

Exploring Service Quality, Customer Satisfaction and Customer Loyalty in the Taiwan Mobile Telecommunication

Danang Kisworo

Department of Industrial and System Engineering,
Chung Yuan Christian University, Taiwan, ROC
E-mail: dk_danangkisworo@yahoo.co.id

Received 1 November; Accepted 2 December 2013

Abstract.

The launch of nationwide Mobile Number Portability (MNP) in October 2005 has taken the Taiwan mobile telecommunication industry one step forward. The implementation of MNP has given another challenge for the mobile service providers to maintain their loyalty of existing customer as customers are allowed to retain their existing telephone number when switching from one mobile service provider to another. Under such circumstances, the pursuit of customer loyalty appears to be an essential goal of the companies' sustainable competitive advantage and growth. In response to the challenges, mobile service providers are aggressively launching various innovative and attractive marketing campaigns and promotions with the aim to retain customer loyalty. The objectives to carry out this research are to investigate the relationship between service quality and customer satisfaction and to investigate the relationship between customer satisfaction and customer loyalty in the Taiwan mobile telecommunication market. This study adopts five dimensions of SERVQUAL instrument to measure service quality in the mobile telecommunication industry, such as tangibles, reliability, responsiveness, assurance and empathy. A series of Questionnaire provide and distribute to explore the mobile service providers' customer. The five-point Likert scale that ranged from 1=strongly disagree to 5= strongly agree. Hypotheses testing are needed to obtain the objective of this research by using Regression analysis. Result shows that the dimensions of service quality such as tangibles, responsiveness, assurance and empathy have significant effect to customer satisfaction. Furthermore, customer satisfaction was found to have significant positive effect on customer loyalty in the Taiwan mobile telecommunication industry.

Keyword: Service quality; customer satisfaction; customer loyalty; Mobile Number Portability; Mobile telecommunication

1. INTRODUCTION

Liberalization, globalization, the implementation of MNP (Mobile Number Portable), and increasing demand of the customers for more advance mobile services such as Third Generation (3G) technology in a highly penetrated and slow-growth mobile market has stirred up the competition among the mobile service providers in Taiwan. The increased competitive pressure has then urged the mobile service providers to be more aggressively in launching various new marketing campaigns in order to retain existing customer loyalty.

Undeniably, customer satisfaction appears to be an essential prerequisite for achieving customer loyalty. As such, mobile service providers need to enhance customer satisfaction first in their endeavor to increase customer loyalty. In the efforts to understand customer satisfaction, researchers focused specifically on the steps employed in

developing the service quality scale in order to access customer perceptions of service quality (Parasuraman et al., 1998), the significance of service quality on customer behavioral intentions (Zeithaml et al., 1996) as well as the impact of service quality on companies' financial performance (Zeithaml et al., 1996; Rust, et al. 1995). According to [Fornell et al., 1996], higher customer satisfaction towards perceived quality will result in higher customer loyalty. In this regard, the goal of this focus was to examine the importance of service quality on customer satisfaction and its impact on customer loyalty in the Taiwan mobile telecommunication industry.

Many researchers have concluded that customer loyalty is the key for the survival for mobile service providers (Kim et al., 2004). Companies will gain benefit from loyal customer, they will to continue purchase over time, buy particular products or services exclusively from the

company, begin purchasing different product lines or services from the company than those that originally attracted their business, and invite the company to bid first on every appropriate new project (James et al., 2011). Therefore, maintaining a loyal customer base has become a meaningful strategic for the mobile service providers in order to survive and succeed in this fierce competitive market.

The forces of liberalization and globalization in the mobile telecommunication markets have compelled the mobile service providers in Taiwan to maintain their market share by focusing heavily on maintaining the existing customer loyalty through providing superior quality services (Vanniarajan, 2009). Customer satisfaction plays an important role to enhance the level of customer loyalty. This means the higher the level of customer satisfaction the more loyal the customer become (Mokhtar, 2011). Therefore, prior to achieving existing customers' loyalty, mobile service providers need to aware of the area of service quality which placed higher importance from customers' perceptions. In doing so, mobile service providers can concentrate their marketing efforts and their companies' resources on the importance areas. In line with this, the aim of this study is to investigate the importance of service quality on customer satisfaction, as well as its impact on customer loyalty. The objectives to carry out this research are as below:

- 1) To investigate the relationship between service quality and customer satisfaction in the mobile telecommunication market.
- 2) To investigate the relationship between customer satisfaction and customer loyalty in the mobile telecommunication market.

