

# Mediating Role of Customer Satisfaction on the Relationship of Perceived Values and Services Quality with Customer Loyalty in the Telecommunication Service Providers in Malaysia

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## ABSTRACT

The aim of the existing literature is to examine the services quality and perceived value's impact on the customer loyalty in the Malaysian telecommunication companies. Additional aim of the current study is to inspect the mediating role of customer satisfaction among the nexus of services quality and perceived value and customer loyalty. The measurement of customer loyalty towards a specific telecommunication service provider with the impact of relevant attributes; such as, service quality, perceived value, price and corporate value, in which customer satisfaction is a moderator to identify customer loyalty in a telecommunication service provider's success. Data was collected from a random sampling of 208 respondents using a questionnaire consisting of 7 demographic questions with open ended questions and 24 items measured on the five point Likert scale. It was found that all the independent variables have a significant effect on Malaysian customer loyalty towards mobile data by telecommunication services providers. Recommendations for future research, marketing implication and limitations of this study are proposed.

**Keywords:** customer satisfaction, service quality, customer loyalty, perceived values.

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## INTRODUCTION

Mobile phones today are equipped with smart phone functionality such as multimedia availability and mobile internet on the go in addition to the standard calling and text messaging facilities. As such, mobile data is now available anywhere and at any time, enabling access to social media spaces and social communication transactions, searching and many more. These are now part of our everyday social interactions that are easily accessible wirelessly, online space, and all through the availability of fast communication. As of the end of 2013, the smartphone penetration rates were as follows, for Maxis 56%, Celcom 38% and DiGi 38.1% respectively (The Star, March 2014). As a summary of 2013, the penetration rate for smartphones stood at 132.1 % (Abd-El-Salam, Shawky, & El-Nahas, 2013; Kaura, Prasad, & Sharma, 2015).

Instant messaging (IM), online searchers and online games are a traditional electronic commerce that has been migrated successfully to the mobile platform. Furthermore these types of technologies act as a foundation for supporting mobile transactions that are important for enterprises.

The wireless adoption specifically in data services are expected to grow in the foreseeable future; the expected compound annual growth rate (CAGR) of 7.2 percent from 2011 to 2016 with total transactions of \$420 billion, while both data and voice call revenue are expected to grow at a CAGR of 1.9 percent has only amounted to \$1,047 billion. Again past studies states that worldwide mobile connections are expected to grow by up to \$ 7.4 billion by 2015, a 48 percent increase on the \$5 billion connections value of 2010; and foresees an overtaking of the PCs popularity as the common device for the surfing of the

internet and website access (Vesel & Zabkar, 2009; Nguyen et al., 2019; Nikhashemi et al., 2013; Pathiratne et al., 2018; Seneviratne et al., 2019; Tarofder et al., 2019). Increasing usage of data services in Malaysia has driven the mobile segment market growth. IDC Report (2013) reported that in the first half of 2013 the total for internet mobile packages or data packages in Malaysia was US\$4.75 billion or RM15.2 Billion, and subsequently has been increased by 14.5 percent when compared to the year 2012. The market for mobile phones still remains attractive and continues showing significant growth as the total revenue in the second half of 2013 was RM11.32 Billion equal to USD3.56 Billion. An increase of 33.4 percent compared to the year 2012.

**Table 1: Competitive Analysis of Malaysian Telecommunications Composition of wireless telecom's share for 2012 (US\$9.8 Billion).**

Item	US\$ million	Percentage %
Mobile voice	4.1	42
Mobile data	3.0	31
Fixed voice	1.1	11
Fixed data	1.6	16
Total	9.8	100

Table 1 above shows the comparison for annual revenue transactions in 2012, the biggest transaction is for Mobile Voice which grew to 42% for a total of USD4.1 billion, second largest was the Mobile Data transactions which grew to 31% for a total amount of USD3 billion, Fixed Voice Data is at 11% for a value of USD1.1 billion and Fixed Data

Services grew to 16% for a transaction value of USD1.6 billion. This is a sign of acceptance of mobile data that resulted in the highest advances in data services revenue (Srivastava & Sharma, 2013).

By 2012, in just three years of revolution and dynamic changes, mobile phone subscribers have increased drastically. For example, Kuala Lumpur has achieved 203.5 per cent of the state population; Selangor stands at 115.4 percent and Negeri Sembilan at 144.7 per cent. This growth is a great achievement; mobile hand phones have become one of the most popular items that enable the users to communicate via Facebook and twitter, access the internet, use instant messenger and access emails via linkage to a mobile data package. Thus it represent user's willingness to adopt advance content wireless technologies and their acceptance of 3G and 4G compared to other wireless services. There is a direct relationship between penetration rates of the smartphone and mobile data; thus when smartphone users increase, it directly increases the demand for mobile data (Lam, Shankar, Erramilli, & Murthy, 2004).

