. In details, five proposed dimensions were based on customers' perceptions, because expectation of consumers with regard to the performance of services was confirmed to be the main components of perceived service quality (Lee, Lee, & Feick, 2001). Regarding attitudinal loyalty, Casielles, Álvarez, & Lanza (2009) confirmed three key manifestations as aforementioned in the literature review section, including repurchase, positive recommendation, and price tolerance. However, the current study focuses only on repurchase intention and positive word-of-mouth. As mentioned before, repurchase intention and positive word-of-mouth were confirmed as two main manifestations of attitudinal loyalty in the cell phone network sector in Vietnam context (Tho, Lai, & Yan, 2017; Hua & Tho, 2017). The theoretical framework is proposed in Figure 1 below:

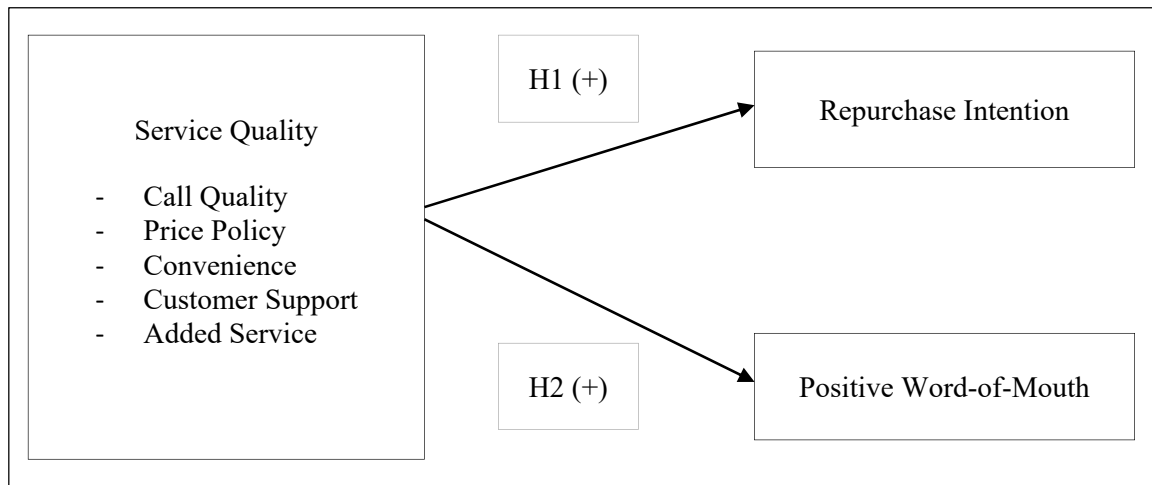


Figure 1. The Theoretical Framework

### Research Design and Methodology

#### Questionnaire and Sampling

For the purposes of measuring repurchase intentions, three scales were adapted and synthesized from some of the related literature (Kim, Park, & Jeong, 2004; Eshghi, Roy, & Ganguli, 2008; Casielles, Álvarez, & Lanza, 2009; Nasir & Mushtaq, 2014; Tho, Lai, & Yan, 2017). Moreover, three items were employed to evaluate positive word-of-mouth, and two of them were adapted from the previous literature (Kim, Park, & Jeong, 2004; Eshghi, Roy, & Ganguli, 2008; Casielles, Álvarez, & Lanza, 2009; Nasir & Mushtaq, 2014; Tho, Lai, & Yan, 2017). For developing the scales to measure customer perception of service quality, this study based strongly on previous quality studies in the mobile telecommunication industry around various countries (listed in table 1). In the pilot phase, the proposed dimensions were put forward for discussion with 30 cell phone users directly. All pilot survey participants agreed with these components to measure overall service quality.

The comments from interviewees resulted in some modifications in terms of phrasing and simplicity of the questions before official questionnaire was launched. A combination of online and offline data collection was applied in order to increase the heterogeneity of the sample. As a result, there were 268 valid respondents were collected through online tool based on Facebook-groups and email list, and 289 filled questionnaires were collected via

offline method during three days of national exam for college entrance in fifteen locations situated in Nghe An and Ha Tinh province, Vietnam. A total of 557 completed questionnaires were analyzed in this study.

