THE MEDIATING ROLE OF SATISFACTION IN DEVELOPING CUSTOMER LOYALTY IN THE MALAYSIAN TELECOMMUNICATION INDUSTRY

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ABSTRACT

Customer loyalty has been a highly sought topic to enable growth and competition in the current market. Stiff competition in the telecommunication industry has caused telephone companies in Malaysia to compete with each other to gain customer loyalty with the aim of becoming a major service provider in the industry. While companies have strived to maintain their customers, issues related to customer loyalty arises when the total mobile subscriptions and penetration rate in Malaysia decreased in 2016 and the first quarter of 2017. With difficulties in differentiating their services, customer loyalty is essential in increasing profitability and achieving long term success in the service industry. Previous studies showed that limited studies have been conducted in Malaysia on customer loyalty towards the telecommunications industry. Thus, this study aims to fill the contextual gap by investigating the effects of the independent variables and mediating effects of satisfaction. In addition, this study intended to investigate perceived quality and satisfaction that influence customer loyalty and perceived quality that influences satisfaction. It also aimed to investigate the influence of satisfaction as a mediator between perceived quality and customer loyalty. Partial Least Squares (PLS) was used to analyze the data. A total of 531 questionnaires were distributed and 431 questionnaires were returned and usable. The findings showed that perceived quality and satisfaction influenced customer loyalty, whereby perceived quality also influenced satisfaction. Satisfaction also mediated the relationship between perceived quality and customer loyalty. The outcome of this study can be used by telephone companies to enhance and improve customer loyalty by providing an excellent service that meets the customers' expectations in the context of the telecommunication industry in Malaysia.

Keywords: Customer Loyalty, Telecommunication Industry, Perceived Quality, Satisfaction and Expectancy Disconfirmation Theory (EDT).

INTRODUCTION

The telecommunication sector in Malaysia was established by Syarikat Telekom Malaysia Berhad (STM) as the first telecommunication provider. The reforms of the telecommunication industry had led to the increase of fixed line penetration ratio and mobile cellular subscription (Lee, 2002). Meanwhile, greater opportunities in the telecommunication sector increased the number of new entrants in the market. Currently, there are four main telecommunication companies in Malaysia, namely Maxis Bhd (Maxis), Celcom Axiata Berhad (Celcom), Digi. Com Bhd (Digi) & U Mobile Sdn. Bhd (U Mobile). The Malaysian Communications and Multimedia Commission (MCMC) is the primary telecommunications

regulator in Malaysia (Macropolis, 2015). Customer loyalty has received attention from previous researchers in different contexts, such as the banking industry, hotel industry and retail industry. However, not much research has been done to investigate customer loyalty in the mobile telecommunication industry. This study tries to fill the contextual gap in the telecommunication industry in Malaysia.

Customer loyalty plays an essential role in the service sector, especially the telecommunication industry in achieving long term success. Most importantly, the service provided is intangible and thus it is vital for the telephone company (telco) to maintain a good relationship with its customers. Pearson (1996) mentioned that customer loyalty can be defined as the commitment to repurchase a product or service in the future. The emergence of new telco increases competition in the telecommunications industry.

According to the report conducted by the Malaysian Communication and Multimedia Commission (MCMC) (2017), the total mobile subscriptions and penetration rate in 2015 was 143.8 million, which declined to 141.3 million in 2016. This showed a decrease of 2.5 million or 1.8% in 2016. Moreover, the total mobile subscriptions and penetration rate in the first quarter of 2017 was 134 million compared to 141.3 million in 2016. Specifically, it showed a decline of 7.3 million or 5.4% in the first quarter of 2017. All in all, the report demonstrated that total mobile subscriptions and penetration rate in Malaysia had dropped consequently in 2016 and the first quarter in 2017.

Additionally, there are many inconsistent factors that influenced customer loyalty in the context of the telecommunication industry. However, limited studies have been conducted by researchers to investigate the relationship between perceived quality (Santouridis & Trivellas, 2010), satisfaction (Lin & Wang, 2006) and customer loyalty (Ram & Wu, 2016). Thus, perceived quality, satisfaction and customer loyalty should be studied in the context of the telecommunication industry.

Similarly, it is crucial to investigate the influence of perceived quality, satisfaction and customer loyalty in the context of the telecommunication industry in Malaysia. This study investigated the mediation effect of satisfaction on the link between perceived quality and customer loyalty. This examination allows telephone companies to enhance their understanding on the relationship between perceived quality, satisfaction and customer loyalty in Malaysia.

