

A Study on Customer Satisfaction of Telekom Malaysia Broadband

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ABSTRACT

This research aims to investigate how price, service quality, and perceived value affect customer satisfaction among consumers of Telekom Malaysia broadband. This quantitative research distributed an online questionnaire to collect data from 271 current or former customers of Telekom Malaysia Broadband. The findings concluded that service quality and perceived value have significant positive relationships with customer satisfaction, whereas price possesses a significant negative relationship with customer satisfaction. The findings contribute to the continuous improvement on customer satisfaction among consumers of Telekom Malaysia broadband and other telecommunication providers by improving price, service quality, and perceived value.

Keywords: Customer Satisfaction, Perceived Value, Price, Telekom Malaysia Broadband, Service Quality

INTRODUCTION

Telekom Malaysia Berhad (TM) is the largest Malaysia's telecommunication company with more than 30 years of experience. Its origins can be dated back to the early 1920s, when British colonialists in Malaysia combined postal and telegraph facilities (Nikkei Asia, 2021). With a market share of 85.97% of all consumers, it is the largest broadband provider in Malaysia. Many Malaysians rely on TM network for their daily work and social activities and want better services (Malaysian Communication and Multimedia Commission (MCMC), 2021). In today's technology era, TM has become the largest fixed line service provider and dominates over 90% of the broadband market with its Streamyx and UniFi products (Nikkei Asia, 2021).

The ongoing COVID-19 pandemic is causing significant socioeconomic problems among Malaysians. Mandatory shutdowns and limited activities have influenced the way we live and work. This pandemic has affected business continuity, supply networks, and corporate growth across the business spectrum. This creates a sense of urgency for improved connection and digital solutions. People and organizations are increasingly using digital tools to manage their workloads, resulting in an unanticipated increase in fixed and mobile network traffic and access needs (Telekom Malaysia, 2021a). To offset the impact of COVID-19, Telekom Malaysia continues to constantly monitor the situation, aggressively examining alternative methods to reduce costs and Capital Expenditure (CAPEX) throughout the businesses. For instance, Crisis Communications Management Team and TM Covid-19 Crisis Response Team were established to assist TM's operations and maintain business sustainability and well-timed response to fulfil the needs of consumers (Telekom Malaysia Reports, 2021b).

Telekom Malaysia recently announced a 26% rise in net profit for the third fiscal quarter that ended on September 30, 2020, to RM329.4 million, owing in part to a trend toward working from home due to the Covid-19 epidemic (Idris, 2020). Although network utilization increased from March to November between 30% and 50% the current year, Telekom Malaysia reported its network stability during the CMCO period (Conditional Movement Control Order) due to network optimizations (Idris, 2020). While the crisis is still ongoing, Telekom Malaysia is dedicated to maintaining corporate profitability by tapping new channels at the outset of a "new normal" and adjusting to novel obstacles. Telekom Malaysia has established a large number of job opportunities in the nation, and it employed 21,000 employees in 2020 (Annual Report of Telekom Malaysia, 2020). Additionally, Telekom Malaysia is collaborating with other technology corporations to develop the country's internet and digital economy. Both parties will work together on several initiatives, drawing on each other's core knowledge and abilities to extend the reach of fiber broadband networks, in agreement with the government's goals to strengthen the national digital economy (MyHSR, 2018).