The largest telecommunication provider in Malaysia is known as Telekom Malaysia and has as its core business the provision of local fixed line telecommunications and has diversified into mobile telecommunication. Celcom is a subsidiary of Telekom Malaysia having the aim of penetrating wireless based services in telecommunication; it serves up to 33.33% of the mobile market and the Telekom Malaysia fixed line market with 88% of total service revenue (www.intelecpoint.com). Telekom Malaysia has shown its potential for growth by adopting strategies that penetrate international markets by looking at the threatened traditional fixed line market and at the same time maintaining its position in the saturated domestic mobile business (Su, Swanson, & Chen, 2016).

Table 2 below demonstrates the Mobile Subscriber Market Share, and shows that their major competitors are Maxis and DiGi. In 2003 Celcom and Maxis received a license for operating the 3rd generation of mobile communication (3G); called Wideband Code Division Multiple Asses (W-CDMA) and both have started operating in order to serve these 3G services. Table 2 shows that Celcom was the second largest mobile phone player with a 33.37 market share in Jun 2012, up from 32.06% in September 2009. This increase in demand for Celcom was supported by positive government policy which affected and increased consumer interest in the mobile data services; this gave a boost to the mobile data subscriber growth over the next five years (Nyadzayo & Khajehzadeh, 2016).

**Table 2: Mobile Subscriber Market Share Jun.**

Telecommunication provider	Revenue in Million (RM) Sep, 2009	Percent age (%) Sep, 2009	Revenue in Million (RM) Jun, 2012	Percent age (%) Jun, 2012
Maxis	2156.0	43.15	2,216.0	38.90
Celcom	1602.1	32.06	1,901.3	33.37
Digi	1238.8	24.79	1,579.7	27.73
Total	4996.9	100	5,697	100.00

Today's telecommunication providers compete in a highly competitive environment. Questions regarding the importance of customer loyalty are raised by service providers as it is now of major concern – when a service provider loses a customer, it does not lose one sale but risks the loss of a lifetime opportunity for profitability with that individual.

Although the service providers for wireless telecommunication is limited in number and this business can be considered as an oligopoly market, the providers in this sector are highly competitive. The strategy operated by the market leaders of brand stability however is not gaining the attention among the customer base. Past studies found in his study that the brand label accounted for only one per cent of total retail sales. Many corporations in order to build their brand promote aggressively, spending too high a budget on this objective. Past studies indicates that Asian customers culturally are considered to have high uncertainty and avoidance characteristics, leading them to feel threatened by uncertainty and ambiguity; especially when compared to Western cultures where there is low uncertainty avoidance. In Asia itself, 58 percent of people exhibit avoidance tendencies towards purchasing new products past studies, imagine such a high percentage that demonstrates uncertainty avoidance (Saeidi, Sofian, Saeidi, Saeidi, & Saeidi, 2015).

There is a lack of strategic importance research and analysis of customer loyalty. The lack of research into customer loyalty in the telecommunication sector has led to a narrow view of what constitutes success in delivering mobile data by Malaysian telecommunication service providers and what can be improved upon to achieve greater customer loyalty. The intention of this study is to develop propositions that describe the focus of attention and the actions that need to be taken regarding customer's loyalty by providing a favorable outsourcing framework and environment (Chen & Hu, 2013).

#### LITERATURE REVIEW

The study will extensively review previous relevant research and studies that supported the literature will also be discussed and presented, followed by some discussion on customer loyalty and other possible attributes. The conception and theories of each of the variables that have contributed to previous literature will also be discussed. Past studies defined service quality as the customer's expectation and what they predict towards the service (customer perceptions). Past studies mentioned that service quality is the customers' perception and on how they judge the service that the telecommunication provider gave. Customer's appreciated it when the service exceeded expectation (He & Li, 2011). Past studies suggested that there is a relationship between service quality with customer service satisfaction, as quality is a thing that customer's look forward to in an offer, and which happens to be a constituent of it. There is an issue whereby service quality measurement is hard to define and measure compared to product. Service quality is one tool in generating the customer's satisfaction and can be considered as profit making to the organization. Service is intangible and is an abstract term, thus there is great difficulty in evaluating service quality compared with a products market which is tangible. Therefore, service quality is more a means of measurement, using customer's perception on the quality of the services.

Generally it is accepted that quality is a major factor and indicator in determining the demand of products and services; affecting the competitive advantage of a firm within a sector, in order to be different within the terms of a good market. In measuring their perception, depth of their own imagination and expression of insight happiness are good tools. The opinions of customers are the core component of positive outcomes. The structure and plan of a business should involve more customers in their important decisions and concern the meeting of customer expectation (Han & Ryu, 2009).

Past studies identifies the importance of assessment of service quality towards service expectations. In their research on measuring of customers' expectation with a respondent sample of 363, they found that the existence of technical and functional dimensions of expectation and the causal relationship between both of them. Hence it was confirmed and proven that the service quality model might require a different measurement to explain intangible services.

They further identified that the total customer value is some perceived monetary value of an economic bundle, as well as the psychological and functional benefits from what a customer expects from a given market. Past studies identifies that the concept of customer value has been highlighted as important and has become a fundamental issue to be addressed in every marketing activity. Past studies observed that customer perceived value is a relevance strategy for a company, but many scholars and marketers have difficulties agreeing a common operational definition. The term of customer value, customer perceived value and value are used interchangeably by marketer and researchers refer to the customer deriving and perceiving this from the products and the theories that leads to customer loyalty (He & Li, 2010).