LITERATURE REVIEW

Customer Loyalty

Oliver (1999) defined customer loyalty as the willingness of customers to repurchase products or services in future visits. Customer loyalty is a process which focuses on the behavior and attitude of the customer. Dick & Basu (1994) explained two perspectives of customer loyalty, including behavioral loyalty and attitudinal loyalty. Behavioral loyalty is the commitment of a customer to purchase a product or service, while attitudinal loyalty is the involvement of a customer in providing word of mouth to their friends and associates. Additionally, Kim et al. (2004) mentioned that one of the factors to achieve long term success is customer loyalty. Through loyal customers, a telco can improve its profitability and achieve long-term success (Ram & Wu, 2016). Izogo (2017) expressed that a nurturing relationship with the customer is essential in creating a loyal customer.

Perceived Quality

Perceived quality is the evaluation of a customer on the overall quality of the product or service (Zeithmal, 1988). Alhaddad (2015) further explained perceived quality as the actual experience of the customer. Beerli et al. (2004) pointed out that one of the critical elements in perceived quality is customer decision-making. In addition, perceived quality is a component of customer satisfaction, which depends on the product or service provided by the organization. Specifically, there are three measures of perceived quality, including overall quality, reliability and customer expectation. Santouridis & Trivellas (2010) mentioned that perceived quality is essential in attaining customer loyalty. According to Zahir et al. (2015), the quality of a product or service is important and is a basic requirement for an organization to gain competitive advantage by providing an excellent product or service to its customers.

Satisfaction

Oliver (1981) refers to satisfaction as the emotional reaction of a customer towards a specific product or service experience. Emotional reaction is a customer's perceived performance of a product or service with his or her expectation. According to Aydin et al. (2005), satisfaction is the comparison between expected performance and actual performance. There are two conceptualizations of satisfaction, which includes transaction-specific satisfaction and cumulative satisfaction. Transaction-specific specialization is the evaluation of a customer based on a specific purchase occasion, while cumulative satisfaction is the overall evaluation of a customer based on total purchase and consumption experience. Moreover, an organization with value-added services would increase customer satisfaction and positive word of mouth. Satisfaction is a strong predictor of customer loyalty, which in turn leads to future business income and return (Santouridis & Trivellas, 2010).

Expectancy Disconfirmation Theory

The underpinning theory in this study is the expectancy disconfirmation theory (abbreviated as EDT). The EDT supports this research by providing a link between perceived quality, satisfaction and customer loyalty. The variables of EDT are expectation and experience, which refers to different time periods. A customer's initial expectation in the pre-purchase time can be known as customer expectation, while customer experience is formed after perceiving real performance after-purchase. Therefore, disconfirmation of expectation is the difference between initial expectation and perceived experience (Elkhani & Bakri, 2012). According to Elkhani & Bakri (2012), there are three types of disconfirmation, including positive disconfirmation, negative disconfirmation and simple disconfirmation. Positive disconfirmation occurs when the perceived performance of a product or service exceeds the customer's expectation, while negative disconfirmation is the actual performance of a product or service that does not meet the customer's expectation. In addition to positive and negative disconfirmation, simple disconfirmation occurs when there is no difference between the customer's expectation and actual performance of the product or service. EDT has been applied in the telecommunication industry to understand a customer's expectation and satisfaction. This was proven by Cudjoe et al. (2015) in Ghana & Abubakar (2016) in Nigeria.

Conceptual Framework and Hypotheses Development

Figure 1 demonstrates the conceptual framework of this study. This model suggests perceived quality and satisfaction as the predictor of customer loyalty, while satisfaction is the mediator between perceived quality and customer loyalty.
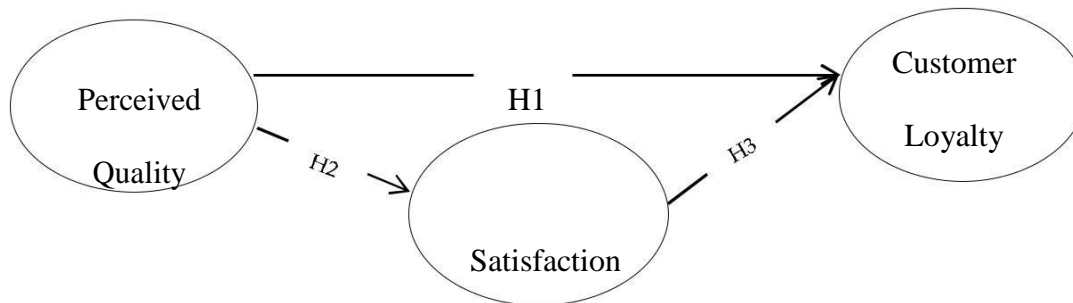