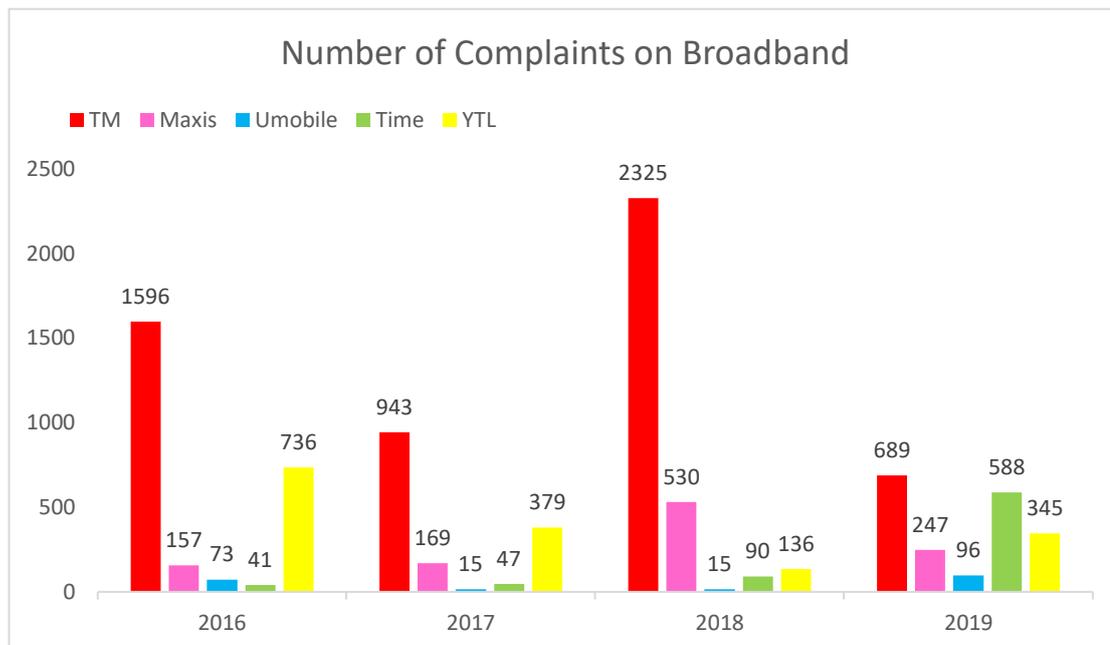


Figure 1. Number of Complaint on Broadband

Figure 1 shows that Telekom Malaysia has the highest customer complaints index from 2016 to 2019. From Figure 1, the red pillar represents Telekom Malaysia. Other pillars are divided into pink, blue, green and yellow that represent Maxis, Umobile, Time, and Yeoh Tiong Lay Corporation Berhad (YTL), respectively. Based on the annual report from Consumer Forum Malaysia (2016; 2017; 2018; 2019), TM have received 1,596 complaints from its users in the year 2016. Although in the year 2017, there was a significant drop to 943, compared with other companies, it still had the highest number of complaints. By the year 2018, the number of complaints had risen again to 2,325. Although, in 2019, the number dropped significantly to 689, it is still the highest among the providers. Even if the number of complaints against Telekom Malaysia fluctuates from year to year, it has still received the highest number of complaints from customers every year. According to the *New Straits Times* (2018), most of the complaints were centered on lack of UNIFI coverage, customers' dissatisfaction with pricing, service delivery, billing disputes, and UNIFI service disruption. For instance, there was a customer who complained about the difficulty in dealing with Telekom Malaysia, which led to the termination of the service (*The Star*, 2019). Apart from that, students residing in Kampung Langkuas in Kinarut experienced slow connectivity when they were having online classes (*Daily Express*, 2021). It was reported that since MCO 2.0, Telekom Malaysia recorded a 15% increase in Internet traffic usage (*The Star*, 2021). Therefore, it is really imperative that Telekom Malaysia should solve its problems and improve customer satisfaction with its services. Customer satisfaction should be the company's primary goal as it creates repeated purchases (Anderson & Sin, 2020).

This research paper studies the customer satisfaction among consumers of Telekom Malaysia broadband through the number of complaints. Besides that, the study hopes to enhance customers' satisfaction by observing and analyzing the problem. Our findings can lead to the continuous improvement in customer satisfaction among consumers of Telekom Malaysia broadband and other telecommunication providers by improving on the factors of price, service quality, and perceived value.

LITERATURE REVIEW

Customer Satisfaction

Marketing is very important to deliver goods and services to consumers that meet their needs and ensure overall customer satisfaction. It is the extent to which the company meets the needs, wants and expectations of customers (Perreault, Cannon, & McCarthy, 2019).

Customer satisfaction is shaped by comparing expectations and perceived service quality in the post-purchase phase (Kursunluoglu, 2011). At first glance, the main focus of customer satisfaction is on meeting customer needs and desires. The second perception is the difference between customer expectations and perceived quality, which determines the level of customer satisfaction. The expected state of a transaction is known as an expectation. Interactions, experiences, and emotions all contribute to the buying process. Although customer expectations are difficult to meet, they play an important role in customer satisfaction. Therefore, there is another perception that is more oriented to customer needs because it is easier to fulfill. Both perceptions express customer satisfaction with customer expectations of a product or service. This shows that expectations are a major factor in customer satisfaction. The higher the customer's expectations, the more frustrated they will be when reality does not live up to their expectations. Therefore, customer satisfaction will not be achieved if the customer does not get the desired quality.

In summary, it can be said that customer satisfaction is determined by the comparison between expectations and perceived service quality in the post-purchase phase. There are different definitions of customer satisfaction, namely the satisfaction of customer needs and desires, on the contrary, the differences in expectations and perceptions of quality. Although there are different definitions, what they have in common is that expectations play an important role in achieving customer satisfaction.

Price

Based on Kotler and Armstrong (2010), price refers to the money billed towards a product or service in exchange for the value or benefit a customer receives by using or having the product or service. Price is the amount of money or goods customers or individuals need in order to obtain other combinations of products and services (Stanton, Michael, & Bruce, 1994). Xia, Monroe, and Cox (2004) stated that price will be assessed by customers whether it is fair, acceptable, or reasonable before purchasing a product or service. Therefore, price is treated as an important element to influence or gain customer satisfaction (Herrmann, Xia, Monroe, & Huber, 2007). However, if customers encounter dissatisfaction in terms of price, they can switch to a substitute product or service that is offering a fair price. Hence, it can be concluded that dissatisfaction in terms of price can cause customers to switch to other service providers. Thus, although price can hold a customer for a longer duration or shorter duration, it also depends on the price fairness and price satisfaction that customers receive.