This is about the customer's interest in and desirability of a particular product and its measurable benefit. Furthermore, past studies identify in their research that many researchers on customer value accepted the conceptualization of value.

Dissatisfiers (must be) – This is the fundamental characteristics and expectations of a particular product or services fulfillment as a customer routine expectation, the deficiency of which annoys him. These are features that describe the explicit value expected, such as in the experience of laundry services when a shirt is not ironed. Satisfiers (more is better) – These are conditions and expectations that the product should include a feature requested by a customer and if the particular products or services features are poorly met or inadequate, this will result in customer disappointment. These features are often considered as minimum standards in business and implicit. For example the waiting times for bus services.

The measure of a customer's satisfaction towards a hypermarket is dependent on the service given to them; internal factors also need to be considered as contributing to the quality of services given to them. Subsequently the internal factors of a customer's satisfaction have become tools to determine the quality of services and all these factors will contribute to difficulties in creating a tool to measure service standards (Hussain, Mosa, & Omran, 2017).

A Corporation's function is to generate revenue and maximize profits. The measurement of services has put pressure on a firm to increase sales by increasing

marketing effort even if it is an empty resource in order to generate income. However many studies have used their own experience and people's interaction value as factors that need to be measured. Past studies found that when measuring service quality you need to consider staff behavior (Hussain, Mosa, & Omran, 2018). When measuring customer satisfaction, the construct to be used must fulfill certain requirements; currently the assessment of customer satisfaction is measured by the use of attitude variables. Experience with customer's shows that they would act differently and because the researchers only assumed they will act with a positive behavior, this experience was fulfilled in them. The customers who have had a positive experience will definitely provide feedback to the provider about the service quality (Hussain, Musa, & Omran, 2019).

The customers who have experienced excellent service more than once by a service provider have a high possibility towards repurchase activities. In fact, when determining customer satisfaction the provider who delivers satisfaction will influence the customers' attitude. In order to measure effectively, the customer satisfaction moderates and becomes part of service quality satisfaction and this then becomes repetitive. The positive relationship between satisfaction and loyalty was proven by a number of researchers. Furthermore the past studies found that a satisfied customer will have the intent to become loyal with or without mediator variables or other antecedents. Some researchers have agreed, while a few researchers disagree, with the proposal. Thus it can be suggested that increasing the level of satisfaction will increase customer loyalty towards particular products (Hussain, Musa, & Omran, 2018).

Demographics of customers are also very important as factors of satisfaction that need to be considered; this element includes gender, age, occupation, education and income. Many supermarkets and hypermarkets around the world have had their attention drawn to this concept. In advanced countries it has become a vital and important factor as a determinant of customer satisfaction. Today's customers are more educated, have high incomes and purchasing power; having more knowledge in analytic criteria and awareness before making any decision or choice (Nawaz, Afzal, & Shehzadi, 2013).

Three decades ago, somewhere in the 1980's, the concept of customer loyalty was identified but was only based on product or services quality. This concept was not explored any further because the customer mind set only demanded the basic needs of products and services. In the beginning of the 1990's many companies started to slowly transform their focus to becoming customer driven; segmenting customers according to their needs and wants started after companies realized that customers had become much smarter (Hussain et al., 2012).

However in the late 1990's, after realizing the importance of responding to competitors; the companies focused on identifying strengths and weaknesses and in order to compete with their competitors introduced the latest and distinctive benefits of the product into the market. At the beginning of the twentieth century the concept began to shift to the customer as a primary target; this evolved and created the customer as king, being treated with the finest quality products and services according to their individual characteristic needs (Nawaz, Azam, & Bhatti, 2019).

Many variables can relate to brand equity .e.g. symbol and packaging, price sensitivity, brand naming strategy,

promotional effect, public relations, company image, slogan and promotional effect. In marketing literature there are arguments about the management and measurement of brand equity; and since there are many sets of suggestions on better measurable methods this will continue to be disputed. However there are four dimensions of brand equity that are accepted in most of the literature, these are; brand associations, brand awareness, perceived quality and brand loyalty. Brand associations are anything that is connected with a brands characteristics, history and environment within the customer's memories. Past studies mentioned in their studies that perceived quality is a tool for describing core aspects in a customer based brand equity framework. While past studies found that brand loyalty attributes have strong possession of brand equity. Many researchers have proven the relationship between brand equity and loyalty; these indicate that brand equity contributed to customer loyalty (Nawaz & Hassan, 2016).

#### Hypotheses Development.



**Figure 1: Theoretical Model**

Based on the conceptual model of this study (as shown above in figure 2.1), the hypotheses are developed and presented below:

- H1: There is a positive nexus among the service quality and customer satisfaction  
 H2: There is a positive nexus among the perceived value and customer satisfaction  
 H3: There is a positive nexus among the customer satisfaction and customer loyalty.

#### METHODS

The mediator variable is a variable that seeks to identify and explicate the mechanism that observes the relationship of independent and dependent variables by inclusion of a third explanatory variable.