FIGURE 1
CONCEPTUAL FRAMEWORK

Perceived quality is shown to be a great influence, where it positively and significantly influences customer loyalty. Previous studies in the banking industry conducted by Zahir et al. (2015) in Malaysia et al. (2016) in Vietnam & Magasi (2016) in Africa found that perceived quality influences customer loyalty. Alhaddad (2015) found that perceived quality plays an important role and has a positive relationship on customer loyalty in the Syrian retail industry. Several researchers have conducted studies in the hotel industry, such as Olorunniwa et al. (2006) and Liang (2008) in United States, who found that perceived quality influences customer loyalty.

Moreover, previous studies conducted in the banking industry by Beerli et al. (2004) in Spain, Ushanta et al. (2014) in Sri Lanka, and Quyet et al. (2015) in Vietnam proved that perceived quality significantly influences customer satisfaction. Iglesias & Guillen (2004) found that perceived quality influences customer satisfaction in Spain's hospitality industry. Similarly, Ho et al. (2006) who conducted a study on Vietnam's hospitality industry reported the same positive relationship between perceived quality and customer satisfaction. In addition to the hospitality industry, the telecommunication industry also reported that perceived quality has a significant impact on satisfaction (Aydin & Ozer, 2005).

Satisfaction was found to be a strong predictor of customer loyalty. Previous studies conducted on the telecommunication industry found that satisfaction will result in high levels of customer loyalty. This was proven by Aydin et al. (2005) in Turkey, Ram & Wu (2016) in China, and Santouridis & Trivellas (2010) in Greece's telecommunication industry. Lin & Wang (2006) revealed that satisfaction directly influenced customer loyalty in Taiwan's mobile commerce. A study on the retail industry by Beneke et al. (2012) in South Africa also indicated a positive relationship between customer satisfaction and customer loyalty.

There were various previous studies conducted which examined the mediating roles of satisfaction. In contrast, there were only few studies conducted on satisfaction as a mediator between perceived quality and customer loyalty. Studies conducted by Bloemer et al. (1998) and Caruana (2002) in the banking industry showed that perceived quality is a predictor of customer loyalty through the mediating role of satisfaction. A study conducted by Chumpitaz &

Paparoidamis (2004) in the business-to-business context also found that satisfaction mediates the relationship between perceived quality and customer loyalty. Based on the preceding discussion, the hypotheses were proposed as follows:

H1: Perceived quality has a positive influence on customer loyalty in the context of the telecommunication industry.

H2: Perceived quality has a positive influence on satisfaction in the context of the telecommunication industry.

H3: Satisfaction has a positive influence on customer loyalty in the context of the telecommunication industry.

H4: Satisfaction mediates the relationship between perceived quality and customer loyalty in the context of the telecommunication industry.

METHODOLOGY

Sampling Design

The sample of this study focused on University Utara Malaysia (abbreviated as UUM) students. The primary source of UUM students from this study was from the department of academic affairs, and the total number of UUM students is 30,297. Only undergraduate and postgraduate students aged 20 years and above attending higher institution and users of telco products for more than one year were included in the sampling frame. Probability sampling was used to collect the data. This means that the respondents had an equal chance to be selected (Sekaran & Bougie, 2009). Moreover, stratified random sampling was used in this study when the population contains different groups, for instance undergraduate and postgraduate students in UUM (Salkind, 2012; Wang, 2016; Dagustani et al., 2016; Bittar, 2017; Hossain et al., 2017; Gajere, 2018). A filter question was included in the questionnaire to identify the product users of less than one year. The data was analyzed using Partial Least Squares (PLS). According to Krejcie & Morgan (1970), the minimum sample requirement for this study is 379. A total of 531 questionnaires were distributed and 431 questionnaires or 81.17% were successfully returned and usable.