Service Quality

Service quality conveys customer evaluation of service they expect concerning the performance of companies. Companies that provide high-quality service are probably to be able to fulfill the expectations of their customers while still being economically competitive in their sector (Boundless, 2021). Service quality is commonly related to customer satisfaction as the customer's perception of service quality is important. However, perceptions regarding service quality are formed not simply from a single

source, but from a variety of contributing elements (Essays, Research Papers and Articles on Business Management, 2019). Simply put, customers assess service quality based on how much enjoyment they derive from service.

Perceived Value

Zeithaml (1988) defined perceived value as consumers' comprehensive evaluation of the product utility on the basis of what is obtained and what is sacrificed. And therefore, it is believed that perceived value positively affects customer satisfaction. It entails that when their perceived value is high, they tend to have high customer satisfaction. Also, perceived value starts from the process of pre-purchase to post-purchase, which the customer would have their expectation before purchasing, evaluating during purchase, and making comparison after purchasing the product. It is from that the customer will evaluate based on what is obtained and what is sacrificed. As defined by Monroe (1990), perceived value is a buyer's perception of value in trading off the price paid with the quality or benefit of the product. However, there are some different views from other researchers. For instance, Dodds, Monroe, and Grewal (1991) defined that the sacrifice is included monetary and non-monetary such as time and so on. Also, value perceived by customers includes the emotional value of feeling, quality and price, and social value of social impact from self-experiences and other alternatives. Hence, perceived value is evaluating whether it is equal in terms of what is sacrificed and what is obtained. It is because the perceived value is believed that would have a positive effect on customer satisfaction.

The Relationship between Price and Customer Satisfaction

Price is the only element in the marketing mix that produces revenue, the other elements produce cost. Price is the money paid for a product or service, or the sum of values customers give up in order to gain the benefit of using or having a product or service (Kotler & Armstrong, 2009). They will predict whether the product is worth the price or not based on the level of satisfaction they experience. Apart from that, price possesses a significant negative relationship with customer satisfaction. It indicates the higher the price, the more dissatisfied the customer will be; therefore, the lower the demand would be. The lower the price, the more satisfied customers will be, which can increase the demand. As a result, pricing decisions must be carefully considered. In short, we formulated a hypothesis:

H1: Price has a significant negative relationship with customer satisfaction.

The Relationship between Service Quality and Customer Satisfaction

Service quality is essential to determine customer satisfaction. As stated by Cronin and Taylor (1992), it is considered based on customer experience on a specific service encounter. It is also in accordance with the fact that service quality determines customer satisfaction. Service quality results from service providers in organizations. This implies that companies should work hard to achieve high customer satisfaction, especially for those considering a long-term relationship with customers as an asset (Szyndlar, 2021). Hence, investigating service quality becomes the main research in a company. Service quality and customer satisfaction are considered critical parts of a business. Company growth heavily relies on how it maintains the customers through its service (Ben Davis, 2021).

Service quality will influence customer satisfaction. The better the service quality, the better the customer satisfaction. It will elevate the loyalty, impression, and happiness of customers. Generally, service quality is about customer comparison of service expectations as it relates to company performance. Business entities with excellent

service quality highly will meet customer needs while remaining economically competitive. With such service quality, TM Broadband can become more competitive in their market.

The relationship between service quality and customer satisfaction has been investigated. Both are indeed independent but are closely related. The rising of one variable will lead the other. The service quality plays a vital role in attaining customer satisfaction. Companies should focus on service quality to achieve their target and success. This leads to our hypothesis:

H2: Service quality has a significant and direct positive relationship with customer satisfaction.

The Relationship between Perceived Value and Customer Satisfaction

Economic, emotional, and social values are three dimensions of the customer's perceived value model in the telecommunication industry (Woodruff, 1997). Concept value and value of money are increasingly fundamental components of strategic thinking in economic dimensions (Woodruff, 1997). The relevance of perceived value was being more recognized of its dual role, which has an impact on not just during the pre-purchase phase, but also the post-purchase phase in terms of customer happiness, recommendation intent, and return behavior (Dodds et al., 1991).