The study includes these variables:

Demographic data

- Gender
- Age
- Race
- Religion
- Educational level
- Employment status
- Income

Independent variables

- Service quality
- Perceived value

Mediator variable

- Customer satisfaction

Dependent variables

- Customer loyalty

Based on the literature review and observation of the customer using the services of telecommunication providers, a model indicating the customer's loyalty

towards the telecommunication provider was developed. The model consists of four factors of independent variables and one factor of the mediator variable that were determined to have an effect on customer loyalty towards the telecommunication provider. A total of three hypotheses were formulated based on the objective of this research and research questions. Three hypotheses were formulated to test whether there is a relationship between customer loyalty towards the telecommunication provider and the three determinants. The hypothesis being tested in this study are as follows:-

H1: There is a positive nexus among the service quality and customer satisfaction

H2: There is a positive nexus among the perceived value and customer satisfaction

H3: There is a positive nexus among the customer satisfaction and customer loyalty.

The target population for this study was randomly selected from working adults from various sectors; specifically people staying in Kuala Lumpur city where chosen as the survey indicated that this is the fastest growing city in Malaysia. This city was chosen because:-

- i) Target group
- ii) Limitation of Malaysian study
- iii) Limited resources and time constraints

This part of the questionnaire is designed by using nominal and ordinal scales. Gender of respondents is separated into two sections; Male and Female; Age of the respondents was separated into four sections, 25 or younger, 26-30, 31-45 and older than 45. Another question was the race of respondents which is divided into four sections, Malay, Chinese, Indian and others. The religion of respondents is divided into five sections, Islam, Buddha, Christian, Hindu and others. The level of education was separated into four categories, School certificate, Diploma, Bachelor and Master's degree/ PhD. Employment status was categorized as, full time employed, part time employees, self-employed and not employed. The total household income of the respondent was asked to determine the economic condition of the respondent. This was considered to be important because not all respondents work and this can make a significant difference in the respondent's economic condition.

Type of phone was defined as, 2G phone, 3G phone and 4G phone. The bills that customer are willing to pay every month was divided into five categories, first is below RM100, second is between RM101 to RM200, third is between RM201 to RM300, fourth is between RM301 to RM400 and finally above RM400 per month. Customer consideration when purchasing a mobile phone is divided into four categories which are platform, price, style and function. How much the customer is willing to spend for their mobile data package per month is divided into five categories, below RM30, RM30 to RM100, RM101 to RM200, RM201 to RM300 and above RM300. Mobile data used by the customer per month is divided into three categories, which are, below 1GB, 1 GB to 3GB and above 3GB. The application preferred by the customer is divided into four categories, messaging apps, video apps, social network apps and browser apps.

#### ANALYSIS

Findings

The questionnaires were distributed using an internet option and mailed through email to the respondents. From

the 250 notice mails distributed to personal email addresses regarding the questionnaire, there were only 208 respondents to the questionnaire. The 208 completed questionnaires were used as primary data for analysis, this equates to a response rate of 83.2 percent, and this was considered sufficient for meaningful data analysis. SPSS for Windows (version 17.0) was used to analyze the data collected.

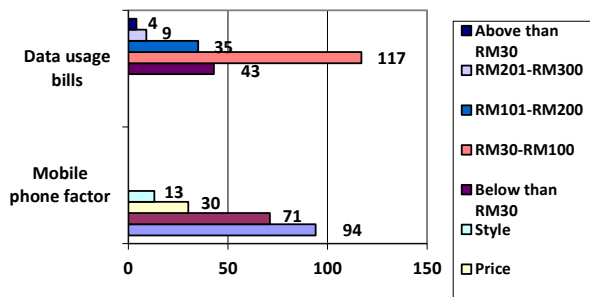
Table 4.1 below, summarizes the descriptive statistics occupation, yearly income, type of phone, willing to spend on bill, priority consideration when choosing of mobile phone, mobile data bill per-month, data usage per month, telco provider and telco plan. The highest respondents were aged 25 and below, a total of 83 (39.9%), followed by 31 to 45 years of age at 63 (30.3%) respondents, the third was the age group 26 to 30 at 54 (26%) respondents and the above 45 years of age group had 8 (3.8%) respondents. The respondents profile classified according to their race resulted in the most respondents being from the Chinese race at 164 (78.9%) respondents, followed by Malay race at 24 (11.5%) respondents, next was the Indian race which had 19 (9.1%) respondents and finally 1 (0.5%) respondent from other races. The majority of respondents in this study therefore are Chinese; this may be partly due to the researcher sending questionnaire invitations to friends, the majority of them being Chinese. Other factors could simply be as a result of the questionnaire being distributed through an internet website (surveymonkey.com) and the random sampling conducted in several places in Kuala Lumpur such as; Cheras Baru, Kepong and Pandan Indah. In these areas Chinese are the dominant race; as a result Malay becomes a minority and for this reason race distribution becomes unequally distributed.