Research Procedure

This study primarily used the quantitative approach whereby the main purpose was to investigate the relationship between perceived quality, satisfaction and customer loyalty towards the telco. A questionnaire which adopted a five-point Likert-scale ranging from 1 ("*strongly disagree*") to 5 ("*strongly agree*") was developed and distributed to the respondents. The questionnaire was divided into two sections. Section A includes questions measuring the demographic background of the respondents, while section B consists of information regarding factors influencing customer loyalty in a telco such as perceived quality and satisfaction. In addition to that, all items were adapted from previous studies and modified to suit the context of this study. Six items were adapted from Beerli et al. (2004) to measure perceived quality. Another six items to measure satisfaction were adapted from Aydin et al. (2005) and Clemes et al. (2013). Customer loyalty was measured using five items adapted from Aydin & Ozer (2005) and Izogo (2017). A pre-test was conducted among an academician and five students to ensure

that there was no wording and measurement error. Apart from the pre-test, a pilot test was conducted among 30 students to assess the reliability of the dependent and independent variables. Cronbach's alpha for pilot test ranged from 0.733 and 0.848. Additionally, the result of the pilot test revealed that the values of Cronbach's alpha for all the constructs were higher than the threshold of 0.7, which indicated a consistency of items as suggested by Nunnally & Bernstein (1994). Table 1 shows the Cronbach's alpha for each variable in the study.

Table 1 CRONBACH'S ALPHA FOR EACH VARIABLE	
Variables	Cronbach's alpha
Customer loyalty	0.733
Perceived quality	0.848
Satisfaction	0.738

DATA ANALYSIS AND RESULTS

According to the analysis of results, most of the respondents were female with the frequency level of 69% compared to the male respondents (31%). In terms of the respondents' age, majority were in the age bracket of 21-30 years old (67%), followed by 20 years old (28.8%). Thereafter, majority of the respondents were undergraduate students (73.3%) and only 26.7% were postgraduate students. Majority of the respondents had switched to another telco 1-3 times (58%), followed by 36.9% of respondents staying loyal with their current telco. Confirmatory Factor Analysis (CFA) was used to evaluate the measurement model, representing the outer model in PLS. Maria & Yusniza (2016) mentioned that the purpose of the measurement model is to evaluate the reliability and validity of variables. In addition, all items in this study used the reflective measurement. The measurement model indicated the convergent validity, discriminant validity and the reliability (Cronbach's alpha). Table 2 exhibited the results of accuracy statistics.

As shown in Table 2, loadings of all items should be more than the suggested value of 0.5 (Hair et al., 2006; Romli & Ismail, 2014; Skowron & Gasior, 2014; Semnani et al., 2015; Wahab, 2016). Factor loadings in this study met the specification of the recommended value of 0.5 which ranged from 0.644 to 0.825. Hair et al. (2017) stated an AVE exceeding 0.5 explained that more than half of the variance happened because of its indicators. The result shows that the AVE of this study was between 0.519 and 0.590. Meanwhile, the CR values were between 0.866 and 0.886, which was more than 0.7 as suggested by Fornell & Larcker (1981). Nunally & Bernstein (1994) explained that alpha values should exceed 0.6. All variables in this study represented good reliability with the Cronbach's alpha between 0.813 and 0.846. In addition, the mean demonstrates an average scale between 3.582 and 3.679, which were above the minimum scale of 1 and below the maximum scale of 5 (Sekaran & Bougie, 2009). According to Sekaran & Bougie (2009), the standard deviation is the dispersion for interval and ratio scaled data to see the variability in a data set. Table 2 shows the standard deviation of this study, which was between 0.556 and 0.718. Thus, all items fulfilled the requirement of reliability and convergent validity.

According to Hair et al. (2017), discriminant validity refers to items measuring different concepts. Specifically, this first approach of discriminant validity described that an indicator must be greater than the cross loading on the other construct, while the second approach can be measured by comparing the square root of AVE value for each construct. Table 3 indicates the results of discriminant validity. Figure 2 displays the measurement model diagram.
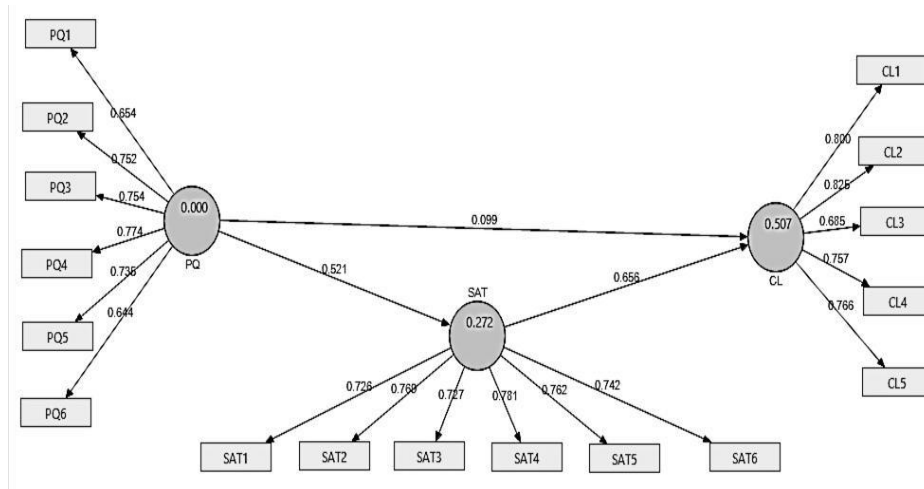
FIGURE 2
MEASUREMENT MODEL

