Factor Influencing Customer Choice towards Telecommunication Provider

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Abstract

The objective of this research is to examine the factors influencing customer choice towards a telecommunication provider (price, network quality, promotion, customer service, and brand image). The mediator role of customer satisfaction between independent variables and dependent variables and alternative attraction as a moderator role has been investigated. A total of 286 mobile service users participated in a survey conducted online and the hypotheses were tested with PL-SEM. Results from the research show that network quality and brand image have a significant relationship between customer satisfaction while price, promotion, and customer service was found insignificant. Meanwhile, mediating effect of customer satisfaction between network quality and brand image have a significant positive influence towards customer loyalty. Whilst mediating effect of customer satisfaction between price, promotion, and customer service to be insignificant towards customer loyalty. Furthermore, alternative attractiveness is identified as a moderator, weakening the relationship between customer satisfaction and customer loyalty. The adoption of the S-O-R paradigm emphasises the importance and usefulness of the selected theoretical framework in analysing consumer behaviour. This knowledge can help telecommunications companies develop ways to improve consumer experience and satisfaction. This investigation distinguishes out for getting into the unique elements that influence customer choices in the Malaysian telecommunications sector. The use of alternative attraction as a moderator brings another dimension to the understanding of customer loyalty characteristics in the telecommunications sector, providing new perspectives that add to the current research on customer behaviours in communication services. This investigation fulfils a critical gap by providing a specific analysis of the Malaysian context, which makes it an important and unique addition to the industry.

KEYWORDS: Price, Network Quality, Promotion, Customer Service, Brand Image

Introduction

Telecommunication is defined as long-distance communication via cable, telegraph, telephone, or broadcasting; however, it is generally associated with phone service [1]. Telecommunication is sometimes referred to as information transmission. Meanwhile, mobile communications have become the major and most significant mode of communication in people's everyday lives in recent years. Furthermore, mobile phones are one of the most convenient ways to access the internet, and the consequent increase in mobile internet use increases digital inclusion, particularly in poor and middle-income countries.

In 1984, Telekom Malaysia was the first telecommunications provider in Malaysia to launch fixed-line service. Since then, numerous companies in Malaysia, including Celcom, U-Mobile, Maxis, Celcom, and Digi, have emerged to accommodate the expanding need and sophisticated client expectations for cellular services [2]. The larger player for

fixed line service in Malaysia is Telekom Malaysia. While Celcom, Maxis, Digi, and U Mobile are the large mobile sector players. TM has more than 4 million customers, making it one of the leading telecom service providers in Asia. Meanwhile, Celcom had the greatest growth compared to its rivals in terms of market capitalization for the telecoms sector in 2021.The Celcom market capitalization is RM 34.29 million in 2020, while it increases to RM 38.17 billion in 2021. Meanwhile, the Digi market capitalization in 2020 was RM 32.19 billion, and it increased to RM 33.9 billion in 2021.

Furthermore, the broadband market is now undergoing rapid expansion, primarily due to competition from TIME, Celcom, Maxis, and Digi, with Telekom Malaysia remaining the largest fixed broadband monopoly. Approximately 2.85 million broadband users as of 2022, TM is the country's leading fixed broadband player, with nearly 95% of the fixed broadband market. The competitors for fixed broadband players for TM are Maxis Bhd, and Time Dotcom. For the mobile broadband service, Celcom, Maxis, and Digi are the major players. Meanwhile, postpaid plans became the most attractive service among industry players in Malaysia. In this type of service, each industry player is doing better with each plan. For example, Celcom became the best unlimited data postpaid plan provider compared to another competitor. Other than that, Celcom also provides unlimited calls, full-HD video streaming, unrestricted gaming, and 20GB mobile hotspot with unlimited music streaming.

When demand grows, it also increases customer satisfaction, and vice versa for complaints from customers. The persistent challenges that customers suffer, such as insufficient network quality, particularly in rural regions, degrade consumers' faith in telecommunications providers [3], [4]. According to new data ,80% of consumers had switched companies due to bad customer service, and 43% of respondents stated they were at least somewhat inclined to transfer brands after only a single unfavourable customer service contact. The key causes of switching habits are a lack of price and subscription plan clarity. Concerning the issues that occur, price, network connectivity, and invoicing appear to be key elements that can affect client satisfaction with the service network provider [5]. The majority of telecoms firms struggled to understand and enhance consumer satisfaction. There has been little research in Malaysia on the impact of elements like pricing and network quality on consumer satisfaction with telecommunications service providers [6]. In prior research, suggest to conducting future research on brand image, price, promotion, and service quality to identify the connection between loyalty among customers [6]. Customer satisfaction is influenced by research, quality of service, marketing mix approach and service preference [7]. Network quality, service to customers, and price structure are major predictors of consumer loyalty. In this sense, this study is examining the combination of price, network quality, promotion, customer service, and brand image as factors that influence customer choice in the telecommunication industry.

