CORPORATE COMPETENCE DETERMINING FACTORS IN CHINA TELECOM INDUSTRY IN ACHIEVING CUSTOMER SATISFACTION

Liu Chun, Jacqueline Tham, S. M. Ferdous Azam
Postgraduate Centre (PGC), Management and Science University, University Drive, Off Persiaran Olahraga, 40100 Shah Alam, Selangor, Malaysia

Abstract:
Fortune Global 500 has awarded China Telecom the Most Honored Company, the Best Managed Company in the Asia Telecommunication Sector, as well as the Best Managed Company in Asia by esteemed international institutions for consecutive years. The gap is still large compared to China Mobile’s percentage of 80%, thus this research is performed to understand the determining factors in China Telecom Industry in achieving customer satisfaction. The current study is using the descriptive design as the most appropriate study design for this kind of study. This research is aimed at collecting primary data. From this study, the researchers have found out that price is significant to Customer Satisfaction. Based on the findings of this study, it states that a brand image is significant to Customer Satisfaction, the researchers have found out that the quality of services is not significant to Customer Satisfaction. Further study should take into consideration the longitude of time to collect proper data with a well and modified questionnaire. Thus, this research assisted the telecommunication industry to stay informed regarding the three imperative variables and consistently screen their consumer satisfaction thus guaranteeing the greatest fulfilment among the customers.

Keywords: corporate competence, China telecom industry, customer satisfaction

1. Introduction

China Telecommunications Corporation (China Telecom) is one of the largest state-owned telecommunication companies in China, with a total registered capital of

Correspondence: email 214011129@qq.com
RMB220.4 billion. At present, the size of China Telecom’s total assets exceeds RMB 700 billion, with annual revenue of more than RMB 380 billion (China Telecommunication Industry Revenue Statistics, 2019). Ranking 132nd in the 2016 Fortune Global 500, China Telecom was awarded the Most Honored Company, the Best Managed Company in the Asia Telecommunication Sector, as well as the Best Managed Company in Asia by esteemed international institutions for consecutive years. With the world’s largest broadband Internet network and a leading-edge mobile network, China Telecom can provide cross-region, fully integrated information services to global customers through its sound customer service channel system. Its comprehensive service capability has earned China Telecom a large customer base. By the end of 2016, the number of its broadband Internet subscribers exceeded 144 million, mobile subscribers exceeded 215 million, and fixed-line subscribers exceeded 132 million (China Telecommunication Industry Revenue Statistics, 2019).

After several reorganizations and adjustment, there remain three telecommunication carriers to compete, namely, China Mobile, China Telecom and China Unicom (China Telecommunication Industry Revenue Statistics, 2019). By the end of 2017, China Telecom’s mobile communication subscribers reached 250 million, fixed net subscribers reaching 141 million, with yearly revenue reaching 19.3 billion. It is expected that by the end of 2017, China Unicom’s mobile communication subscribers reached 215 million, fixed net subscribers reaching 78.9 million, and Yearly revenue reaching 13.44 billion (National Bureau of Statistics of China, 2017). China Mobile e communication subscribers reached 900 million, fixed net subscribers reaching 135 million, and Yearly revenue reaching 39.18 billion (National Bureau of Statistics of China, 2017) as referred to Table 1.

<table>
<thead>
<tr>
<th>Companies</th>
<th>Mobile Communication Subscribers</th>
<th>Fixed Net Subscribers</th>
<th>Yearly Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Telecom Corporation Limited</td>
<td>250</td>
<td>141</td>
<td>193000</td>
</tr>
<tr>
<td>China Unicom Limited</td>
<td>215</td>
<td>78.9</td>
<td>134400</td>
</tr>
<tr>
<td>China Mobile Ltd</td>
<td>900</td>
<td>135</td>
<td>391800</td>
</tr>
</tbody>
</table>


China Telecom and China Mobile Ltd are among top 10 telecommunication companies in the world (Fortune 500) with the market value of more than $50 billion and servicing telephone and wireless connection needs globally. While several company attributes can distinguish the Big Ten, market value serves as the determining factor for this list (Parietti, 2019)
Liu Chun, Jacqueline Tham, S. M. Ferdous Azam
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Table 2: The World's Top 10 *Telecommunications* Companies in the World