Table 2 CONVERGENT VALIDITY							
Constructs	Items	Loadings	AVE	CR	Cronbach's Alpha	Mean	Standard Deviation
Customer	CL1	0.800	0.590	0.878	0.826	3.582	0.556
loyalty	CL2	0.825					
	CL3	0.685					
	CL4	0.757					
	CL5	0.766					
Perceived	PQ1	0.654	0.519	0.866	0.813	3.679	0.595
quality	PQ2	0.752					
	PQ3	0.754					
	PQ4	0.774					
	PQ5	0.735					
	PQ6	0.644					
Satisfaction	SAT1	0.726	0.565	0.886	0.846	3.609	0.718
	SAT2	0.769					
	SAT3	0.727					
	SAT4	0.781					
	SAT5	0.762					
	SAT6	0.742					

Note: a. Composite reliability (CR)=(square of the summation of the factor loadings)/(square of the summation of the factor loadings)+(square of the summation of the error variances); b. Average variance extracted (AVE)=(summation of the square of the factor loadings)/(summation of the square of the factor loadings)+(summation of the error variances).

Table 3 RESULTS OF DISCRIMINANT VALIDITY ANALYSIS			
Constructs	CL	PQ	SAT
CL	**0.768**		
PQ	0.440	**0.72**	
SAT	0.707	0.521	**0.752**

Note: The value in the diagonal (in bold) is the square root of AVE.

Key: CL=Customer Loyalty, PQ=Perceived Quality, SAT=Satisfaction.

The structural model was the second approach used in conducting CFA. According to Hair et al. (2017), the structural model is used to explain the relationship between the constructs. Maria & Yusniza (2016) mentioned that the purpose of the structural model is to test the hypothesis using bootstrapping procedure. Particularly, the value between constructs is indicated by beta value (β) and t-statistics (t-value). An evaluation of the structural model is essential to determine the significance of the structural path coefficient, while path coefficient is examined through the bootstrapping procedure (Hair et al., 2017). The results of the structural model displayed in Table 4 indicated that perceived quality exhibited a strong influence (β=0.099, t-value=2.413, p<0.05) on customer loyalty. The finding was in accord with the previous studies conducted by Zahir et al. (2015) and Minh & Huu (2016). Perceived quality also exhibited a strong influence (β=0.521, t-value=13.401, p<0.05) on satisfaction. The result was aligned with previous studies conducted by Aydin & Ozer (2005) and Lai & Chou (2010). Moreover, satisfaction demonstrated a strong influence (β=0.656, t-value=16.400, p<0.05) on customer loyalty. The result was in line with previous studies conducted by Santouridis & Trivellas (2010) and Clemes et al. (2013). Thus, we find support for *H1*, *H2* and *H3*.

Table 4 RESULT OF STRUCTURAL MODEL					
Hypothesis	**Relationship**	**Standard beta**	**Standard error**	**T-value**	**Decision**
H1	PQ-CL	0.099	0.041	2.413	Supported*
H2	PQ-SAT	0.521	0.039	13.401	Supported*
H3	SAT-CL	0.656	0.040	16.400	Supported*

Note:*p<0.05.

This study followed the steps suggested by Preacher & Hayes (2004) in testing the mediation effect of satisfaction between perceived quality and customer loyalty. Firstly, an estimation of indirect effect a and b, standard error and both indirect effects interval at 95% confidence interval was conducted using bootstrapping procedure. In addition, paths a and b represent the β value of the relationship between perceived quality and satisfaction and satisfaction and customer loyalty. Preacher & Hayes (2004) explained mediator as the relation between predictor and criterion, for instance one variable (M) mediates the relationship of X on Y. Therefore, the significance of each path a and b are the requirement to test the mediating effect in this study. There are two assumptions to claim that mediation has occurred. Firstly, the mediator (M) should have no measurement error and Y should not cause (M) and secondly, mediation is determined by the design of the study to draw the validity of conclusions (Preacher & Hayes, 2004). Table 5 demonstrated the results of the mediation effect of satisfaction. The bootstrapped estimate of the indirect effects was estimated to lie between 0.281 and 0.403 with 95% confidence interval because zero was not in the 95% confidence interval. Therefore, *H4* was supported, in which satisfaction mediated the relationship between perceived quality and customer loyalty. This result was consistent with the works of Bloemer et al. (1998) and Caruana (2002). In addition, the structural model diagram is shown in Figure 3.