## **Data Analysis and Results**

### **First-order Confirmatory Factor Analysis**

First-order confirmatory factor analysis (CFA) was applied to test how well the variables measured represent the dimensions. There are some facets of service quality which need to be confirmed in this step, where call quality, price policy, convenience, customer support, and added service are included. These five dimensions were proposed based on customers' perceptions in the pilot study phase, as well as the related literature conducted in different countries, which was discussed respectively as follows.

Call quality can be evaluated in terms of stability of signal, clarity of sound, and transmission quality. Previous studies have regarded call quality as the core of service quality in the mobile telecomm service (e.g. Kim, Park, & Jeong, 2004; Lee, Lee, & Feick, 2001; Lim, Widdows, & Park, 2006; Vranakis, Chatzoglou, & Mpaloukas, 2012; Santouridis & Trivellas, 2010; Woo & Fock, 1999). Regarding price policy, Kim, Park, & Jeong (2004) and Vranakis, Chatzoglou, & Mpaloukas (2012) did not consider as an antecedent factor of service quality. However, most other studies agreed that, in this field, price policy has a contribution to overall service quality (Lee, Lee, & Feick, 2001; Lim, Widdows, & Park, 2006; Santouridis & Trivellas, 2010; Woo & Fock, 1999). Kim, Park, & Jeong (2004) asserted convenience as an antecedent factor which contributes to overall service quality. As for the customer support or customer service, it was also able to be found in previous studies (Kim, Park, & Jeong, 2004; Lim, Widdows, & Park, 2006; Santouridis & Trivellas, 2010; Vranakis, Chatzoglou, & Mpaloukas, 2012; Woo & Fock, 1999). This study employs added service to evaluate extra services, such as the speed of internet service, cash advance service for customer accounts when out of money, and support bonuses once receiving phone call. Moreover, it was also exhibited that with the rapid development of mobile technology, mobile phone users have attempted to use extra services (Lim, Widdows, & Park, 2006). On top of that, literature has also claimed to regard added service or extra service as an antecedent factor of overall service quality (Lee, Lee, & Feick, 2001; Kim, Park, & Jeong, 2004; Santouridis & Trivellas, 2010), because it has become a more remarkable factor for customers to make comparisons while choosing service providers.

Table 3 shows the composite or construct reliability (CR) of the measurement constructs are larger than the required minimum value of 0.70 (Straub, 1989). The item loadings ranged from 0.61 to 0.77 for call quality, 0.66 to 0.85 for price policy, 0.42 to 0.79 for convenience, 0.78 to 0.87 for customer support (except CS1), and 0.64 to 0.70 for added service. There are evidences that the model exhibiting a good fit (Chi-square = 492.80; Degrees of freedom = 141;  $\chi^2/df$  = 3.49; GFI = 0.91; AGFI = 0.88; CFI = 0.92; RMSEA = 0.067).

According to Hair, Black, Babin, Anderson, & Tatham (2006), the value of variable loadings must be at least 0.40 and any item loading smaller than 0.40 needs to be removed outright. Therefore, in order to leverage model fit indices, CS1 was removed from initial model.

Table 3

*First-order CFA results for service quality dimensions*

Factor and Item	Item Loadings	Composite Reliability (CR)
Factor 1: Call quality ( $\alpha = 0.83$ )		0.81
CQ1: Strong Signal	0.65	
CQ2: Stable Signal (Calling smoothly)	0.70	
CQ3: Voice Clarify	0.77	
CQ4: Rarely congested network when make a phone call	0.66	
CQ5: Sending and receiving message immediately	0.61	
Factor 2: Price Policy ( $\alpha = 0.84$ )		0.84
PS1: Competitive price of core services	0.85	
PS2: Competitive price of extra services	0.75	
PS3: Diversity of recharge card	0.66	
PS4: Flexibility of charge packages	0.76	
Factor 3: Convenience ( $\alpha = 0.74$ )		0.75
CV1: Easy to buy recharge and sim card	0.42	
CV2: Easy to change the payment method (prepaid or postpaid)	0.60	
CV3: Easy to check account	0.78	
CV4: Easy to connect with the customer service operator	0.79	
Factor 4: Customer support ( $\alpha = 0.87$ )		0.87
CS1: Speedily processing customers' complaint and troubleshooting quickly	Remove	
CS2: The mobile network carrier's staffs are devoted helpfulness	0.83	
CS3: Having campaign of competitive promotions	0.87	
CS4: The mobile network carrier fulfills its promises	0.78	
Factor 5: Added service ( $\alpha = 0.72$ )		0.72
AS1: The speed of internet service (3G, 4G)	0.70	
AS2: Cash advance service when account runs out of money	0.69	
AS3: Support bonuses once receiving phone call	0.64	