People will only repurchase based on their valuation. Therefore, perceived value helps to provide a competitive edge (Doyle, 2000). Customers who perceive value in economic terms that cost charged by a particular service provider is relatively low compared to competitors, satisfaction rises (Sweeney & Soutar, 2001). In addition, the emotional reaction varies from satisfaction. It is a response to a service purchase, while satisfaction is a response to a service experience (Petrick, 2002). In short, emotional response refers to how the products or services made consumers feel about it. More satisfied consumers with the service experience are more likely to repurchase and recommend the product they recently purchased (Zeithaml, Berry, & Parasuraman, 1996). Moreover, social value is about the ability to enhance one's self-concept through service, which means that users evaluate items and services not just by hedonic and utilitarian qualities (enjoyment and functional performance) but also by social value (social consequences) defined by Sweeney and Soutar (2001). A high level of social value boosts users' satisfaction and enhances their likelihood of making a purchase. Hence, social value is a significant predictor of users' happiness and purchase intent. As a conclusion, we hypothesized:

H3: Perceived value has a significant and direct positive relationship with customer satisfaction.

Figure 2 shows the research framework in this research study. The independent variables comprise price, service quality, and perceived value. The dependent variable is customer satisfaction.

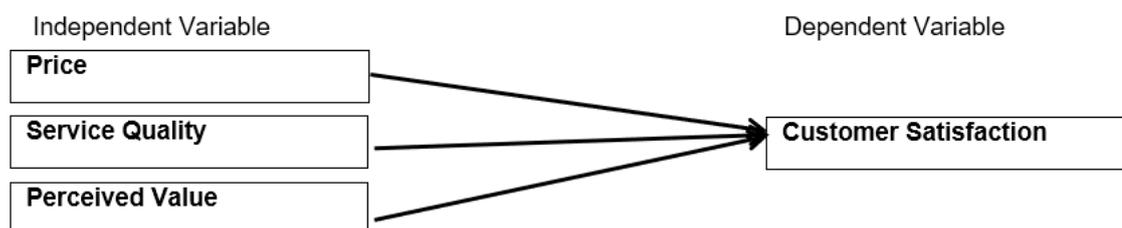


Figure 2. Research Framework

RESEARCH METHOD

Research methodology is a method or architectural design that researchers use to plan out a problem-solving or problem-finding approach (Buckley & Chiang, 1976). Quantitative research is the way to study the relationships between variables to examine the goal. By using tools, variables can be ensuing in numerical information that can be examined through the use of statistical processes (Creswell, 2009). Quantitative strategies were used in this research because they involved complex experiments with many variables, combining causal pathways and the identification of the collective strength of various variables. According to Williams (2007), the steps to conduct quantitative research are as follows:

- a) Developing a problem statement
- b) Creating research hypothesis
- c) Conducting a literature review
- d) Executing a quantitative data analysis

The steps are aligned with the study to evaluate the relationship of price, service quality, perceived value, and customer satisfaction.

The target population of this research is all TM users in Malaysia, as our research purpose is to determine how price, service quality, and perceived value as the three variables affect customer satisfaction among TM broadband users. A questionnaire was given to 207 respondents, who were all TM users in Malaysia. Furthermore, a purposive sampling method was used. As defined by Etikan, Musa, and Alkassim (2016), a purposive sampling is a deliberate choice of a respondent-based on the requirement that the respondent possesses and it is a non-random technique, which does not depend on any theory or a set number of participants. Besides, a sample size of between 30 to 500 is required, and it is generally acceptable and enough for a quantitative study defined by Delice (2010). Hence, in this research, a sample size of 207 respondents is ample to achieve a good result.

Due to COVID-19, the primary data was collected online by distributing a total of 271 questionnaires to the targeted respondents. However, 207 of respondents are either former or current users of TM broadband, whereas 64 of them are neither TM broadband users. The Google form was designed, and the link was distributed to the targeted respondent, comprising the former and current TM broadband users through social media such as WhatsApp, Instagram, and Messenger. The allocated time frame for data collection was three days. Responses were checked from time to time to obtain the latest data from respondents.

Our research questionnaire comprises five sections. Section A, Section B, and Section C measure each independent variable. Section D measures the dependent variable, and Section E collects demographic data of the respondents.

In Section A, the measurement of price was used by Andreas, Kent, Frank, and Lan (2007) in the context of automobile purchases and was modified in this research. This measurement consists of three items in price perception and four items in price offer fairness. In Section B, to measure service quality, the measurement was developed by Sahadev and Edward (2011) with five items. In Section C, the measurement of perceived value was adopted from McDougall and Levesque (2000) with a total of three items. The measurement in Section A, Section B and Section C were measured with 5-point Likert Scale of 1 (Strongly Disagree) to 5 (Strongly Agree). In Section D, the measurement of

customer satisfaction was developed by Khan and Afsheen (2012) with a total of six items. The measurement for customer satisfaction was measured with 5-point Likert Scale of 1 (Strongly Dissatisfied) to 5 (Strongly Satisfied). For Section E, demographic data and demographic information, including gender, age, race, highest education level, and the period of customer experience with TM broadband were collected. The research instruments are summarized in Table 2.