Hypothesis	Relationship	Path a	Path b	a*b	Standard error	T-value	Bootstrapped confidence interval		Decision
							95% Lower Limit	95% Upper Limit	
H4	PQ-SAT-CL	0.521	0.656	0.342	0.031	11.001	0.281	0.403	Supported*

Table 5
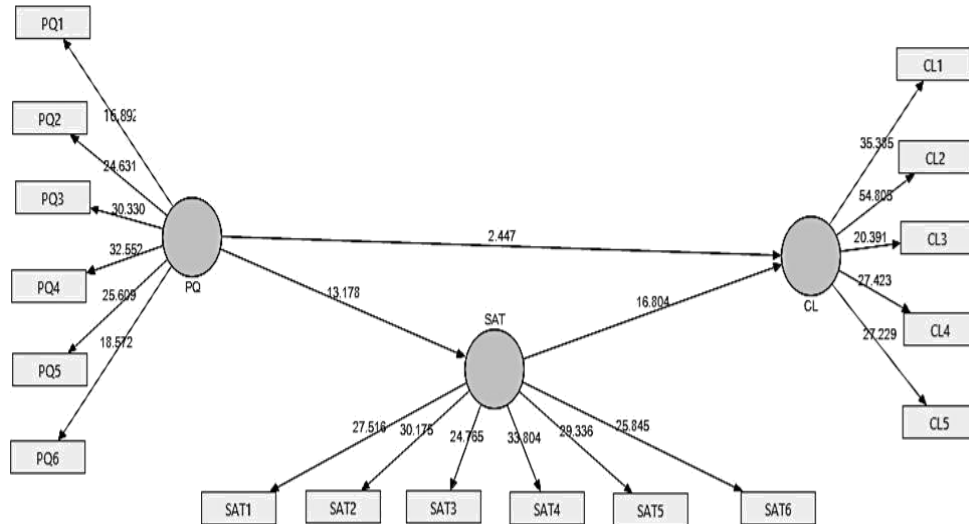RESULTS OF MEDIATION EFFECT OF SATISFACTION

Note: *p<0.05

FIGURE 3
STRUCTURAL MODEL

DISCUSSION AND CONCLUSION

This study summarized four hypotheses in total and it showed that all hypotheses were supported. The results of this study revealed the importance of perceived quality and satisfaction in influencing customer loyalty in the telecommunication context. The result aligned with previous studies conducted by Zahir et al. (2015) and Minh & Huu (2016), in which perceived quality influences customer loyalty. It is believed that a telco which provides an excellent service would increase customer loyalty, such as courtesy in providing their service, willingness to help and the ability to solve the customer's problem. The customer evaluates a particular telco based on the overall quality provided by the company, and the customer would stay loyal with the company when the overall quality of the telco exceeds their expectation.

Furthermore, Aydin & Ozer (2005) and Lai & Chou (2010) further explained that perceived quality plays an important role in determining customer satisfaction. The telco must provide a product or service which is above the customer's expectation in order to increase satisfaction and create a pool of loyal customers. Satisfaction was found to be a great predictor of customer loyalty. The result was in line with Santouridis & Trivellas (2010) and Clemes et al. (2013), where satisfaction influenced customer loyalty. It is essential for a telco to provide good products and services to boost customer satisfaction and maintain good relationships with the

customers. In addition to the direct relationship, an indirect relationship also shows satisfaction as a mediator between perceived quality and customer loyalty. The result was consistent with previous studies conducted by Bloemer et al. (1998) and Caruana (2002), which stated that satisfaction mediates the relationship between perceived quality and customer loyalty. A customer tends to stay loyal with a company when an excellent, quality product meets customer satisfaction.

In sum, this research investigated factors that influence the telecommunication industry in UUM. Specifically, all hypotheses in this study were supported, in which perceived quality influenced customer loyalty, perceived quality influenced satisfaction, satisfaction influenced customer loyalty and satisfaction acted as a mediator between perceived quality and customer loyalty. The findings of this study supported EDT and provided empirical support for the model.