The present study aims to address the research gap by analysing the factors that influence customer choice of telecommunications providers. The primary aim is to determine if these characteristics have a positive and substantial influence on consumer choice of telecommunications providers. Furthermore, the study intends to investigate the role of network quality, price, affordability, cost, brand image, special promotion, and customer service in influencing the connection between customer satisfaction and customer loyalty. Meanwhile, to find the desire to continue using the respective mobile service. The purpose of this research is to provide significant insights into consumer decisions in the telecommunications industry, addressing the unique issues given by tactics for pricing, quality of network, brand image, customer service, and promotional influence on user perception. Moreover, identifying whether alternative attractiveness moderates these connections can provide significant information for companies looking to enhance their competitiveness and manage the issues provided by consumer switching behaviours.

To achieve the research objective, this study used the Stimulus Organism Responds theory. So, this research developed based on the S-O-R framework, in which we hypothesize factors influencing consumer choice as (S) in terms of characteristics in developing customer satisfaction, which represent (O) as cognitive as a result of being exposed to the stimulus [6]. Then customers' loyalty to continue using mobile services as a behavioural response (R) is a direct result of their satisfaction [6]. In this study, factors influencing such as price, network quality, promotion, customer service, and brand image will be under "stimulus", customer satisfaction represents "organism," and customer loyalty represent by "responding behaviour".

LITERATURE REVIEW

Theories Integration Rationale

The major purpose of this research is to look at the factors that impact customer choice in Malaysia. Stimulus Organism and Response Model (S-O-R) is a frequently used model for consumer behaviour studies [8]. This research developed a model based on the principles of fundamental SOR details to explain the long-term desire to utilise the current mobile network. Stimulus Organism and Response Model (S-O-R) was introduced by [9], which is commonly used as a theoretical framework for customer choice research [8]. Stimulus (S) alters the external environment by arousing the individual [10]. A person's cognitive and emotional state, which might take the shape of perceptions and feelings, is referred to as an organism (O) [11], [12]. The individual's ultimate behavioural response to the stimulus is referred to as the response (R) [10], [9]. According to the S-O-R model, consumer emotions play an important part in reacting to disclosing environmental signals [13]. The outcome of S-O-R model of consumer behaviour can include multiple factors important to the characteristics of products or items, such as pricing, promotions, branding, and quality. In previous

study, describes impulse purchase behaviour by using the SOR model, in which promotional activities, window display and shop environment were essential triggers for establishing a consumer's impulsive nature through positive emotion [14].

Several studies used S-O-R theory to investigate the research issues on how situational factors impact impulsive purchasing behaviour in mobile marketplaces. In prior research investigated network quality, service quality, prices, and corporate stimulation, with buyer satisfaction and buyer trust as "organisms" and buyer loyalty as responsive behaviours [6]. The S-O-R paradigm investigates why telecom customers will continue to utilise mobile value-added services (MVAS), such as information, communication, entertainment, and transaction services [15]. Furthermore, The S-O-R framework explores the elements influencing repurchase satisfaction and loyalty in m-commerce [16]. Another research also investigated the influence of travel mobile app features on consumer engagement from an S-O-R standpoint [17]. Some research investigated the discontinuous intentions of social media users using the S-O-R paradigm. Some are created their study so that corporate brands function as stimulants in the minds of customers, triggering responses such as loyalty and satisfaction [18]. Meanwhile, customer satisfaction was discovered to be a mediator link between service quality, network quality, price, brand image, and customer loyalty [6]. Prior studies have shown that alternative attractiveness is a moderator between customer satisfaction and customer loyalty. So, researchers believed that stimulus-Organism-Response (S-O-R) paradigm is an appropriate model for ongoing examination with a combination of relevant past studies. In relation to this study, the proposed theoretical framework is stated in Figure 1.
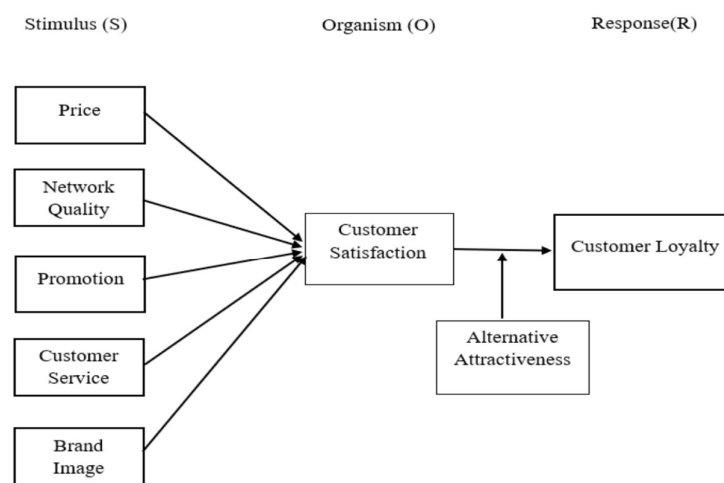

Figure 1   Research
Theoretical Framework

(b) Hypothesis Development

Price
The sum of money spent to get a service or product, as well as the amount of money to be exchanged by the consumer in order to purchase the product or service, is defined as the price. In previous studies, pricing influenced consumer perceptions of the provider and purchasing decisions; hence, pricing structure is one of the key marketing choices that must be carefully considered because it affects customer satisfaction [19]. Based on previous studies, price is the main factor that influence customer satisfaction. In past studies, price had a significant relationship with customer satisfaction. According to prior studies, the instruments that have a substantial influence on the customer's buying habits are reasonable pricing, a wide range of price schemes, a low call rate, and the degree of freedom to choose [20]. There is a positive relationship between pricing and client purchasing decisions [21]. Thus, the following hypothesis is proposed:
H1: *There is a positive and significant relationship between price and customer satisfaction.*