2. LITERATURE REVIEW

2.1 Research Questions

This research will be focusing on answering the following questions:

- 1) Is there a relationship between service quality and customer satisfaction?
- 2) Is there a relationship between customer satisfaction and customer loyalty?

2.2 Research Hypothesis

The Relationship Between Service Quality To Customer Satisfaction

Parasuraman et al., (1998) has suggest the following labels and concise definitions for the dimensions, tangibles measure physical facilities, equipment and appearance of personnel; reliability is ability to perform the promised service dependably and accurately; responsiveness : willingness to help customer and provide prompt service; Assurance defines as knowledge and courtesy of employees

and their ability to inspire trust and confidence; Empathy is about caring, individualized attention the firm provides customers.

Reidenbach (1990) has mentioned that service quality functions as the antecedent of customer satisfaction. Besides, Fornell (1996) also advocated that customer satisfaction is the consequence of service quality. Wal et al. (2002) has concluded that SERVQUAL is a reliable instrument for the measurement of service quality in the telecommunications industry in South Africa. Their studies have shown that tangibles, reliability, responsiveness, assurance, and empathy have a positive effect on service quality. By so doing, the firm should be able to enhance the quality of services provided and thus achieving customer loyalty.

Based on extensive literature reviewed, the following hypotheses are proposed:

- HI : Service quality is positively related to customer satisfaction.
- HIa : Reliability is positively related to customer satisfaction.
- HIb : Responsiveness is positively related to customer satisfaction.
- HIc : Assurance is positively related to customer satisfaction.
- HId : Empathy is positively related to is positively related to customer satisfaction.
- HIe : Tangibles is positively related to is positively related to customer satisfaction

2.2. The Relationship Between Customer Satisfaction And Customer Loyalty

Customer satisfaction is acknowledged as an antecedent to customer loyalty (Fornell et al., 1996; Kim et al., 2004; Anderson, 1994). Furthermore, Sivadas (2000) mentioned that the ultimate objective of satisfy customers is to achieve customer loyalty. Customer satisfaction is often viewed as an essential determinant of customer repurchase intention and customer loyalty (Eggert, 2002). This is because customer loyalty can be achieved through heightening customer satisfaction with the superior service quality. Besides, Fornell et al., (1996) and Jones et al (1995) concluded that customer satisfaction play a vital role in enhancing customer loyalty, as customer loyalty is a only important driving force for the financial stability of firms. In addition, Kotler et al., (2002) also stated that meeting customers' needs and requirement are the key determinant to ensure customer repurchase intention.

Meanwhile, the findings of their study have confirmed that a high level of customer satisfaction does not translate into customer

loyalty, Bowen et al., (2001) claimed that satisfied customers may not be loyal, but the probability of them defending the relationship if their satisfaction are greater. Based on the above literature, hypothesis is constructed as follow:

H2: Customer satisfaction has a positive relationship with customer loyalty.

2.3 Scales and Measurement

The questionnaire items for service quality were comprised of five variables (Wal et al., 2002); reliability, responsiveness, assurance, empathy, tangibles. Altogether, service quality consisted of 32 questionnaire items. There are 2 questionnaire items for customer satisfaction (Dimitriades, 2006) and 4 questionnaire items for customer loyalty (Dimitriades, 2006). All questionnaire items were evaluated on five point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Respondents are selected based on category such as : Taiwan Mobile Customer, at least 1 year use the Taiwan mobile as the mobile provider and at least have 1 problem experience with Taiwan Mobile services.

2.4 Sample

The study was performed among Taiwan Mobile customers. It was done with deliver the questioner into 150 respondents.