**Table 3: Demographic Profile.**

Variables	Frequency	Percentage (%)
Gender		
Male	126	60.6
Female	82	39.4
Age		
25 and below	83	39.9
26 to 30	54	26.0
31 to 45	63	30.3
Above 45	8	3.8
Race		
Malay	24	11.5
Chinese	164	78.9
Indian	19	9.1
Others	1	0.5
Education		

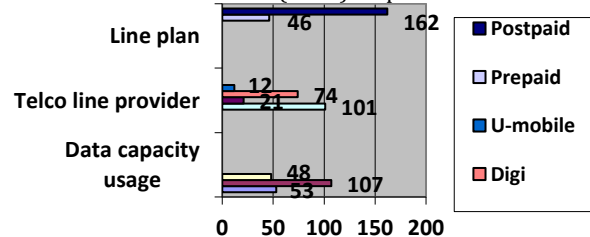
School certificate	27	13.0
Diploma	50	24.0
Bachelor	111	53.4
Master/PhD	20	9.6
Employment		
Full time employed	126	60.6
Part time employed	10	4.8
employed	29	13.9
Income		
Below RM20,000	60	28.9
RM20,001 to RM30,000	25	12.0
36	36	17.3
20	20	9.6
Type of phone own would you like to have?		
2G phone	3	1.4
3G phone	64	30.8
How much are you willing to spend on bill per-month?		
Below RM100	102	49.0
RM101 -	84	40.4
14	14	6.8
What do you consider important when choosing a mobile phone?		
Platform	71	34.1
30	30	14.4
How much do you pay for mobile data package per-month?		
Below RM30	43	20.7
117	117	56.3
35	35	16.8
How much mobile data do you use in a month?		
Below 1GB	53	25.5
107	107	51.4

What is your current Telco provider?	101	48.5
Maxis	74	35.6
DiGi	21	10.1
What is your current Telco Plan?	46	22.1
Prepaid	162	77.9
Postpaid	46	22.1



**Figure 2: Choosing of mobile phone and data bills per month for respondents**

Figure 2 above shows that the choosing of mobile phone factors are separated into four categories; the largest score is for respondent's looking for phone functionality with 94 (45.2%) respondents, respondents choosing because of the operation system platform was 71 (34.1%) 71 respondents, respondents choosing because of price as a factor was 30 (14.4%) respondents and respondents choosing because of style was 13 (6.3%) respondents. For data usage bills per month, the respondents willingness to pay bills below RM30 per month was 43 (20.7%) respondents, the monthly payment bills between RM30 to RM100 was 117 (56.3%) respondents, monthly payment bills of RM101 to RM200 was 35 (16.8%) 35 respondents, for monthly payment bills of RM201 to RM300 it was 9 (4.3%) respondents and the monthly payment bills of RM300 and above it was 4 (1.9%) respondents.



**Figure 3: Data capacity usage, Data service provider and Telco line plan for respondents**

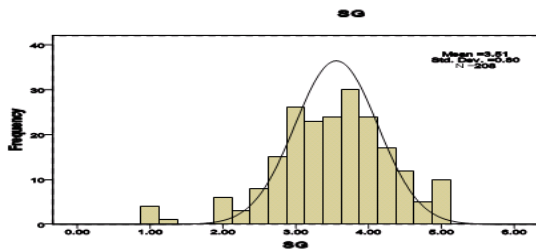
Based upon figure 3 above, the data capacity usage per month by the respondents was as follows; 53 (25.5%) respondents for the range below 1GB, the 1GB to 3GB range had 107 (51.4%) respondents and finally the range of 3GB and above had 48 (23.155) respondents. The telecommunication provider with the highest number of subscribers for the respondents were for the Maxis line with 101 (48.5%) respondents, the DiGi line had 74 (35.6%) respondents, and the Celcom line had 21 (10.1%) and U mobile line had 12 (5.8%) respondents. The type of telecommunication line plan subscription by the respondents showed the majority used a postpaid plan with 162 (77.9%) 162 respondents and prepaid plans had 46 (22.1%).

**Table 4: Preferred application in mobile phone.**

What application would you prefer to use on your mobile phone?								
Service Score	Messagin g Apps		Video Apps		Social Network Apps		Browser Apps	
	Freq uenc y	%	Freq uenc y	%	Freq uenc y	%	Freq uenc y	%
Lo wes t priority	20	9.6	31	14.9	7	3.4	8	3.8
Lo w priority	4	1.9	5	2.4	3	1.4	2	1
Me diu m priority	89	42.8	97	46.6	72	34.6	86	41.3
Hig h priority	18	8.7	27	13	12	5.8	6	2.9
Hig hes t priority	77	37	48	23.1	114	54.8	106	51

Figure 5 shows the mean of the Independent Variable "service quality" stated at 3.51, indicating a moderate level of service quality among respondents towards customer satisfaction. The majority of respondent have scored "agree" to service quality being quite important for a prolonged relationship between the service provider and the customer. This signifies a moderate level of perception by the respondents to the relevancy of the elements in ensuring peoples' perception on service quality. Only a few respondents disagree that service quality is a factor when building customer satisfaction. In this variable only 5 respondents have chosen strongly disagree; the researcher is going to follow up with them by means of a special interview to identify the reason for not agreeing service quality is a factor in maintaining customer loyalty as the remarks from them stated that trust in a certain

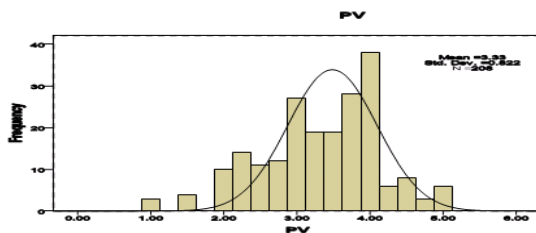
telecommunication is a factor for them to be loyal to a particular telecommunication provider.