Network Quality
Network quality is defined as the quality of the local mobile network and connectivity, specifically the number of errors encountered when downloading and uploading [1]. In the telecommunications business, there is a significant positive relationship between network quality and customer satisfaction. When the network quality is high, customer satisfaction is high. According to past research, there is a significant positive relationship between network quality and customer satisfaction in the telecommunications business. According to other research, there is a considerable association between network quality and customer satisfaction [8]. Hence, the following hypothesis can be proposed:
H2: *There is a positive and significant relationship between network quality and customer satisfaction.*

Promotion
The term "promotion" refers to "activities that communicate the benefits of the product and persuade target customers to purchase it." Promotional offers have an essential role in influencing mobile telecom network choices [22]. Meanwhile, promotions allow the organisation to enter new markets and gain new consumers . In previous research, promotion gives positive and significant relationship with customer satisfaction [1]. According to [23], promotion has a significant relationship with customer satisfaction in the telecommunication industry. Thus, this study hypothesis as per follow:
H3: *There is a positive and significant relationship between promotion and customer satisfaction.*

Customer Service
Customer service is defined as an activity, measurement of performance, and attitude and capacity to provide a good or service to customers in the way it's stated earlier, as well as the way in which they wish to be treated [1]. Customer service may result in customer repeat, word-of-mouth acclaim, and product criticism, culminating in business loss. Therefore, the ability to manage customers is key to organisation performance, while providing an amazing customer service experience will lead to customer satisfaction. In previous research, customer service had a significant relationship with customer satisfaction. Customer service and customer satisfaction have a strong link. Thus, this study hypothesises as follows:
H4: *There is a positive and significant relationship between customer service and customer satisfaction.*

Brand Image
Brand image is defined as a name, provision, design, symbol, or something that identifies the product or service as well differentiates it from other products and services. According to a previous study, a positive brand image has a high positive influence on customer satisfaction, implying that pleased customers have a good brand image. Brand image has a beneficial influence on consumer satisfaction. Another research also mentioned that the brand image of a company influences customer satisfaction. According to a previous study, brand image has a strong positive effect on customer satisfaction. Thus, this study hypothesis as per follow:
H5: *There is a positive and significant relationship between brand image and customer satisfaction.*

Customer Satisfaction mediates the relationship between price and customer loyalty.
Customer satisfaction is a critical factor in customer loyalty in mobile communication applications and services [24]. Customer satisfaction is either the intended outcome variable or an antecedent to a variety of behavioural concepts, such as customer loyalty behaviour [25], [26]. In previous research, correlation results revealed that price is one of the elements likely to influence customer satisfaction [26]. Price influence a positive relationship with the customer satisfaction [27]. When the price increases or decreases, the level of customer satisfaction either reduces or increases. Meanwhile, pricing has a positive impact on consumer satisfaction through customer loyalty, not only by creating confidence and trust in the product or service, but also by developing long-lasting relationships that lead to greater repurchases and suggestion to others. In previous studies, price and customer satisfaction have a positive and significant relationship which has positive impact towards customer loyalty. Customer satisfaction played a significant mediated relationship between price and customer loyalty. So, this study hypothesis as per follow:
H6: *There is a positive and significant customer satisfaction mediate the relationship between price and customer loyalty*

Customer Satisfaction mediates the relationship between network quality and customer loyalty.
Based on previous research, correlation results revealed that network quality is one of the elements likely to influence customer satisfaction [1]. Another research indicated that whether there is strong or weak network quality it will affect customer satisfaction [5]. Then, customer satisfaction is an important component of customer loyalty when customers who are pleased with the firm's services are more likely to make future purchases [28]. Meanwhile, network quality plays a significant role in customer satisfaction. Another research discovered customer satisfaction to be an important mediator between network quality and customer loyalty in their study of 302 telecommunication customers in the Bangladesh telecommunication industry. Customer loyalty is positively influenced by network quality [29]. When customer satisfaction was mediated, the path association was stronger. Thus, the hypothesis will be as per below:
H7: *There is a positive and significant customer satisfaction mediating the relationship between network quality and customer loyalty.*

Customer Satisfaction mediates the relationship between promotion and customer loyalty.
Based on previous studies, promotion has a positive relationship with customer satisfaction. In prior research mention that to attract both exciting and new customers, mobile phone company introduce the promotional program. As per previous studies, promotion is an important tool in creating loyalty, this is so because promotion does not only bring the product for the buyer attention while it also provides incentive [30]. Satisfaction of the customer has been proven to be directly related to consumer loyalty. Because customer satisfaction has a positive influence on repeat purchase intention, it is regarded as the primary factor of customer [31]. According to [1], the study's correlation results revealed that promotion is one of the elements likely to influence customer satisfaction. When there is a strong association between

promotion and customer satisfaction, there is a strong relationship between customer loyalty. So, this study hypothesis as per follow:

H8: *There is a positive and significant customer satisfaction mediate the relationship between promotion and customer loyalty.*