Note: Chi square = 492.80, df = 141,  $\chi^2/df = 3.49$ ,  $p$ -value = 0.000, GFI = 0.91, AGFI = 0.88, CFI = 0.92, RMSEA = 0.067.

**Second-order Confirmatory Factor Analysis**

Second-order CFA was employed to identify to what extent the sub-dimensions of overall service quality explain the concept. As shown in table 4, convenience is the most reliable indicator (0.84), followed by customer support (0.77), added service (0.73), and call quality (0.51). Price policy dimension is the worst explanation for overall service quality (0.42), however, its loading is still higher than the minimum criteria of 0.40 (Hair et al., 2006).

Table 4

*Second-order CFA of service quality measurement model*

Structural Parameter	Factor loadings	p-value
Service quality -> Call quality	0.51	***
Service quality -> Price policy	0.42	***
Service quality -> Convenience	0.84	***
Service quality -> Customer support	0.77	***
Service quality -> Added service	0.73	***

Note: \*\*\*  $p < 0.001$ , Chi square = 547.42, df = 146;  $\chi^2/df = 3.75$ ,  $p$ -value = 0.000, GFI = 0.90, AGFI = 0.87, CFI = 0.91, RMSEA = 0.070.



## Results of Structural Equation Modeling (SEM)

**Evaluation of Construct Validity.** Before carrying out the structural equation modeling, it is necessary to evaluate the validity of constructs for both independent variable (service quality) and dependent variables (repurchase intention, and positive word-of-mouth). Therefore, both of convergent validity and discriminant validity were inspected. Convergent validity refers to the degree to which two measures of constructs that theoretically should be related are in fact related. Whereas, discriminant validity was used to assess the extent to which constructs or latent factors are distinct and uncorrelated.

For each construct in the model, the convergent validity was assessed by the value of composite reliability (CR). As table 5 shows, all constructs have the value of CR higher than recommended value of 0.70 (Nunnally & Bernstein, 1994). Thus, it can be said that convergent validity of the constructs was approved.

Table 5

### *Convergent and Discriminant testing*

Pair of constructs/model	SQ & RI		SQ & PWOM		RI & PWOM	
	Chi square	DF	Chi square	DF	Chi square	DF
Model 1 (Correlation fixed at 1)	977.01***	203	949.70***	203	135.32***	9
Model 2 (Correlation free)	708.28***	202	738.43***	202	69.18***	8
Difference of DF		1		1		1
Difference of Chi square	268.73		211.27		66.14	
Composite Reliability (CR)	Service quality (CR) =0.80; Repurchase intention (CR) =0.86; Positive word-of-mouth (CR) = 0.88					

*Note.* \*\*\*  $p < 0.001$ , DF = Degree of freedom, SQ = Service quality, RI = Repurchase intention, PWOM = Positive word-of-mouth.

In this case, discriminant validity was checked by employing chi-square difference tests which were recommended by Bagozzi, Li, & Philips (1991). Accordingly, each pair of constructs will be examined with two models. In the model 1, the value of correlation between two constructs was fixed at 1, whereas it was free in the model 2. If chi-square of two models is different, then the discriminant validity between two constructs was vouched. As shown in table 4, all pairs of constructs (SQ & RI, SQ & PWOM, RI & PWOM) were satisfied with discriminant validity. Significant at 1% level, the values of chi-square of corresponding pair of constructs stand at 268.73, 211.27, and 66.14, respectively. Thus, discriminant validity of constructs was confirmed.