**Figure 4: Service quality**

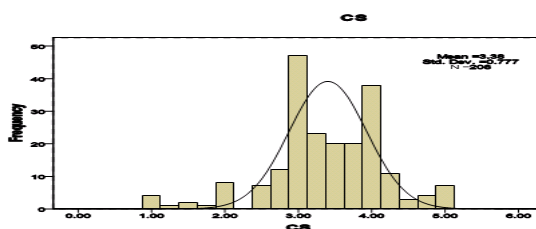
For perceived value the score is moderate with the value of mean at 3.33. This indicates that customer perceptions of values are a most important factor to them when creating their satisfaction. The majority of the chosen respondents agree that perceived value is a factor in creating customer satisfaction and the intentions toward purchasing of telecommunication services. However there are a few respondents that chose strongly disagree and disagree due to their experiences of using communication lines and are of the opinion that having or not having a communication line are no difference to them. For respondents in this situation, who scored strongly disagree and disagree, feel that mobile telecommunication is of no value to them and they are not dependent on mobile phone telecommunications or regard them as a major factor.

Obviously, in today's world, telecommunication has a vital role in connecting people and everybody needs a mobile phone as a device as a means for increasing information seeking, communicating, work and their social life. Everything today is dependent on technology and as a result humans cannot live without such technologies.



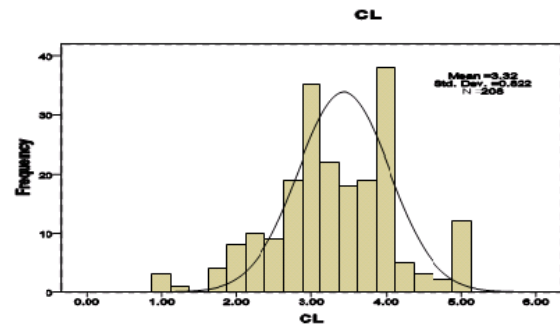
**Figure 5: Perceived value**

The elements of customer satisfaction showed a relatively moderate rating, the mean scores recorded for this element was 3.38. The majority of respondents chose "neutral" and "agree". The readings can be interpreted as a high level of perception and a sign of acknowledgement by the respondents that this element highly contributed towards customer satisfaction. However a few respondents answered "strongly disagree" and "disagree". This was simply because some of the respondents had experienced bad service that lead to dissatisfaction with some of the telecommunication service providers.



**Figure 6: Customer satisfaction**

Figure 8 shows the mean for this variable score to be 3.32 and this finding indicates a moderate level of rating; this indicates that respondents demonstrate loyalty towards a telecommunication provider. The majority of respondents answered "agree" to customer loyalty, leading to continuing the purchase of services from the same service provider.



**Figure 7: Customer loyalty**

H1: There is a significant relationship between service quality and customer satisfaction.

Refer to table 4 above, the hypothesis has a significant relationship between service quality and customer satisfaction at the significant level of 0.00 which is less than a p value of 0.05.

It can be concluded that service quality is positively related to customer satisfaction. However there is a low correlation between both variables as the Pearson Correlation score is 0.394.

Thus hypothesis one is accepted.

The second hypothesis is intended to demonstrate the relationship between perceived value and customer satisfaction. Below is the hypothesis statement:-

H2: There is a significant relationship between perceived value and customer satisfaction.

Table 4 above shows the results of the Pearson Correlation test that has been conducted between the dimensions of perceived value and customer satisfaction. The results reveal that there is an existence of significant value between these two dimensions as the p value is smaller than the significant value ( $p = 0.000$  which  $< 0.05$ ). In addition, there is a moderate correlation between these two dimensions as the correlation coefficient is at ( $r=0.561$ ). It can be concluded as the perceived value is in a positive relationship towards customer satisfaction.

Therefore, H2 is accepted.

Hypothesis three studied the relationship between customer satisfaction and customer loyalty. Below is the hypothesis statement:-

H3: There is a significant relationship between customer satisfaction and customer loyalty.

Table 4 above shows that the results of the Pearson Correlation test conducted between the two dimensions, customer satisfaction and customer loyalty. The results state that there is a significant value between these two dimensions as the p value is smaller than the significant value, ( $p=0.000$  which  $< 0.05$ ). Furthermore there is moderate correlation between these two dimensions as the correlation coefficient is at (0.569). This sign indicates that customer satisfaction will influence customer loyalty towards a telecommunication service provider.

Thus H3 is accepted.

As a conclusion from the hypothesis testing results; service quality, perceived value, and customer satisfaction

area significant influence on customer perception to perform loyalty.