LIMITATIONS AND RECOMMENDATIONS

There are some limitations in this study. Firstly, the study was limited to UUM students and it is difficult to predict the actual behavior of customers in the whole country. Thus, future research may examine different universities to determine factors that influence customer loyalty in gaining an accurate outcome. Secondly, time was limited in collecting data within a huge sample size. The sample of this study was at least 379 and it took two months to collect data. Future research may require longer time in the data collection process. Additionally, a telco must provide excellent quality products or services to the customer in order to increase customer satisfaction, which in turn leads to customer loyalty towards the telco. Likewise, the results imply that a telco that provides excellent quality to the customer would create trust, satisfaction and word of mouth among customers. In particular, the telco must develop strategies to increase mobile subscriptions and penetration rate by using the findings of this study. An understanding of the customer would lead to a better understanding of the customer's needs in providing a product or service in the future. Thus, it is crucial to understand the influence of perceived quality and satisfaction in the customer's perspective as it will provide some insights on ways to develop customer loyalty in the context of the telecommunication industry.

THEORETICAL AND PRACTICAL IMPLICATIONS

The outcome of this study improves research knowledge on customer loyalty, in which perceived quality act as the factors that influence customer loyalty and satisfaction as a key indicator mediating the relationship between perceived quality and customer loyalty in mobile service providers. It best explained that EDT proves perceived quality is the variable that enhances customer satisfaction and customer loyalty in telecommunication industry (Cudjoe et al., 2015) in Ghana & Abubakar (2016) in Nigeria. The empirical evidence enhances the body of knowledge in the context of mobile service providers in Malaysia.

Moreover, this research showed the factor that influences customer loyalty and the influence of satisfaction as a mediator between perceived quality in the context of mobile service providers. It enables service providers to enhance customer loyalty and maintaining a good customer relationship in the context of mobile service providers. As such, satisfaction and perceived quality are the driving force for service providers in achieving customer loyalty.

REFERENCES

Abubakar, A. (2016). Impact of perceived service quality by mobile telecommunication industry on customer satisfaction in Nigeria. *International Journal of Advanced Research, 4*(4), 845-852.

Alhaddad, A. (2015). Perceived quality, brand image and brand trust as determinants of brand loyalty. *Journal of Research in Business and Management*, *3*(4), 1-08.

Aydin, S., & Ozer, G. (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, *39*(7/8), 910-925.

Aydin, S., Ozer, G., & Arasil, O. (2005). Customer loyalty and the effect of switching costs as a moderator variable: A case in the Turkish mobile phone market. *Marketing Intelligence & Planning*, *23*(1), 89-103.

Beerli, A., Martin, J.D., & Quintana, A. (2004). A model of customer loyalty in the retail banking market. *European Journal of Marketing*, *38*(1/2), 253-275.

Beneke, J., Hayworth, C., Hobson, R., & Mia, Z. (2012). Examining the effect of retail service quality dimensions on customer satisfaction and loyalty: The case of the supermarket shopper. *Acta Commercii*, *12*(1), 27-43.

Bloemer, J., Ruyter, K.D., & Peeters, P. (1998). Investigating drivers of bank loyalty: The complex relationship between image, service quality and satisfaction. *International Journal of Bank Marketing*, *16*(7), 276-286.

Caruana, A. (2002). Service loyalty: The effects of service quality and the mediating role of customer satisfaction. *European Journal of Marketing*, *36*(7/8), 811-828.

Chumpitaz, R., & Paparoidamis, N.G. (2004). Service quality and marketing performance in business-to-business markets: exploring the mediating role of client satisfaction. *Managing Service Quality: An International Journal*, *14*(2/3), 235-248.

Clemes, M.D., Shu, X., & Gan, C. (2014). Mobile communications: Acomprehensive hierarchical modelling approach. *Asia Pacific Journal of Marketing and Logistics*, *26*(1), 114-146.

Cudjoe, A.G., Anim, P.A., & George, A.A. (2015). Effect of customers' satisfaction of service delivery on customers' retention of tigo telecommunication network (A Case of Abokobi-Madina Locality). *The International Journal of Business & Management*, *3*(1), 138-146.

Dick, A.S., & Basu, K. (1994). Customer loyalty: Toward an integrated conceptual framework. *Journal of the Academy of Marketing Science*, *22*(2), 99-113.

Elkhani, N., & Bakri, A. (2012). Review on "*Expectancy Disconfirmation Theory*" (EDT) Model in B2C E-Commerce. *Journal of Information Systems Research and Innovation*, *2*(12), 95-102.

Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50.

Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., & Tatham, R.L. (2006). *Multivariate data analysis* (Vol. 6): Pearson Prentice Hall Upper Saddle River. New Jersey.

Hair, J.F., Hult, G.T.M, Ringle, C.M., & Sarstedt, M. (2017). *A primer on partial least squares structural equation modeling (PLS-SEM),* (2nd Edition). USA: Sage Publication, Inc.