4. RESULT

4.1. Sample Profile

From the total questionnaire replies, 50 of the total respondents (41.7%) were male while 64 of the total respondents (53.3%) were female. A total of 23 of the respondents (19.2%) are prepaid users while 91 of the respondents (75.8%) were postpaid users. Moreover, 78.3% of the respondents spent less than NT 1,000 on their mobile services each month. In terms of the mobile usage, majority of the respondents (68.3%) use their mobile for both, personal and business purposes.

4.2. Reliability Analysis

As illustrated in Table.I, The Cronbach’s Alpha for all the variables were in the range of 0.681 to 0.869, which exceed (Sekaran, 2003) minimum accepted level of 0.60. Therefore, the measures used in this study were considered reliable.

Table. 1. Cronbach Alpha Coefficient

Variables	Cronbach's Alpha
Reliability	0.837
Responsiveness	0.845
Assurance	0.869
Empathy	0.798
Tangibles	0.833
Customer Satisfaction	0.857
Customer Loyalty	0.681

4.3. Descriptive Analysis

The summary of the descriptive statistic of the variables is given in Table II. The result indicated that responsiveness yielded the highest value of mean (3.26) while customer loyalty yielded the lowest value of mean (3.01). As the value of mean of each variable is in the range between 3.26 and 3.01, it can be concluded that the respondents are having slightly above average opinion on all the variables.

Tabel 2. Descriptive statistics

Variables	Mean	Std. Deviation
Reliability	3.24	0.84
Responsiveness	3.26	0.82
Assurance	3.24	0.75
Empathy	3.03	0.78
Tangibles	3.03	0.83
Customer Satisfaction	3.23	0.64
Customer Loyalty	3.01	0.97

4.4. Hypothesis Testing

4.4.1 Customer Satisfaction

Based on Table 3, approximately 35% variations of customer satisfaction could be explained by five dimensions of service quality. The beta value (standardize coefficient) of responsiveness is 0.342 (P 0.05), which indicated that responsiveness had the strongest effect in affecting customer satisfaction. In contrast, the beta value (standardize coefficient) of reliability is -0.004 (P 0.05) and it implied that tangibles had the weakest effect in affecting customer satisfaction. Therefore H1b, H1c, H1d, and H1e were accepted while H1a was not accepted.

4.4.2 Customer Loyalty

Table 4 had shown that beta value (standardize coefficient) of customer satisfaction was 0.415 (P 0.05) and it had a significant effect on customer loyalty. Thus, hypothesis H2 was accepted

5. DISCUSSION

5.1. The Relationship between Service Quality and Customer Satisfaction

H1a showed that there is a negative correlation between reliability and customer satisfaction ($r = -0.004$, P 0.05). As far as reliability is concerned, this finding is contradicted with the result of the research conducted by Wang and Lo (2002) on the customers of China Mobile and China Unicorn in China, which found a positive correlation between reliability and customer satisfaction. This contradiction may probably due to the differences between culture, customers' needs and the condition of mobile service market of the two countries.

Table 3 The Effect Of Service Quality On Customer Satisfaction

Variables	Standardize Coefficient (Beta)
	Customer Satisfaction
Reliability	-0.004
Responsiveness	0.342**
Assurance	0.056**
Empathy	0.196**
Tangibles	0.242**
R2	0.364
Adjusted R2	0.35
F change	25.426
Durbin Watson	1.471

Table 4 The Effect of Customer Satisfaction On Customer Loyalty

Variables	Standardize Coefficient (Beta)
	Customer Loyalty
Customer Satisfaction	0.415
R2	0.173
Adjusted R2	0.169
F change	47.132
Durbin Watson	1.81

*P 0.1, **P 0.05, ***P 0.01

Moreover, in view of the price and package promotion would change with time, mobile subscribers pay less attention on reliability and it would not contribute to customer satisfaction. H1b indicated that responsiveness has significant correlation with customer satisfaction ($\beta = 0.342$, $P = 0.05$).