In addition, all variables are scored for p value less than 0.05. The highest predictor of customer loyalty are perceived value (p=0.00 which is less than 0.00) and customer satisfaction (p=0.00 which less than 0.00). Followed by corporate value (p=0.08 which is less than 0.00), price (p=0.009 which is less than 0.00) and service quality (p=0.032 which is less than 0.00) and are significant predictors of customers loyalty

**CONCLUSIONS**

The primary purpose of this study was to identify the main factors that influence customer satisfaction and loyalty towards telecommunication providers with variables derived from the customer satisfaction and loyalty literature. Based on the demographic analysis, the respondents who answered the questionnaire were mainly male respondents; a total of 126 out of 208 respondents or 60% from the whole respondents, thus indicating males are the most frequent users of telecommunication services compared to females. In fact, males are the most active users in general as compared to females. Therefore this study can be applied to male behavior in this particular research.

The race of respondents in this study shows that the majority are Chinese with 164 respondents, while another 24 respondent are Malay, the Indian race scored 19 respondents and the other races only 1 respondent. Based on the data of respondents, Chinese are the most active and frequent users of telecommunication, although the other races such as Malay and Indian are the second and third largest users in Malaysia.

Essentially, the majority of respondents in this study have a bachelor degree; at 111 respondents this is more than half of the total respondents surveyed. This indicates that the current trend is for Bachelor Degree holders to be the highest users of the telecommunication services for communication and searching for related issues on the internet. The Second largest group of respondents is the Diploma holders with 50 respondents, while School Certificate holders had 27 respondents and Master or PhD holders had only 20 respondents. Based on this survey, the active and largest users of telecommunication lines is the Bachelor Degree holder and can be identified as the largest spending group on telecommunication lines in Malaysia.

The mobile monthly data package data showed the respondents are willing to subscribe to every month and are divided into four answers: below RM30, RM30 to RM100, RM101 to RM300 and above RM300. Most of the respondents are willing to spend RM30 to RM100 per month for their data package, 43 respondents choose data packages below RM30, 35 respondents would prefer to have the price between RM101 to RM200, 9 respondents would prefer the monthly bill between RM201 to RM300 and only 4 respondents are willing to spend RM300 and above for their data package. This indicates that the respondent would consider reasonable pricing when choosing their data package plan. The telecommunication service providers should consider offering prices slightly lower in order to enjoy economy of scale.

Mobile data capacities used per month by respondents are divided into three categories; below 1 GB, 1 GB to 3GB and 3GB and above. The highest score is between 1GB to 3GB, followed by 53 respondents for below 1GB and 48 respondents for 3GB and above. The majority of respondents choose medium data capacity per month,

therefore service providers should focus their markets on the medium data capacity users of telecommunication lines.

Fast changing and declining telecommunication technology within a few decades is depicted in chapter one and this has positioned the telecommunication companies as a high technology risk. Hence, a company should identify the key elements of the issues that can be improved over time; this will assist in increasing market share and win back business from their competitors. In fact looking at the telecommunication sectors current business performance, the companies need to take this opportunity to understand the possible causes for their business declining. As discussed in previous section, the aim of this research is to study the key success criteria for gaining and increasing customer loyalty towards mobile data provided by the telecommunication providers in Malaysia. To investigate the factors that contribute to customer loyalty in mobile data towards established telecommunication providers in Malaysia.

**Table 5: Pearson correlation of variables.**

Correlations		Service quality	Perceived Value	Price	Corporate Value
Pearson Correlation		.394*	.561**	.680**	.675**
Sig. (2-tailed)		.000	.000	.000	.000
N		208	208	208	208

\*\* Correlation is significant at the 0.01 level (2-tailed).

To view the factors that contribute to customer loyalty on mobile data towards established telecommunication providers in Malaysia, table 5 above explains the level of correlation between variables. As service quality results of the Pearson Correlation stand at 0.394, perceived value at 0.561, price at 0.680 and corporate value by 0.675. The highest correlation is price, followed by corporate value, perceived value and service quality.

Based on table 4, service quality scored a low correlation between both variables. It can be concluded the service quality variable has less of an impact on the customer loyalty factor towards telecommunication service from a particular line provider. This indicates that the service quality variable distributes only 39.4% impact factor towards customer loyalty. However perceived value scores moderate correlation of 0.561 and is the third highest score. The perceived value somewhat influences customer satisfaction. Finally, corporate value scored the second highest with a correlation value at 0.675. This



indicates that respondents agree that corporate value is an important factor in influencing customer satisfaction. For instant, many customers purchasing telecommunication services consider a particular telecommunication service providers value amongst their friends, family, relatives or even communities. To examine the relationship factors concerning customer loyalty on mobile data towards established telecommunication providers in Malaysia.

**Table 6: Coefficients**

Model	Unstandardized Coefficients	Standardized Coefficients	T	Sig.		
	B	Std. Error	Beta			
1	(Constant)	.926	.301		3.075	.002
	SG	-.143	.066	-.139	2.160	.032
	PR	.211	.060	.209	2.366	.009
	CV	.247	.093	.221	2.664	.008
	CS	.312	.077	.296	4.041	.000
	PV	.321	.075	.321	4.250	.000
a. Dependent Variable: CL						

H1: There is a positive nexus among the service quality and customer satisfaction.