Ho, T.H., Olsen, S.O., & Duong, T.T. (2006). The relationship among perceived quality, consumer satisfaction and loyalty in the Vietnamese market for seafood. *IIFET*.

Iglesias, M.P., & Guillen, M.J.Y. (2004). Perceived quality and price: Their impact on the satisfaction of restaurant customers. *International Journal of Contemporary Hospitality Management, 16*(6), 373-379.

Izogo, E.E. (2017). Customer loyalty in telcom service sector: The role of service quality and customer commitment. *The TQM Journal, 29*(1), 19-36.

Kim, M.K., Park, M.C., & Jeong, D.H. (2004). The effects of customer satisfaction and switching barrier on customer loyalty in Korean mobile telecommunication services. *Telecommunications Policy*, *28*(2), 145-159.

Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, *30*(3), 607-610.

Lai, M.C., & Chou, F.S. (2010). The effect of experiential value, perceived quality and customer satisfaction on customer lifetime value: An example using Star Cruises. *Chinese Business Review*, *9*(11), 55-65.

Lee, C. (2002). Telecommunications reforms in Malaysia. *Annals of Public and Cooperative Economics*, *73*(4), 521-540.

Liang, D. (2008). The determining factors of customer loyalty for luxury hotels in US. *The Journal of International Management Studies, 3*(2), 167-175.

Lin, H.H., & Wang, Y.S. (2006). An examination of the determinants of customer loyalty in mobile commerce contexts. *Information & Management*, *43*(3), 271-282.

Macropolis. (2015). *Top telecom in Malaysia: Malaysia's largest telecoms*. Retrieved from, http://www.marcopolis.net/top-telecoms-in-malaysia-malaysia-s-largesttelecoms.htm

Magasi, C. (2016). Determinants of customer loyalty in Sub-Saharan African banking industry: An empirical review. *International Journal of Economics, Commerce and Management, 4*(2), 574-588.

Malaysian Communications and Multimedia Commission (MCMC). (2017). *Communication and multimedia: Pocket book of statistics*. Cyberjaya: AdspertSendirian Berhad.

Maria, A.R., & Yusniza, K. (2016). Predictors of customer Loyalty in the Malaysia hotel's outsourcing relationships. *International Review of Management and Marketing, 6*(S8), 205-211.

Minh, N.V., & Huu, N.H. (2016). The relationship between service quality, customer satisfaction and customer loyalty: An investigation in Vietnamese retail banking sector. *Journal of Competitiveness, 8*(2), 103-116.

Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric theory*. New York: McGraw Hill.

Oliver, R.L. (1981). Measurement and evaluation of satisfaction processes in retail settings. *Journal of Retailing, 57*(3), 25–48.

Oliver, R.L. (1999). Whence consumer loyalty? *Journal of Marketing, 63*(special issue), 33-44.

Olorunniwo, F., Hsu, M.K., & Udo, G.J. (2006). Service quality, customer satisfaction, and behavioral intentions in the service factory. *Journal of Services Marketing*, *20*(1), 59-72.

Pearson, N. (1996). Building brands directly: Creating business value from customer relationships. *Macmillan Business, 20*(6), 68-82.

Preacher, K.J., & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods*, *36*(4), 717-731.

Quyet, T.V., Vinh, N.Q., & Chang, T. (2015). Service quality effects on customer satisfaction in banking industry. *International Journal of u- and e- Service, Science and Technology, 8*(8), 199-206.

Ram, J., & Wu, M.L. (2016). A fresh look at the role of switching cost in influencing customer loyalty. *Asia Pacific Journal of Marketing and Logistics, 28*(4), 616-633.

Santouridis, I., & Trivellas, P. (2010). Investigating the impact of service quality and customer satisfaction on customer loyalty in mobile telephony in Greece. *The TQM Journal*, *22*(3), 330-343.

Ushanta, R.C., Wijeratne, A.W., & Samantha, P.A.P. (2014). Customers' Perception on Service Quality towards Satisfaction: An Application of SERVPERF in State Sector Banks in Sri Lanka. *European Journal of Business and Management*, *6*(4), 72-81.

Zahir, O., Liana, M., & Ratna, K.M. (2015). An empirical study of direct relationship of service quality, customer satisfaction and bank image on customer loyalty in Malaysian commercial banking industry. *American Journal of Economics, 5*(2), 168-176.

Zeithaml, V.A. (1988). Consumer perceptions of price, quality, and value: A means end model and synthesis of evidence. *The Journal of Marketing*, *52*(3), 2-22.