This research finding is contradicted with the result of the research conducted by Wang and Lo (2002) responsiveness have no significant relationship with customer satisfaction, because responsiveness is an abstract, heterogeneous, not standardized, and highly dependent on the performance of the employees of service providers. Moreover, different individuals may have different expectations and demands on their service providers.

H1c revealed that assurance is positively correlated with customer satisfaction ($\beta = 0.056$, $P = 0.05$). This result is identical to the previous study on the customers of China Mobile and China Unicorn in China (Wang and Lo, 2002) which found that assurance has a significantly positive impact on customer satisfaction. As assurance will affect customer satisfaction, mobile service providers must provide adequate and professional trainings to their employees so they are more friendly, courteous, and knowledgeable in handling customer complaints

and inquiries. By doing so, customer satisfaction will be improved. H1d demonstrated that there is a positive correlation between empathy and customer satisfaction ($\beta = 0.196$, $P = 0.05$). In view that empathy will affect customer satisfaction, mobile service providers must pay individual attention to customers and understand their and their specific needs and heart's desire, which will help them to heighten the customers' satisfaction. H1e showed that there is a significant relationship between tangibles and customer satisfaction ($\beta = 0.242$, $P = 0.05$). This positive relationship is most probably due to from customers' perspective, the physical facilities of their service providers are important for the customer and it will affect the customers' satisfaction.

Overall, H1 was partially accepted. This research finding is partially supported by Harr (2008) who demonstrated that service quality is the antecedent to customer satisfaction regardless the construct is measured according to the past or present experience.

5.2. The Relationship between Customer Satisfaction and Customer Loyalty

Hypothesis 2 indicated that there is a significant relationship between customer satisfaction with customer loyalty ($\beta = 0.415$, $P = 0.01$). This research finding supported

previous studies conducted by Kim et al., 2004 which demonstrated that customer satisfaction is positively correlated with customer loyalty. Hence, mobile service providers must develop a marketing strategy with service quality oriented in order to enhance customer satisfaction and thus heighten customer loyalty. In addition, service providers can implement some reward programs to increase the benefits of subscription and offers extra talk time credit and free Short Message Service (SMS) for every reload.

4. CONCLUSION

Although here aren't lots of player in Taiwan's mobile telecom market, the competition among them are intensive than ever. They compete not only in network quality by a large of amount of investment in network extension but also in customer satisfaction and loyalty. Hence, service quality, customer satisfaction and also customer loyalty would be critical factor in this emerging market.

The aim of this research was to indentify relationship between service quality and customer satisfaction and investigate the relationship between customer satisfaction and customer loyalty in Taiwan mobile user by applying existing theory. Regarding the result , responsiveness of the customer service as the most important service quality dimensions for Taiwan Mobile user. And another dimension followed by tangibles, empathy and assurance. Therefore, Taiwan mobile should pay more attention to the service quality dimensions in order of importance while delivering services to their customers. In contrast, service quality dimensions of reliability should be less focus by Taiwan mobile service providers in their efforts to improve customer satisfaction. In so doing, Taiwan Mobile will be able to raise the quality of service delivered, enhance customer satisfaction, and ultimately achieve customer loyalty.

Future research should further examine these dimension and relationship in Taiwan with additional sample before generalization can be made. And also consider another factor that possible to influence customer satisfaction to provide more useful suggestions for mobile telecom service provider.