Customer Satisfaction mediate the relationship between customer service and customer loyalty. Telecommunication service providers must provide good customer service such as reduce waiting time to solve the problem, efficient customer solution and give clear solution towards the customer problem which can help to increase the customer satisfaction [27]. According to prior study, there is a significant association between customer satisfaction and customer service. The past study's correlation results revealed that customer service are the elements likely to influence customer satisfaction [1] Prior research sugested that customer service has a positive impact on customer satisfaction which means good customer service will satisfy customers and make them loyal to the firm [27]. Meanwhile, the empirical evidence shows that when the customer service provides pleasant satisfied experience among customer it makes strong foundation towards customer loyalty [15]. Past research agrees that if the customer is satisfied with the company's service or product, they will be loyal to that company [32], [20], [42]. So, this study hypothesis as per below:

H9: *There is a positive and significant customer satisfaction mediate the relationship between customer service and customer loyalty.*

Customer Satisfaction mediates the relationship between brand image and customer loyalty.

In previous research, brand image was an important aspect of customer satisfaction and loyalty towards the product. In past research, discovered that the effect of customer satisfaction on brand image is significant, as is the effect of customer loyalty to use in term of positive brand image. Brand image is related to higher levels of customer satisfaction and loyalty [6]. In prior research, there is a clear link between customer satisfaction and brand image, and favouring the brand image generates product loyalty. Brand image refers to the consumer's impression of an item and it leads to increased customer satisfaction and brand loyalty [33]. So, this study hypothesis as per follow:

H10: *There is a positive and significant customer satisfaction mediate the relationship between brand image and customer loyalty.*

Alternative Attractiveness strengthens the relationship between customer satisfaction and customer loyalty. Alternative attractiveness refers to receiving a better pleasant service from a different service provider [34]. Meanwhile, alternative attractiveness tends to be defined as a determination of the likelihood of gaining fulfilment from other services or products [35]. Alternative attractiveness is a very significant element in the mobile setting, and it is regularly acknowledged as an influential concept in prior telecommunication related research [34], [36]. If a consumer senses a greater amount of alternative attractiveness, it will lead them to believe that they can obtain a high level of pleasure from other possibilities, resulting in a decline in customer loyalty to their existing supplier. Meanwhile, in the Malaysian telecommunications market, the availability of other alternatives for a mobile service provider was the strongest factor that might influence client loyalty [37]. Many studies have been conducted to investigate the moderating influence of alternative attractiveness [38]. Alternative attractiveness is seen to be a powerful moderator between customer loyalty and its immediate factors [39]. Thus, this study hypothesis as per follow:

H11: *Alternative attractiveness strengthens the relationship between customer satisfaction and customer loyalty.*

research design and methodology

This research focuses on which factors influence the customer's choice of mobile service provider. A questionnaire survey was employed in this study to validate the hypothesis. Prior to answering the questionnaire, the respondent must be age between 20 to 59 years and have been a mobile telecommunications service subscriber for at least six months prior. This study's population specifically targeted Malaysian and the unit of analysis is mobile service customers. The online questionnaire was used in this research since it is a more efficient and convenient tools to collect the data [40]. The survey conducted through an online questionnaire, which will be distributed through online platforms such as WhatsApp, Instagram, and Facebook. While 286 respondents responded to the online survey. The online questionnaire was used since it is a more efficient and convenient tool to collect the data [40]. Meanwhile, using G*power analysis, 98 respondents are required as a minimum sample size. This means that, respondents of 286 exceed the minimum sample size required.

The questionnaire is divided into several sections. Section 1 is for filtering questions; Sections 2 until 9 are for measuring all variables. All items were evaluated using a five-point Likert scale ranging from "1 strongly disagree" to "5 strongly agree".

(a) Sample Profile

A total of 286 respondents respond the online survey, as shown in Table 1, the demographic characteristics of the respondents indicated that females (54%) exceeded males (46%). Most of the respondents were between 20 – 39 years of age (75.9%). Followed by 40 – 59 age (19.9%), then age below 19 years (3.85%) and 60 years above (0.35%). The majority of respondents are using Digi (39.5%), followed by Maxis (27.6%). Then, Celcom (16.78%), U-Mobile

(11.89%), tune talk (2.45%), Unifi (0.7%), Red one (0.35%) and Yes (0.7%). For the usage duration of current mobile service less than 6 months (2.45%), between 6 month – 2 years (17.48%) and more than 2 years (80.07%). Whilst, approximately 270 (94%) out of 286 respondents were successfully processed for further data analysis after respondents were screened. The result as per shown in Table 1 below:

Table 1

Demographic Profile

Items	Variable	Frequency	Percentage
Gender	Male	145	54.00%
	Female	125	46.00%
Ethnicity	Malay	77	28.00%
	Chinese	70	26.00%
	Indian	123	46.00%
Age	20 - 39 years old	213	79.00%
	40 - 59 years old	57	21.00%
Current mobile service you used	Celcom	47	17.00%
	Digi	103	38.00%
	Maxis	76	28.00%
	Red One	1	0.40%
	Tune talk	7	2.60%
	U-mobile	33	12.00%
	Unifi	2	0.70%
	Yes	1	0.40%
Duration of using current mobile service	6 months - 2 years	45	16.60%
	More than 2 years	225	83.33%

RESULTS
The data analyzed by using partial least square structural equation model (PLS-SEM). So PLS-SEM helps to analyze measurement model and structural model. Firstly, the confirmatory factor analysis (CFA) is to verify the measurement model's validity and reliability. Cronbach's alpha (α), loading, composite reliability (CR), and average variance extracted (AVE) scores have been used to assess the validity and reliability of the research variables.