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Name</th>
<th>Market Value</th>
<th>Customers</th>
<th>State</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>China Mobile Ltd. (NYSE: CHL)</td>
<td>$215.3 billion</td>
<td>849M</td>
<td>China</td>
</tr>
<tr>
<td>2</td>
<td>Verizon Communications, Inc. (NYSE: VZ)</td>
<td>$191.72 billion</td>
<td></td>
<td>United States</td>
</tr>
<tr>
<td>3</td>
<td>AT&amp;T Inc. (NYSE: T)</td>
<td>$245.58B</td>
<td>355 M</td>
<td>United States</td>
</tr>
<tr>
<td>4</td>
<td>Vodafone Group plc’s (NASDAQ: VOD)</td>
<td>$68.41B</td>
<td>444 M</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>5</td>
<td>Nippon Telegraph &amp; Telephone Corporation (NYSE: NTT)</td>
<td>$86.13B</td>
<td></td>
<td>Japan</td>
</tr>
<tr>
<td>6</td>
<td>Softbank Group Corp.</td>
<td>$81,459.54 M</td>
<td></td>
<td>Japan</td>
</tr>
<tr>
<td>7</td>
<td>Deutsche Telekom AG</td>
<td>$76.11B</td>
<td>100M mobile customers</td>
<td>Germany</td>
</tr>
<tr>
<td>8</td>
<td>Telefonica S.A. (NYSE: TEF)</td>
<td>$52.84B</td>
<td></td>
<td>Spain</td>
</tr>
<tr>
<td>9</td>
<td>Mexican company America Movil (NASDAQ: AMOV)</td>
<td>$49.385B</td>
<td>363.5M</td>
<td>Mexico</td>
</tr>
<tr>
<td>10</td>
<td>China Telecom</td>
<td>$309.16B</td>
<td>194M</td>
<td>China</td>
</tr>
</tbody>
</table>

Currently, three major telecommunication operators in China have all expanded their market with rapid development. However, some underlying problems exist. Whereby, the efficiency of China Telecom is not maximized and have not reached its target profitability due to a low efficiency. Thus, a study needs to be conducted to improve the competitiveness of China telecommunication industries.

China United Network Communications Group Co. Ltd saw its net profit jump 176.4 percent year-on-year to 430 million yuan in 2017, as the country’s mixed-ownership reform has enhanced its competitiveness and improved financial performance.

![Figure 1: Comparison of the net profit in 2017](image)

(Continued on the next page)
In the first half of 2018, the three major telecom operators made a total of 81.77 billion yuan with China Mobile taking the lead in net profit of 65.6 billion yuan. China Telecom’s net profit rose 8.1 yuan to 13.57 billion yuan, China Unicom’s net profit rose to 2.6 billion yuan[H].

The percentage of net profit of China Telecom (among the three major telecommunication carriers) increased by 3% from 14% at the end of 2017 to 17% at the end of the first half of 2018. But the gap is still large compared to China Mobile’s percentage of 80%. After many years of rapid development and reformation, China Telecom has become one of the three major operators of the industry. However, there are also many problems in the development of breakthrough, especially in becoming the most competitive industry. Therefore, it is of great significance for China Telecon to strengthen the construction of core competence and competitiveness structure and to
cultivate and strengthen the core competitiveness which is directly related to the further sustainable and healthy development. The main objective of this study is to determine factors of China Telecom Industry to achieve customer satisfaction and corporate competence. The study is significant for China Telecom as well as for the telecommunication industry in China due to the large population and the application of massive internet and mobile terminals providing solid base and opportunities for the telecommunication operators to continuously develop in the future. Though the results are beyond imagination, imbalances exist among the major three telecommunication operators. This study therefore makes a deep and overall discussion of the problems that China Telecom faces and provides some practical strategies and methods for China Telecom to improve its competitiveness advantages.

2. Literature Review

The concept of telecommunication operation enterprises competitiveness means the process and ability of adapting to and controlling the external environment. This suggest the ability of a telecommunication enterprises ability to maximize internal and external resources, such as communications technology and facilities, funds, personnel, and so on, through organization and management. Besides, it means the ability to provide communications and information services to customers to occupy a comparative advantage in the telecommunications market.

According to Holt (2004), a company’s reputation is always represented by their brand images. Recently, it has been found that modern and strategic marketing agencies used mass media, billboards, wall post as their marketing media where they would post the company or brand image of the product or services (Lambiase, 2003; Azam and Moha Asri, 2015; Tham et al., 2017; Udriyah et al., 2019; Al Shehhi and Azam, 2019a; Tao et al., 2019). However, Figure 2.1 represented the sources of consumer perception that has been mentioned in many earlier studies. Like Ferreira (2007), Pappu and Quester (2006) and Yoo et al., (2000) gave their attention to brand image, advertising, pricing, distribution policy, sales promotions, that are the vital factors which influence the consumers perception for purchasing products or services. These are the factors that are used by a hypermarket decision maker to sell their product in competitive markets. According to Pappu and Quester (2006), the brand image, advertising, pricing, distribution policy, sales promotions are the key elements that would attract the customer and make them happy to consume the product or use the services.

2.1 Consumers Behaviour Theory and Model

Howard (1994) in his buyer choice model built a linkage of six key ideas; confidence, purchase intention, purchase, brand recognition, and information within a function of a number of interlinked procedures of attitude. He additionally said that a purchase is depicted as a capacity of mentality toward a brand and their certainty on the judgment of value, shopper inspiration, advertising blend variables, for example, value and spot.
As per Lavidge and Steiner's (1961) purchasers go through an arrangement or stages in their purchasing choices. This model spotlights on the mental handling steps that embody the cognitive and full of feeling measurements of disposition in which the cognitive measurement is related to some activity results (Purchase).