Hypothesis one showed a significantly positive relationship among both variables and was accepted. As shown in table 6, the coefficients table analysis between service quality and customer satisfaction was significantly positive. The Beta of the service quality variable was found to be -0.139, at a significant level of 0.032, with the significance level for the p-value of 0.032, which is below 0.05. This indicates that service quality could predict customer loyalty by 13.90 percent of the predictor level over customer satisfaction. Therefore, this hypothesis was accepted.

H2: There is a positive nexus among the perceived value and customer satisfaction.

As shown in table 6, Hypothesis H2 was accepted because the multiple regression analysis between perceived value and customer satisfaction was positively significant. The Beta of the perceived value was found to be 0.321, with a significance level for the p-value of 0.000, which is below 0.05. This indicates that the impact of the predictor level

for perceived value over customer satisfaction is 32.1 percent. Therefore, this hypothesis was accepted.

H3: There is a positive nexus among the customer satisfaction and customer loyalty.

As shown in table 6, Hypothesis H5 was accepted because the multiple regression analysis between customer satisfaction and customer loyalty was positively significant. The Beta of the customer satisfaction variable was found to be 0.296, with a significance level for the p-value of 0.000, which is below 0.05. This indicates that the customer satisfaction predictor towards customer loyalty level is 29.6 percent. Therefore, this hypothesis was accepted. For the element of the Price variable upon customer satisfaction, Table 6 shows that the interactions between the Price element and Customer Satisfaction have the value of 0.211. Clearly the results show that the moderate value in the element of Price in Customer Satisfaction creates customer loyalty. Corporate value and customer satisfaction have a positive relationship among both variables. Table 6 shows the Beta between corporate value and customer satisfaction with a score of 0.247; it indicates that there exists interaction between both variables. Many of the researchers integrate the linkage between the corporate and customer values as a way to achieve its core competencies in reaching competitive advantage. The corporate value can significantly be used as a device to communicate to customers by providing better service quality functions. Corporate value for customer segmentation is necessary for offering different packages to different segments of customers that necessitate the emphasis of the service dimension. This could improve the possibility of increasing their customer satisfaction and increase loyalty to a particular service provider.

Finally, the link between customer satisfaction and customer loyalty had the second highest score with a Beta score of 0.312. In addition from the statistical report it can be interpreted that increasing customer satisfaction leads them to increased customer loyalty. Significantly it can be concluded that as customers have a positive attitude resulting in satisfaction, it will create customer values and intention to recommend a telecommunication providers services to friends, family or relatives. This result is consistent with the past studies which found that attitude creates customer values that have a direct relationship with customer loyalty. In their study; by assessing the effects of quality, value and customer satisfaction on consumer behavioral intentions in service environments, result in both direct and indirect effects on service value and behavioral intentions.

In conclusion, based on the results of this research, customer loyalty can be influenced by service quality, perceived value, price, corporate values and can lead a customer towards customer loyalty. As a result, all variables have an influence on customer loyalty. The implications that have arisen from these research findings is divided into two parts; (i) Implications for telecommunication service providers. (ii) Customer implications, these are outlined and discussed in the following subsections.

**Implications of the Study**

Service quality cannot be compromised and becomes an important implication and if enhanced and sustained in a company's performance will result in creating competitive advantages. Attention towards service quality is not something many organizations do extremely well; it

requires long term commitment, investment, planning, implementation, time, effort and leadership. These types of commitment lead to developing an internalization of quality orientation that parallels with the corporate culture in all situations. Thus an organization needs to possess the requisite resources, knowledge and skill in order that they have a leading edge quality based strategy that supports their pursuit of competitive advantage; which is then translated into a high performance and superior organization. Thus, customers acknowledge quality as a support mechanism and not as a company's competitive advantage.

Perceived value is also important for managers to consider as part of their marketing strategies. Perceived value is seen to be an important factor that influences the consumer behavior and a source in the gaining of competitive advantage. Perceived value is different when based on; the object, individual and circumstances. Within the same product the customers evaluate different values or different degrees, depending on the individual. Past studies identified that customers value certain products before their current experience, after purchase and repurchase. It is associated to the benefit(s) that a customer gains in the monetary cost benefit that is given up to acquire the products. Therefore, managers should give more focus to customer perceived value when trying to gain market share.

Everyone in the organization should play a role and take responsibility for assisting the customer in resolving any problem that may arise. The building of staff expertise, adhering to some standard procedures and the setting of high standards are all part of setting the strategy for building customer satisfaction and brings meaning and purpose to employee's empowerment to customer focus. Implementing a customer service department is another way of appreciating and helping the customer by offering after sales and extra services.

#### Limitation of the study

A sample size of 208 respondents is not sufficient to detect any significant association between the socio-demographic characteristics and the level of customer loyalty. An analysis of this survey's results regarding customer satisfaction to purchase behavior has shown that the five elements of the independent variables and demographic factors are good predictors of customer loyalty. Therefore, this implies that the customer's level of satisfaction leading to purchase behavior can be improved if the attributes of these dimensions are met.

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