Measurement Model
The main objective of the reliability study is to analyse the loading of each of the constructs' components [41]. As shown in Table 2, the price construct has two statements that the coefficient is less than 0.70 but greater than 0.60. Also, promotion has two coefficients that are less than 0.70 but greater than 0.60. The brand image has a statement that has an outer loading coefficient less than 0.60 whereas the alternative attractiveness first item has a loading of less than 0.60, which indicates that this statement has a lower relationship with the observed variable. Lastly, customer satisfaction has a statement with a loading of 0.322 which shows a need for a re-evaluation of the importance of this statement towards the measurement of this factor. The item is a candidate for deletion as it has a low relationship with the construct it is supposed to be measuring.

The Cronbach alpha coefficient is the most frequently applied metric of composite reliability, with a number greater than 0.70 named acceptable and larger than 0.95 avoided since it shows the potential of redundancy [30]. As per Table 2, the range of Cronbach's alpha(α) between 0.796 to 0.915, the composite reliability (CR) range between 0.857 to 0.936 which is more than 0.7 will show proper internal consistency. All of the Cronbach alpha value in Table 2 are greater than 0.70, indicating suitable rage of internal consistency. More specifically, the results indicate that price is 79.6%, network quality is 91.5%, promotion is 82.3% reliable, customer service is 89.7% reliable, brand image is 84.6% reliable, customer satisfaction is 82.4% reliable, customer loyalty is 87.3% reliable, and alternative attractiveness is 88.6% reliable.For the average variance extracted (AVE) ranging between 0.59 to 0.746 which is more than 0.5 indicated it's a god convergent validity. Values between 0.36 and 0.50 may be acceptable in some settings, whereas AVE values above 0.50 are regarded as good, showing high convergent validity. Thus, besides the data being reliable, they exhibit excellent convergent validity.

To assess discriminant validity, the Heterotrait Monotrait (HTMT) ratio is utilized [43]. As shown in Table 3, demonstrate discriminant validity testing. Meanwhile, the HTMT ratios (upper right) of all constructions are below the allowed level of 0.85 [43]. The values of the HTMT are shown in the matrix's upper triangular section, whereas the

lower triangular section indicates correlations between the constructs. This is the fundamental reason why coefficients larger than 0.85 indicate low discriminant validity. Meanwhile, analysing the relationship between intangible variables or constructs is a usual approach used in structural equation modelling (SEM) and confirmatory factor analysis (CFA) to verify discriminant validity (Yusoff et al., 2020). According to the research findings, there is excellent discriminant validity for all constructs except for customer satisfaction and brand image, which correlation is 0.933.

Table 2

Construct Reliability and validity

Variable	Items	Outer Loadings	Cronbach's Alpha	CR	AVE
Price	Pri 1	0.801	0.796	0.857	0.59
	Pri 2	0.834			
	Pri 3	0.636			
	Pri 4	0.774			
	Pri 5	0.637			
Network Quality	Net 1	0.877	0.915	0.936	0.746
	Net 2	0.816			
	Net 3	0.891			
	Net 4	0.86			
	Net 5	0.873			
Promotion	Pro 1	0.694	0.823	0.877	0.59
	Pro 2	0.822			
	Pro 3	0.836			
	Pro 4	0.818			
	Pro 5	0.653			
Customer Service	Cus 1	0.772	0.897	0.924	0.708
	Cus 2	0.879			
	Cus 3	0.833			
	Cus 4	0.854			
	Cus 5	0.866			
Brand Image	Bra 1	0.797	0.846	0.892	0.63
	Bra 2	0.88			
	Bra 3	0.839			
	Bra 4	0.872			
	Bra 5	0.526			
Customer Satisfaction	Sat 1	0.893	0.824	0.881	0.616
	Sat 2	0.848			

	Sat 3	0.916				
	Sat 4	0.789				
	Sat 5	0.322				
Customer Loyalty	Loy 1	0.802	0.873		0.908	0.665
	Loy 2	0.748				
	Loy 3	0.785				
	Loy 4	0.889				
	Loy 5	0.847				
Alternative Attractiveness	Alt 1	0.531	0.886		0.883	0.609
	Alt 2	0.7				
	Alt 3	0.783				
	Alt 4	0.896				
	Alt 5	0.927				

Table 3

Discriminant validity using HTMT Criterion Construct

Variables	1	2	3	4	5	6	7	8	9
Alternative Attractiveness									
Brand Image	0.328								
Customer Service	0.194	0.684							
Customer Satisfaction	0.283	0.933	0.636						
Customer Loyalty	0.152	0.815	0.585	0.837					
Network Quality	0.237	0.732	0.583	0.838	0.736				
Price	0.168	0.493	0.531	0.578	0.436	0.620			
Promotion	0.327	0.817	0.608	0.751	0.585	0.682	0.626		