5. REFERENCES

1. Anderson E. W. (1994) "Cross-category variation in customer satisfaction and retention," *Marketing Letters*, vol. 5, pp. 185-204.
2. Dimitriadis, Zoe S. (2006) "Customer satisfaction, loyalty and commitment in service organizations: Some evidence from Greece", *Management Research News*, Vol. 29 Iss: 12 pp. 782 – 800.
3. Eggert, W. (2002) "Customer perceived value: a substitute for satisfaction in business markets?," *Journal of Business and Industrial Marketing* vol. 17, pp. 107-18.
4. Fornell, C, Johnson, M.D., Anderson, E.W., Cha, J. and Bryant, B.E. (1996) "The American customer satisfaction index: nature, purpose, and findings." *Journal of Marketing*, vol. 60, pp. 7-18.
5. Frost and Sullivan. (2007) "Mobile Number Portability (MNP) - Friend or Foe?" Available: <http://www.frost.com/prod/servlet/market-insight-top.pag?docid=93299286>.
6. Harr. K. K. L. (2008) "Service dimensions of service quality impacting customer satisfaction of fine dining restaurants in Singapore." Thesis, University of Nevada, Las Vegas.
7. James E. Whaley, David Hurwitz, Tasha Hicks and Christine G.D. Schaefer. (2011) "The Importance of Customer Loyalty: Delivering High Customer Retention Rates." *ExecBlueprints*, page 13.
8. John T. Bowen, Shiang-Lih Chen. (2001) "The relationship between customer loyalty and customer satisfaction", *International Journal of Contemporary Hospitality Management*, Vol. 13 Iss: 5 pp. 213 – 217.
9. Jones, W.E. Jr. (1995) "Why satisfied customers defect," *Harward Busines Review*" vol. 73, pp. 88-99.
10. Kim, M. Park, M. and Jeong, D. (2004) "The Effects of Customer Satisfaction and Switching Barrier on Customer Loyalty in Korean Mobile Telecommunication Services," *Telecommunications Policy*, vol. 28, pp. 145-159.
11. Kotler, P. Armstrong, G. and Cunningham, P.G.. (2002) "Principles of Marketing" Prentice-Hall, Englewood Cliffs, NJ.
12. Mokhtar, A. A. Maiyaki, N. M. Noor. (2011) "The Relationship Between Service Quality and Satisfaction on Customer Loyalty in Malaysian Mobile Communication Industry". *School of Doctoral Studies (European Union) Journal* , pp 30-39.
13. Parasuraman, A, Zeithaml, V. A. and Berry, L.L. (1998) "SERVQUAL : A multiple-item scale for measuring consumer perceptions of service quality." *Journal of Retailing*, vol. 64, pp. 12-40.
14. Podvysotskiy, Y. (2006) "An Investigation Of The Effect Of Mobile Number Portability On Market Competition". *Economics Education and Research Consortium*.
15. Reidenbach, E. R , Sandifer-Smallwood, B. (1990) "Exploring perceptions of hospital operations by a modified SERVQUAL

- approach. ," *Journal of Health Care Marketing*, vol. 10, pp. 47-55.
16. Rust R. T., Zahorik, A.J. and Keiningham, T.L. (1995) "Return of quality (ROQ):making service quality financially accountable." *Journal of Marketing*, vol. 59, pp. 58-70.
 17. Sekaran, U. (2003) "Research Methods for Business: A Skill Building Approach." Wiley, Singapore.
 18. Sivadas, (2000) "An Examination of the Relationship Between Service Quality, Customer Satisfaction, and Store Loyalty," *International Journal of Retail & Distribution Management*, vol. 28, pp. 73-82.
 19. Vanniarajan, T. A. G., (2009). "Service Quality and Customer Loyalty in Cellular Service Market: An Application of 'Sem' ," *Journal of Marketing & Communication*, vol. 5, pp. 45-54.
 20. Wal ,R W. E., Van der, Pampallis, A and Bond, C. (2002) "Service Quality in a Cellular Telecommunications Company: A South African Experience," *Managing Service Quality*, vol. 12, pp. 323-35.
 21. Wang, Y. and Lo, H. (2002) "Service Quality, Customer Satisfaction and Behavior Intentions: Evidence from China's Telecommunication Industry," *Journal of Policy, Regulation and Strategy for Telecommunications*, vol. 4, pp. 50-60.
 22. Yao, H, H. (2006) "Examining Determinant Factors onCustomer Repatronage towards Thrid-Generation Mobile Service - an Emperical Study on the Internet Users," Unpublished MBA Thesis, National YunlinUniversity of Science & Technology, Taiwan.
 23. Zeithaml, V, A. Berry, L.L. and Parasuraman, A. (1996) "The behavioral consequences of service quality." *Journal of Marketing*, vol. 60, pp. 31-47.