Table 1. Research Instruments

Variables	Items	Cronbach's Alpha	Sources
Price Perception	3	0.80	Andreas et al. (2007)
Price Offer Fairness	4	0.95	
Service Quality	5	0.828	Sahadev and Edward (2011)
Perceived Value	3	0.912	McDougall and Levesque (2000)
Customer Satisfaction	6	0.788	Khan and Afsheen (2012)

RESULTS

The respondents comprised the former or current TM broadband users in Malaysia. The total number of questionnaires distributed was 271 sets. However, only 207 returned, with the response rate equal to 76.1%. Table 2 represents the details of the respondents.

Table 2. Respondent Profile

Demographic Variable	Category	Frequency	Percentage
Gender	Male	67	32.4
	Female	140	67.6
Age	12-20	51	24.6
	21-30	132	63.8
	31-40	12	5.8
	41-50	7	3.4
	51-60	5	2.4
Race	Malay	45	21.7
	Chinese	130	62.8
	Indian	29	14.0
	Others	3	1.4
Highest Education Level	Sijil Pelajaran Malaysia (SPM) and below	38	18.4
	Foundation/STPM/Matriculation	75	36.2
	/A-Level/Diploma	85	41.1
	Bachelor's Degree	7	3.4
	Master's Degree	2	1.0
Experience with TM Broadband	Doctorate Degree		
	Less than 1 year	40	19.3
	1 to 5 years	97	46.9
	More than 5 years	70	33.8

Partial Least Square (PLS) modeling using the SmartPLS 3.3.3 version was obtained and used as the statistical tool to investigate the measurement and structural model (Ringle, Wende, & Becker, 2015). This software was used as no normality assumption

is required and survey research is usually not normally distributed (Chin, Marcolin, & Newsted, 2003).

Anderson and Gerbing (1988) recommended a two-step approach to test the developed model. The first step was used to test the validity and reliability of the instruments (Hair, Risher, Sarstedt, and Ringle (2019) and Ramayah, Cheah, Chuah, Ting, and Mermon (2018). Afterward, the structural model was run to test the hypotheses.

The measurement model was carried out by assessing the loadings, average variant extracted (AVE) and the composite reliability (CR). The loadings values should be greater or equal to 0.5, AVE values should be greater or equal to 0.5, CR should be greater or equal to 0.7. Based on Table 3, the loadings are all higher than 0.5, the AVEs are all higher than 0.5, and the CRs are all higher than 0.7. All three criteria have been passed in this research. Besides, according to Hair et al. (2019), if the loadings are lower than 0.708, all the loadings are acceptable in these criteria.

Henseler, Ringle, and Sarstedt (2015) suggested the discriminant validity using the HTMT criterion. Franke and Sarstedt (2019) evaluated and analyzed it. The HTMT values should be ≤ 0.85 for the stricter criterion and ≤ 0.90 for the more lenient criterion. Data in Table 4 shows the HTMT values are all below 0.85. This indicates all respondents' have a good understanding that the four constructs were different. Both of these tests are taken into consideration to determine the measurement models' validity and reliability.

Table 3. Measurement Model

Constructs	Items	Loadings	AVE	CR
Price	P1	0.805	0.662	0.932
	P2	0.832		
	P3	0.845		
	P4	0.798		
	P5	0.772		
	P6	0.830		
	P7	0.810		
Service Quality	SQ1	0.842	0.728	0.931
	SQ2	0.860		
	SQ3	0.880		
	SQ4	0.827		
	SQ5	0.857		
Perceived Value	PV1	0.904	0.767	0.908
	PV2	0.810		
	PV3	0.909		
Customer Satisfaction	CS1	0.849	0.663	0.922
	CS2	0.794		
	CS3	0.865		
	CS4	0.793		
	CS5	0.753		
	CS6	0.826		

Table 4. Discriminant Validity (HTMT)

	1	2	3	4
Customer Satisfaction				

Perceived Value	0.826			
Price	0.762	0.788		
Service Quality	0.834	0.811	0.768	

Following Hair et al. (2019), we reported path coefficient, t-values, standard errors, and p-values for the structural model by using 5000 sample re-sample bootstrapping procedure (Ramayah et al., 2018). P-values were criticized by Hahn and Ang (2017). Since it was not a good criterion to test the hypothesis significance, they recommended using combination criteria like p-values, effect sizes, and confidence intervals. Table 5 summarizes the criteria we used to test the hypotheses.

First and foremost, we have assessed the effect of three independent variables on customer satisfaction. The R^2 was 0.689, which shows to us that all the three independent variables explain 68.9% of the variance in customer satisfaction. Price ($\beta = 0.193$, $p < 0.05$), service quality ($\beta = 0.418$, $p < 0.05$), and perceived value ($\beta = 0.301$, $p < 0.05$). Thus, H2 and H3 both have a significantly positive relationship related to customer satisfaction. Nevertheless, H1 is not supported.