Alternative Attractiveness X Customer Satisfaction	0.184	0.109	0.061	0.078	0.059	0.073	0.116	0.044	

(b) Structural Model

After completing the measurement model evaluation, we proceeded to test the structural model. The variance inflated factor (VIF) was initially calculated. The VIF is used to assess multicollinearity, which occurs when two or more independent variables in a regression model have a high degree of correlation, it is impossible to separate the unique impacts of each variable on the dependent variable [44]. The optimal VIF value should be less than 3.3 [45]. As per the finding, all the VIFs are less than 3.3 an indication that there is a low issue of multicollinearity. The brand image has the highest VIF with a coefficient of 2.436, which is still within an acceptable range. Thus, the overall model does not suffer from multicollinearity.

The studied model's determinant coefficient R^2, effect magnitude (f^2), predictive relevance (Q^2) and hypothesised route links will be evaluated using a structural model analysis. The r-squared used to measure the goodness of fit through the evaluation of the proportion of the variance that is accounted for by the model. First, R^2 value range from 0 to 1 where the higher value indicator greater explanatory power. The value of R^2 value of 0.75 is substantial, 0.50 is moderator and 0.25 is weak [45]. The R^2 value for both customer satisfaction (0.727) and customer loyalty (0.556) are considered moderate.

Next, the f-squared (f^2) measure is utilized to evaluate the magnitude of the impact of a predictor variable on an outcome variable. The effect size f^2 value of 0.02 has small effects, 0.15 has medium effects and 0.35 larger effects [45]. Meanwhile, there is no effect if the effect size is less than 0.02. There is a large effect of the brand image towards customer satisfaction (f-squared = 0.378), whereas that of network quality is moderate and significant (f-square = 0.292). This implies that these two factors play a key role in increasing customer satisfaction, with brand image having the largest impact. On the other hand, customer service (f-squared = 0.001), price (f-squared = 0.009), and promotions (f-squared = 0.003). The second part of the SEM where customer loyalty was predicted is considered and the research demonstrates that customer service has a significant impact on client loyalty (f-squared = 1.160). The effect of alternative attractiveness has a small and insignificant effect towards customer loyalty (f-squared < 0.001), alternative attractiveness has also a small effect (f-squared < 0.001) and the interaction effect was also small (f-squared < 0.001). Based on this, it is clear that developing customer loyalty requires a focus on their satisfaction.

Then, the predictive relevance is assessed using the Q^2 (Q-squared) measure, which helps determine the predictive relevance as it represents the proportion of variance in the endogenous latent variable. The result of Q^2 indicates that Customer satisfaction 1, 2 and 3 have higher and excellent predictive relevance which are 0.663,0.464 and 0. 588.The customer satisfaction 4 is moderate which is 0.375 and Customer satisfaction 5 is low but positive which is 0. 067.The result for customer loyalty 1,2 and 3 is moderate of the Q2 value 0.347,0.31 and 0. 306.The Customer loyalty 4(0.425) and 5(0.442) predictive relevance Q2 is little bit higher compared to other customer loyalty items. Notably, all the Q^2 values are positive an indication that the fitted model outperformed the benchmarked model.

Then calculate bootstrapping to identify the path coefficient for the hypothesised test. To accept the significant relationship between hypothesis the t-value must be more than 1.645. As shown in Figure 2, the path coefficient result indicates that there is insignificant relationship between Price and customer satisfaction (β = 0.063, t = 1.375, p > 0.05; H1 is not supported). There is a significant relationship between Network quality and customer satisfaction (β = 0.413, t = 6.875, p < 0.05; H2 Supported), Promotion and customer satisfaction (β = -0.039, t = 0.683, p > 0.05; H3 is not supported). Customer service and customer satisfaction (β = 0.019, t = 0.355, p > 0.05; H4 not supported), Brand image and customer satisfaction (β = 0.502, t =7.793, p < 0.05; H5 supported).

The mediating effect of customer satisfaction between price and customer loyalty (β = 0.047, t = 1.399, p > 0.05; H6 is not supported). The mediating effect of customer satisfaction between network quality and customer loyalty (β = 0.307, t = 6.487, p < 0.05; H7 is supported). The mediating effect of customer satisfaction between promotion and loyalty (β = -0.029,t = 0.682,p > 0.05:H8 is not supported).The mediating effect of customer satisfaction between customer service and loyalty (β = 0.014,t = 0.356, p > 0.05;H9 is not supported),The mediating effect of customer satisfaction between brand image and loyalty (β = 0.373,t = 7.024,p < 0.05;H10 is supported).The moderating effect of