Table 6

### *Results of hypotheses testing*

Hypothesized Path	Standardized Coefficient	t-value	p-value	Result
H1: Service quality -> Repurchase intention	0.72	7.60	***	Significant
H2: Service quality -> Positive WOM	0.86	8.05	***	Significant

*Note.* \*\*\*  $p < 0.001$ , Chi square = 860.94, df = 243,  $\chi^2/df = 3.54$ , GFI = 0.88, AGFI = 0.85, CFI = 0.90, RMSEA = 0.068.

**Hypotheses Testing.** The second purpose of this study is to examine the effect of overall service quality on repurchase intention and positive word-of-mouth. As shown in table 6, two proposed hypotheses were highly supported. The standardized coefficients are 0.72 and 0.86 for hypothesis H1 and H2, respectively, and, the corresponding t-values are 7.60 and 8.05. Thus, it can be concluded overall service quality has a positive impact on repurchase intention and positive word-of-mouth.

### Discussion and Implications

The first purpose of this paper was to test the relevant dimensions of service quality in Vietnamese mobile telecommunication market. With the perceptions of current subscribers collected as well as the available literature reviewed, this study employed CFA method to confirm components of service quality. The findings consolidated totally five significant dimensions to overall service quality, including call quality, price policy, convenience, customer support, and added service. In addition, the evidences of hypothesis testing supported for the second purpose of this study. Consistently with previous studies (Aydin & Ozer, 2005; Casielles, Álvarez, & Lanza, 2009; Eshghi, Roy and Ganguli, 2008; Kim, Park, & Jeong, 2004; Ranaweera & Neely, 2003; Johnson & Sirikit, 2002), the study's results show that consumers' perceptions of overall service quality have strong impacts on repurchase intention (coefficient = 0.72,  $p < 0.001$ ) and positive word - of - mouth (coefficient = 0.86,  $p < 0.001$ ). The evidences indicate most goodness-fit-indices of model were approved (Chi-square = 860.94; DF = 243; Chi-square/df = 3.54 < 5; AGFI = 0.85 > 0.80; CFI = 0.90 > 0.9; RMSEA = 0.068 < 0.80), except GFI = 0.88 less than the recommended criteria of 0.90. Even though one index of the model was not satisfied the required criteria, however, the model is acceptable in overall. Thus, it can be concluded that the higher level of service quality consumers perceived, the more likely they continue using services and more likely they spread positive word-of-mouth.

Regarding service quality's dimensions, confirmatory factor analysis (CFA) indicates an interesting result. Accordingly, convenience was the strongest contribution to overall service quality, followed by customer support, and then added service. Surprisingly, ranked fourth in terms of importance was call quality, and the least important dimension was price policy. This finding is consistent with the fact of the matter is that price policy exhibited a weak contribution to overall service quality. That might be partially because that the Vietnamese mobile telecom market is now extremely intense competitive, and, it is then impossible for network providers to charge higher price than other competitors. Actually, it seems currently mobile carriers in Vietnam have been provided similar policies in terms of diversity of recharge card, flexibility of charge packages, and very small difference in terms of price of core service (such as call price, text message price). These facts reveal the less importance of consumers' perception in terms of the price policy's contribution to overall service quality.

Call quality was used to evaluate service quality in terms of stability of signal, clarity of sound, or transmission quality. With a popular consent that these call quality's attributes are significantly important in the mobile telecommunication sector. Moreover, call center providing voice service is the most critical component for customer services, thus most of the network carriers always put the highest priorities in order to gain higher customer satisfaction. That leads to no significant differences among network providers in terms of the quality of voice service, especially three main mobile network carriers as mentioned before in the Vietnamese market. In addition, with the rapid development in terms of mobile technology, cell phone users have extended from core services to use the added service such as internet (Lim, Widdows, & Park, 2006). That is also the reason for explaining why customer perception of call quality contributes less than three other dimensions to overall service quality.