Table 5. Hypothesis Testing Direct Effects

Hypothesis	Relationship	Std Beta	Std Error	T-Values	P-Values	BCI LL	BCI UL	F ²	VIF
H1	P → CS	0.193	0.092	2.112	0.035	0.020	0.374	0.049	2.360
H2	SQ → CS	0.418	0.077	5.425	0.000	0.262	0.561	0.221	2.452
H3	PV → CS	0.301	0.104	2.892	0.004	0.095	0.494	0.114	2.472

Note: Confidence interval of 95% with a bootstrapping of 5,000.

DISCUSSION

The objective of this paper is to investigate how price, service quality, and perceived value affect customer satisfaction among consumers of Telekom Malaysia (TM) broadband. The results indicate that service quality has a significant relationship with customer satisfaction, and therefore, H2 was supported. It could indicate that when TM provided a positive service quality in terms of broadband, customers would feel satisfied and increase their satisfaction. The finding result was consistent with the previous study by Nurdaut, Navaz, and Benjamin (2019), which indicated that service quality has a significant positive relationship to customer satisfaction. As explained by Chen, Zhang, Cai, Lan, and Wang (2011), if telecommunication providers provide poor service quality to customers, it will eventually increase the number of complaints, which would directly cause a drop in customer satisfaction.

Also, the result underlines a significant positive relationship between perceived value and customer satisfaction. Thus, H3 was supported. The result indicates that when customers have positive perceived value to TM broadband, they tend to have higher customer satisfaction compared to others. The result of the present study is consistent with Van and Nhat (2020), that perceived value positively affects customer satisfaction. Such finding is also supported by Lapierre, Filiatrault, and Chebat (1999) that there was a positive relationship between perceived value and customer satisfaction.

On the other hand, the finding proves no significant positive relationship between price and customer satisfaction. Hence, H1 was not supported. This indicates when the price of TM's broadband increases, it would not affect customer satisfaction. The finding is inconsistent with the theory by Martin-Consuegra, Molina, and Esteban (2007), stating that price would relate positively to customer satisfaction and lead to the increase of customer loyalty to an organization. It is also supported by Lommeruda and Sorgard (2003), that the willingness of customers to pay for the service in telecommunication would depend on their satisfaction, which when they are satisfied, they are willing to pay. Otherwise, they will switch to other service providers.

CONCLUSION

In conclusion, this research has successfully investigated the effect of price, service quality, and perceived value on customer satisfaction. With that, Telekom Malaysia has to consider service quality and perceived value as these two factors have a positive relationship with customer satisfaction to make a better improvement in it. Furthermore, there have also numerous variables that could influence customer satisfaction among TM broadband users. Hence, future research should also broaden the scope of the study by analyzing the various elements.

Despite this reseach's empirical findings to the existing literature, the result cannot be applicable. The upcoming research is encouraged to adopt the suggested research model among different consumers in entire Malaysia with larger sample size. Also, a longitudinal study should be applied to study customer satisfaction among consumers of TM broadband since a cross-sectional design might arise issues like common method variance.

REFERENCES

- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Anderson, S., & Sin, L. G. (2020). The influence of store atmosphere on purchasing decisions and customer satisfaction: A case study at the Pacific Restaurant, Blitar. *Journal of The Community Development in Asia*, 3(3), 70-78.
- Andreas, H., Lan, X., Kent, B. M., & Frank, H. (2007). The influence of price fairness on customer satisfaction: an empirical test in the context of automobile purchases. *Journal of Product & Brand Management*, 16(1), 49-58.
- Afsheen, S. K. a. S., 2012. Determinants of customer satisfaction in Telecom Industry: A study of Telecom industry Peshawar KPK Pakistan. *Journal of Basic and Applied Scieence Research*, 2(12), 12833-12840.
- Annual Report of Telekom Malaysia. (2020). *5G employee data*. Retrieved from <https://www.tm.com.my/annualreport/images/pdf/GRI-Index-TM.pdf>
- Ben Davis. (2021). *Why is service quality important?*. Retrieved from <https://www.mvorganizing.org/why-is-service-quality-important/>
- Boundless. (2021). Boundless marketing. *Lumen*. <https://courses.lumenlearning.com/boundless-marketing/chapter/servicequality/>
- Buckley, M., & Chiang, H.-F. (1976). Research methodology & business decisions. *National Association of Accountants*. 52(20), 83-89.
- Creswell, J. W. (2009). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (3th ed.). SAGE Publications, Inc.