alternative attractiveness between customer satisfaction and loyalty (β = 0.005,t = 0.094,p >0.05; H11 is not supported) .In summary, four hypotheses are supported(H2,H5,H7,and H10) and seven hypotheses is not supported(H1,H3,H4,H6,H8,H9 and H11).
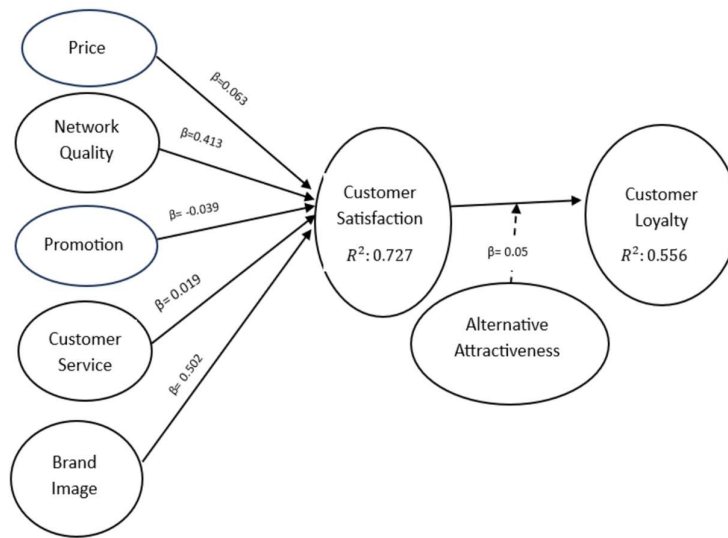

Figure 2 Results of the path coefficient

DISCUSSION

This study investigates the relationship between factors such as price, promotion, brand image, customer service, and network quality towards customer satisfaction and mediates the factors between customer satisfaction between customer loyalty. Moreover, this study investigates whether alternative attractiveness moderates the relationship between customer satisfaction and customer loyalty.

The study findings discovered that H1 does not align with past research that stated price has a significant relationship with customer satisfaction [21], [20]. The results of this research may be caused by a variety of reasons, like the fact that there is a competitive marketplace in which buyers focus on aspects besides price. Users might ignore price as a key factor in their satisfaction, especially when several vendors provide the same price packages. Furthermore, the research considers the possibility that customers prioritise perceived value, with fulfilment gaining from characteristics such as network quality and brand image instead of absolute price.

Meanwhile, the finding for H2 coincides with prior research indicating that network quality has a significant positive relationship with customer satisfaction [32]. This means that increasing the network quality is expected to increase customer satisfaction with telecommunications. This emphasises the needs for a dependable and powerful mobile network, which impacts customer satisfaction. Furthermore, the results for H3 and H4 are not align with past studies that stated promotion and customer service have a positive and significant relationship with customer satisfaction [23], [1]. Based on the finding result, the insignificant relationship between promotion and customer satisfaction may be due to a lack of effective promotion strategies, which may have a minor impact on customer satisfaction. Meanwhile, ineffective customer service might have led to a lack of significance for customer satisfaction.

Furthermore, the H5 finding results coincide with prior research that customer satisfaction is significantly influenced by brand image. Based on the finding, all organisation should enhance their brand image to ensure that there is continuous customer satisfaction. Notably, this factor had the largest positive effect. So, the finding suggests that when it comes to determining customer satisfaction, people are influenced by their impressions of a telecommunications provider's brand image. But the finding result for H6 does not align with prior research that stated there is significant mediating relationship of customer satisfaction between price and customer loyalty. Based on the finding, it is possible to say price could not find a significant relationship with customer satisfaction through customer loyalty not only by creating confidence and trust in the product or service but also by developing long-lasting relationships that lead to greater repurchases and suggestion to others.

The finding for H7 is similar with past research stating that customer satisfaction significantly mediate the relationship between network quality and customer loyalty [29]. This means that higher customer satisfaction is associated with higher customer loyalty, which is indirectly linked to the network quality. Meanwhile, the H8 and H9 is not align with past research which stated mediate relationship of customer satisfaction is significant between promotion, customer service with customer loyalty [27]. Based on the result, mobile service provider needs to provide some incentives to motivate customers to purchase and influence their purchase behaviour. Meanwhile for customer service this research cannot conclude that there is a significant relationship between customer service and customer satisfaction has a positive effect on customer loyalty an indication relationship between customer service and customer satisfaction will not lead strong relationship between customer loyalty.

But the finding results for H10 is aligned with the past research, which found that customer satisfaction had a significant positive mediating relationship between brand image and customer loyalty [6]. The result emphasised that a good brand image usually contributes to strengthened confidence in the company. Users who believe their mobile service provider is satisfied with their services. So, Customer loyalty is influenced by confidence and satisfaction since customers are secure with the trusted brand.

The research finding for H11 does not align with past research, which concluded that alternative attractiveness is seen as a powerful moderator in the link between customer loyalty and customer satisfaction [39]. According to this research's findings, the attractiveness of alternatives weakens the relationship between customer satisfaction and loyalty in mobile service providers. Although many users are happy with their existing mobile service provider, a variety of attractive alternatives on the market weaken their loyalty. Various variables contribute to this event, including the increasing number of market alternatives, changing user expectations, the influence of lower prices or offers offered by alternative service providers, innovations in technology, shifting customer preferences, and the successful outcome of promotional and marketing strategies. This concept tends to be relevant in sectors with challenging rivalry, companies constantly Work to fulfil client demands to keep their loyalty regardless of encouraging alternatives.

(a) Study Implications

Theoretically, this research found that customer choice in the telecommunications industry was positively influenced by network quality and brand image. The result of this study will help to further mobile service-related research, particularly customer satisfaction and loyalty. Meanwhile, this research finding has contributed to the literature on price, promotion, and customer service, which have an insignificant relationship with customer choice towards telecommunication providers. While the hypotheses were not accepted, it will add a new viewpoint to the existing research literature as a way to further investigate this finding.