Customer perceived convenience had the most significant contribution to overall service quality. This study used four items to evaluate the concept of convenience, including easy to buy recharge and sim card, easy to change the payment method (either prepaid or postpaid), easy to check account, and easy to connect with the customer service operator. From first order CFA shown in table 3, the item loadings indicated that the scale “easy to connect with the customer service operator” had the most significant effect on convenience, followed by “easy to check account”, then “easy to change the payment method”, and the last one was “easy to buy recharge and sim card”. These results seem to be consistent with the reality of the market. Indeed, it is not difficult to find the shops in Vietnam to buy recharge and sim cards, especially these kinds of cards mainly belong to three main network operators. In addition, unlike some other countries in the world, it does not require customers to sign any contract when they buy prepaid sim card and does not have many barriers for consumers to change the payment method. Contradictorily, subscribers sometimes had a difficulty to make phone calls to connect with the customer service operator if they would like to issue complaints or even just check accounts. These are the reasons why the first two scales had most significant contributions to the “convenience” variable.

Customer support was ranked at the second significant component contributing to overall service quality. This finding suggests that network operators should speed up the process to deal with customers’ complaints and try to handle troubleshooting quickly. In addition, mobile carriers must always fulfill their promises, because it’ll lead to a higher assessment of customers towards overall service quality. As a result, mobile providers will get more profits because customers will be not only willing to continue using the services but also willing to spread positive word-of-mouth to others. And, due to the positive word-of-mouth from subscribers is a reliable channel, it results in gaining more new customers for mobile network operators. Moreover, in order to win in this fierce competitive market, service providers should not only have competitive promotions but also should make the best use of various channels in different campaigns to avoid imitation from competitors.

Regarding added service, which ranked at the third contribution to service quality, it was employed to evaluate extra services such as the speed of internet service, cash advance service when account runs out of money, support bonuses once receiving phone call. The fact is that when the core services (voice call, text message) had become homogeneously between network operators in terms of quality and had reached customers need already; the extra services would become a more remarkable factor for customers to make a comparison to choose service providers. It suggests that mobile network carriers need to pay attention to develop distinguished and competitive added services to increase assessment’s level of customers towards overall service quality. As a result, an increase of repurchase intention and positive word-of-mouth will yield more profits for mobile carriers.

## **Conclusion**

The mobile telecom market in Vietnam now is in a status of being in high competition and saturation, the mobile network carriers now focus on retaining the existing subscribers as well as attracting the defected customers from competitors through loyalty programs and word-of-mouth marketing. The first purpose of this study is to test the relevant dimensions of service quality, and then examine the effects of overall service quality on two manifestations of attitudinal loyalty. The findings from factor analysis consolidated five components of service quality, namely call quality, price policy, convenience, customer support, and added service. In addition, the results from hypothesis testing supported two proposed hypotheses, which

indicated the positive impacts of overall service quality on two key manifestations of attitudinal loyalty, namely repurchase intention and positive word-of-mouth.

The first contribution of this study is to complement available literature to clarify the service quality's components of mobile telecommunication service, especially for the Vietnam's market. As a result, the study added the novel knowledge of consumer psychology with respect to the mobile telecom service to supplement available literature, in which has existed heterogeneity in the perspective views of many previous studies around the world. In addition, the findings of this study also contribute to behavioral science by exploring the relations between service quality and two crucial manifestations of customer attitudinal loyalty. Indeed, this study explored not only the repurchase intention, but also the positive word-of-mouth, which lack of previous studies, in this field, focused on.

With regard to the practical implications, this study offers some remarkable suggestions for mobile network carriers in Vietnam in respect of strategy to enhance quality of services, which could help retain their customers more efficiently. As mentioned before, the mobile network operators in Vietnam now emphasize on retaining existing subscribers as well as on attracting defected customers from competitors through loyalty programs and word-of-mouth marketing. In order to achieve these strategies, this study offer the following critical suggestions: firstly, mobile network carriers need to pay attention on developing distinguished and competitive value-added services to increase assessment's level of customers towards overall service quality; and secondly, service providers should not only have competitive promotions but also make the best use of various channels in different campaigns to avoid imitation from competitors.

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