- Chen, A. H., Zhang, H., Cai, W. Q., Lan, K., & Wang, H. L. (2011). The causes of customer satisfaction in telecommunication services: An empirical study. *Proceedings of the 7th International Conference on Advanced Information Management and Service*.
- Cronin Jr, J. J., & Taylor, S. A. (1992). Measuring service quality: a re-examination and extension. *Journal of Marketing*, 56(3), 55-68.
- Chin, W. W., Marcolin, B. L. & Newsted, P. R. (2003). A partial least squares latent variable modeling approach for measuring interaction effects: Results from a Monte Carlo simulation study and an electronic-mail emotion/adoption study. *Information Systems Research*, 14(2), 189–217.
- Daily Express. (2021, July 30). *Slow internet connection in Kinarut*. Retrieved from <https://www.dailyexpress.com.my/news/175430/slow-internet-connection-in-kinarut/>
- Delice, A. (2010). *The sampling issues in quantitative research*. Retrieved from <https://files.eric.ed.gov/fulltext/EJ919871.pdf>
- Deziel, C. (2018, March 13). *The effects of a small sample size limitation*. Retrieved from <https://sciencing.com/effects-small-sample-size-limitation-8545371.html>
- Dodds, W. B., Monroe, K. B., & Grewal, D. (1991). Effects of price, brand, and store information on buyers' product evaluations. *Journal of Marketing Research (JMR)*, 28(3), 307-319.
- Doyle P. (2000). Value-based marketing. *Journal of Strategic Marketing*, 8(4), 299-311.
- Edward, M., & Sahadev, S. (2011). Role of Switching Costs in the Service Quality, Perceived Value, Customer Satisfaction and Customer Retention Linkage. *Asia Pacific Journal of Marketing and Logistics*, 23(3), 327-345. doi:10.1108/13555851111143240
- Essays, Research Papers and Articles on Business Management. (2019, December 21). *Service quality: introduction, definitions, dimensions and model*. Retrieved from <https://www.businessmanagementideas.com/service-marketing/service-quality/20971>
- Etikan, İ., Musa, S. A., & Alkassim, R. (2016). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1-4.
- Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: a comparison of four procedures. *Internet Research*, 29(3), 430-447.
- Hahn, E. D., & Ang, S. H. (2017). From the editors: New directions in the reporting of statistical results in the Journal of World Business. *Journal of World Business*, 52(2), 125-126.
- Hair, J., Risher, J., Sarstedt, M., & Ringle, C. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24.
- Henseler, J., Ringle, C., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- Herrmann, A., Xia, L., Monroe, K.B., & Huber, F., (2007). The influence of price fairness on consumer satisfaction: An empirical test in the context of automobile purchases. *Journal of Product & Brand Management*, 16(1), 49-58.
- Idris, A. N. (2020, November 25). *TM sees 26% increase in 3Q net profit as more Malaysians work from home*. Retrieved from <https://www.theedgemarkets.com/article/tm-sees-26-increase-3q-net-profit-more-malaysians-work-home>
- Kotler, P., & Armstrong, G. (2010). *Principles of marketing*. Upper Saddle River, NJ: Pearson Education.

- Kursunluoglu, E. (2011). *Customer service effects on customer satisfaction and customer loyalty: A field research in shopping centers in Izmir City*. *International Journal of Business and Social Science*, 2(17), 52-59.
- Lapierre, J., Filiatrault, P., & Chebat, J. (1999). Value strategy rather than quality strategy: A case of business-to-business professional services. *Journal of Business Research*, 45(2), 235-246.
- Lommeruda, K. E., & Sorgard, L. (2003). Entry in telecommunication: Customer loyalty, price sensitivity and access prices. *Information Economics and Policy*, 15, 55-72.
- Malaysian Communications and Multimedia Commission (MCMC). (2021, November 20). *MCMC notes TM's clarification regarding consumer issues highlighted by the honourable minister of CO*. Retrieved from <https://www.mcmc.gov.my/en/media/press-releases/mcmc-ambil-maklum-penjelasan-tm-berhubung-isu-isu>
- Martin-Consuegra, D., Molina, A., & Esteban, A. (2007). An integrated model of price, satisfaction and loyalty: An empirical analysis in the service sector. *Journal of Product & Brand Management*, 16(7), 459-468.
- Monroe, K. (1990). *Pricing: making profitable decisions*. New York: McGraw-Hill.
- MyHSR. (2018). *Telekom Malaysia and Huawei further push for a digital economy - newsroom*. Retrieved from <https://www.myhsr.com.my/resource/newsroom/telekom-malaysia-and-huawei-further-push-for-a-digital-economy>
- McDougall, G.H. & Levesque, T. (2000). Customer satisfaction with service: Putting perceived value into the equation. *Journal of Services Marketing*, 14(5), 392-410.
- New Straits Times. (2018, November 19). *TM records the highest number of complaints*. Retrieved from <https://www.nst.com.my/news/nation/2018/11/432660/tm-records-highest-number-complaints>
- Nikkei Asia. (2021). *Telekom Malaysia Bhd*. Retrieved from <https://asia.nikkei.com/Companies/Telekom-Malaysia-Bhd>.
- Nurdaulet, N., Navaz, N., & Benjamin, Y. F. (2019). Study on factors affecting customer satisfaction. *International Journal of Recent Technology and Engineering (IJRTE)*, 7(5S), 299-306.
- Perreault, W. D., Cannon, J. P., McCarthy, E. J. (2015). *Essentials of marketing: A marketing strategy planning approach*. New York: McGraw-Hill Education.
- Perreault, W. D., Cannon, J. P., McCarthy, E. J. (2019). *Essentials of marketing: A marketing strategy planning approach*. New York: McGraw-Hill Education.
- Petrick, J. F. (2002). Development of a multi-dimensional scale for measuring the perceived value of a service. *Journal of Leisure Research*, 34(2), 119-134. doi:10.1080/00222216.2002.11949965
- Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M. A. (2018). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using SMART PLS 3.0* (2nd ed.). Kuala Lumpur: Pearson.
- Ringle, C. M., Wende, S., & Becker, J. -M. (2015). "Smart PLS3." Boenningstedt: SmartPLS GmbH.
- Sweeney, J., & Soutar, G. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, 77(2), 203-220. doi:10.1016/s0022-4359(01)00041-0
- Stanton, W. J., Michael J. E, & Bruce J. W. (1994). *Fundamentals in marketing* (10th ed). New York: McGraw-Hill.
- Szyndlar, M. (2021). *Customer satisfaction: Why it's still important in 2021*. Retrieved from <https://survicate.com/customer-satisfaction/importance-customer-satisfaction/>
- Telekom Malaysia. (2019, July 27). *TM finally slashes prices for Streamyx, to also offer faster alternatives*. Retrieved from <https://www.malaysiakini.com/news/485625>