This research analysis incorporated the SOR model. This research improves the SOR model by giving actual proof of particular stimuli within the framework of the telecommunications sector, hence increasing the model's suitability for a wide range of service based companies. This investigation expands the SOR model by recognising and investigating the distinctive contributions of pricing, network quality, promotion, customer service, and brand image, providing a more detailed knowledge of the factors driving consumer choice in the telecommunications industry. The results of this research add to the SOR model by emphasising the importance of pricing for customer satisfaction. As a stimulus, pricing affects customers' cognitive and emotional reactions, which in turn affects their loyalty and continuous usage of telecommunication services. The acceptance of network quality as an important stimulus supports the SOR model. The level of service of the telecommunications network affects people's cognitive and emotional states, as well as influencing their behavioural reactions when it comes to loyalty and continuous use. The research adds to the SOR model by identifying the purpose of promotions as stimuli. The responses of customers to ads influence their satisfaction, which impacts their loyalty and continued involvement with mobile service providers. To demonstrate customer service as a crucial stimulus, the SOR model is strengthened. Excellent or unfavourable customer service situations influence client satisfaction, which impacts loyalty and continuous usage. Considering an understanding of brand image as an important stimulus, the SOR model develops depth. Customer impressions of the telecommunications provider's brand affect their emotional and cognitive reactions, affecting their behavioural responses with regard to loyalty and continuous usage. Within the SOR paradigm, the research proposes alternative attractiveness as a moderator. Recognising how the attractiveness of alternative substitutes could impact the link between customer satisfaction and loyalty. The research improves the SOR model to take into account external variables that may affect the entire procedure. The implementation of alternative attractiveness as a moderator emphasises the changing dynamics of consumer choices and loyalty in the telecommunications business, offering a more complete picture of the elements of customer choice. These theoretical implications offer a basis for future study and a deeper awareness of customer behaviour in the telecommunications industry.

Practically, the outcomes of this research will be in determining how these factors can contribute to the firm's marketing strategy, specifically the non-accepted hypotheses such as price, promotion, and customer service. While the research indicated that price did not have significant direct influence on customer choice, suppliers ought to keep considering pricing strategies. Marketing could include matching price on customer perceptions of value, providing attractive packages, or evaluating creative pricing systems that appeal to buyer demands. Since the hypothesis related to customer service is not acceptable, telecommunication service providers need to focus on outstanding customer service, replying to problems quickly, and upholding an excellent entire experience for customers, may significantly contribute to keeping current customers and attracting more new customers. Meanwhile, get customer service feedback from the client to get insight from the customer directly, which helps to come up with effective strategies. Since promotion showed no substantial impact on customer choice, suppliers may want to think about broadening their approach to advertising. Emphasis on establishing and sustaining a strong brand image that reflects client preferences and desires. Identify the distinctive characteristics or advantages of the services that set them apart from other competitors. Telecommunication providers should upgrade the current telecommunication infrastructure, especially in the poor network area, which will help to increase the network quality. Other than that, the mobile company that provides the services should invest in technical innovation procedures on a regular basis to achieve improved coverage, clear network service, and uninterrupted supply for their clients. Meanwhile, marketing managers must carefully evaluate the important success elements to engage with new consumers and keep existing clients.

(b) Limitations and suggestions for future research

This study has a number of limitations. This study only had a short period of time to conduct the research. Maybe future research needs to conduct periodic research with the same age group of people to evaluate the change in consumer choice among mobile services. Meanwhile, future researchers can conduct comparative studies between different geographical areas, such as rural and urban areas, and also different age groups. Future studies may use qualitative research for an in-depth explanation of customer choice in the telecommunications industry. Meanwhile, in this study, the age range between 20 and 59 years was used. Future research may suggest examining a specific age range, either baby boomers or Generation Y. The next study might look at the way social contexts and saturation of the market impact consumer choice. Other than that, users' demographic features can act as possible moderators of the relationships between factors. Some mobile phone users are using more than one SIM from different mobile service providers. Due to the fact that our time and resources were restricted, future research can be conducted on why consumers desire to have several SIM cards with different networks and the level of customer satisfaction between two different networks.

CONCLUSION

The findings of this study show that network quality and brand image were found to have a positive and significant impact on customer choice in the telecommunications industry. Furthermore, customer satisfaction mediates the relationship between network quality and brand image and is found to have a significant relationship with customer loyalty. Meanwhile, price, promotion, and customer service were found to have an insignificant impact on customer satisfaction. The same goes for customer satisfaction mediates; the relationship between price, promotion, and customer service was found to have an insignificant impact on customer loyalty. Then, the moderating effect of the alternative attractiveness between customer satisfaction and customer loyalty was found to have an insignificant relationship. This shows that price, promotion, and customer service have a lower impact on customer choice towards a mobile service provider. In conclusion, this research finding emphasises that out of eleven hypotheses, four were supported by customer choice. So, this study finding will help researchers, organisations, governments, and business owners learn what keeps consumers satisfied to maintain their trust in telecommunication services.

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