- Telekom Malaysia. (2021). *Broadband internet - Telekom Malaysia*. Retrieved from <https://www.tm.com.my/Office/Business/Enterprise/BroadbandInternet/Pages/Packages.aspx>
- Telekom Malaysia. (2021a). *Corporate profile*. Retrieved from https://tm.listedcompany.com/corporate_overview.html
- Telekom Malaysia. (2021b). *TM recognized as among best companies to work for in Asia and most caring companies by HR Asia awards 2020*. Retrieved from <https://www.tm.com.my/Newsroom/Pages/TM-RECOGNISED-AS-AMONG-BEST-COMPANIES-TO-WORK-FOR-IN-ASIA-AND-MOST-CARING-COMPANIES-BY-HR-ASIA-AWARDS-2020.aspx>
- Telekom Malaysia Reports. (2021). *TM reports first-quarter 2020 financial results and provides an update on measures taken in response to covid-19 pandemic; posts revenue of RM2.56 billion for 1Q2020*. Retrieved from <https://www.tm.com.my/Newsroom/Pages/TM-REPORTS-FIRST-QUARTER-2020-FINANCIAL-RESULTS-AND-PROVIDES-AN-UPDATE-ON-MEASURES-TAKEN-IN-RESPONSE-TO-COVID-19-PANDEMIC;-.aspx>
- The Star. (2019, February 20). *TM apologizes to customer for bad experience*. Retrieved from <https://www.thestar.com.my/news/nation/2019/02/20/tm-apologises-to-customer-for-bad-experience/>
- The Star. (2021, February 1). *TM's internet traffic increases*. Retrieved from <https://www.thestar.com.my/business/business-news/2021/02/01/tms-internet-traffic-increases>
- UKEssays. (2018). *The five dimensions of service quality*. Retrieved from <https://www.ukessays.com/essays/marketing/the-five-dimensions-of-service-quality-measured-marketing-essay.php?vref=1>
- Van, D. T., & Nhat, M. T. (2020). Impact of service quality and perceived value on customer satisfaction and behavioral intentions: Evidence from convenience stores in Vietnam. *Journal of Asian Finance, Economics and Business*, 7(9), 517-526. doi:10.13106/jafeb.2020.vol7.no9.517
- Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, 5(3),65-72. <https://doi.org/10.19030/jber.v5i3.2532>
- Woodruff, R.B. (1997) Customer Value: The next source of competitive advantage. *Journal of the Academy of Marketing Science*, 25, 139-153. <http://dx.doi.org/10.1007/BF02894350>
- Xia, L., Monroe, K. B., & Cox, J. L. (2004). The price is unfair: A conceptual framework of price fairness perceptions. *Journal of Marketing*, 68(4), 1-15. <https://doi.org/10.1509/jmkg.68.4.1.42733>
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence. *Journal of Marketing*, 52(3), 2-22. <https://doi.org/10.2307/1251446>
- Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60(2), 31-46. <https://doi.org/10.2307/1251929>