Olson (1977) proposed a straightforward two stage data preparing model in order to clarify how a buyer would use instructive signals to achieve different assignments that are assessment and decision. Olson (1977) calls the first stage the prompt securing. At the point when jolts are displayed to the shopper, he or she chooses, encodes and stores particular prompts as unmistakable convictions, enlightening convictions or inferential convictions.

The second stage is the effect of the brand or item assessment (sign reason) where at this stage, the customer measures the estimation of the signs, chose for judgment and arriving at a general assessment of the result of investment.
2.2 Consumer Purchase Decision Model
The established model of the consumer purchasing decision is for the most part acknowledged in the investigation of consumer behaviour and marketing, by the Boston Counselling gathering (1998). This model stated that buyers show an anticipated arrangement of conduct when making buys and went towards tackling an apparent issue or fulfilling a perceived need (Peter et al., 1996; Haque et al., 2014; Rachmawati et al., 2019; Tarofder et al., 2019; Al Shehhi and Azam, 2019b; Azam et al., 2014; Haur et al., 2017; Tarofder et al., 2017; Katukurunda et al., 2019; Chong et al., 2019). They further clarified that the buying process starts when the shopper becomes mindful of a distinction between a genuine and perfect condition of undertakings and along these lines distinguish their needs. Shoppers not only would settle on choices with respect to which alternatives to pick but also, they additionally would choose what amount of the to buy. It takes after those shoppers are fulfilled by their buy; results incorporate positive feelings, view of brand believability, fulfilment with retail situations and item fulfilment (Kim, 2007; Jayasuriya and Azam, 2017; Dewi et al., 2019; Nguyen et al., 2019; Kanapathipillai and Azam, 2019; Gunasinghe et al., 2019; Maghfuriyah et al., 2019; Pushpakumara et al., 2019; Al Shehhi and Azam, 2019c).

2.3 Consumers Perception
According to Ferreira (2007), there were five topics that emerged out of the exploration results with regards to shopper discernment: (a) product (b) people (c) simplicity (d) information (e) brands. These three inductions are the area of which this study ventured into, building constructive view of the item or administration; constructing a constructive association in the middle of individuals and item and/or administration; fabricating a site rich with data that can be seen by various societies. The case in point being: female
pictures are perceived internationally as capable images that would draw clients into an appealing system of items and administrations.

Publicity uses alluring ladies as adornments and uses the force of delightful ladies to lure new shopper to utilize an organization’s item (Lambiase, 2003). The picture of a partnership is outlined inside its corporate image (Holt, 2004). Cutting edge society is encompassed with pervasive corporate symbolism found on boards, lifts and televisions. Carman (1990) expressed that Customer Satisfaction is encouraged when the administration offered by the association has surpassed their desires. In the meantime, Woodside, Wilson and Milner (1992) expressed that the clients of business administrations have a tendency to stay with the same supplier (association) on the off chance that they are fulfilled by the administration conveyed in a steady premise. Moreover, a client who fulfilled by the administration supplier could prescribe the supplier to other clients as well (Lam, Shanker, Erramilli & Murthy, 2004; De Silva et al., 2017; Kuruwitaarachchi et al., 2019; Pambreni et al., 2019; Fernando et al., 2019). In an administration benefit chain, Heskett, Jones, Loveman, Sasser and Schesinger (1994) characterized that a low level of CS will prompt lower client maintenance rates and less referrals, which would mean decreased productivity and backing off the development of the organization’s income.

2.4 Customer Satisfaction

Customer satisfaction is the legitimate outflow of the status of satisfaction and will vary from an individual to individual and from an item/administration to item/benefit and this is an evaluation of how the items and administrations of an organization gets together or surpass client suspicion. Satisfaction is the outcome from the various mental and physical variables which than take up with satisfaction practices. According to Kotler and Armstrong (2010) the definition of satisfaction is where “a person’s feeling of pleasure or disappointment resulting from comparing a product’s perceived performance (or outcome) in relation to his or her expectations”. Whereas other prominent researchers, Hokanson (1995) claimed that the different factors that affect customer satisfaction are responsive employees, well-mannered employees, educated employees, cooperative employees, correctness of billing, billing relevance, competitive pricing, service feature, superior value, billing transparency and fast service.

Client satisfaction is the clients’ aggregate origination of a company’s administration execution (Johnson and Fornell, 1991). Elective choices and products/services accessibility for a client may make a contrast in the customer’s satisfaction level. Associations can fulfil their customer satisfaction by fulfilling their clients' needs and wants (La Barbera & Mazursky, 1983). In a mobile telecommunication transaction, the customer’s satisfaction is the client’s post-buy evaluation and their enthusiastic reaction or response to the general item or administration recognition in the mobile commerce environment (Lin and Wang, 2006).
2.5 Price
The satisfaction of customer is influenced by price consciousness (Iyer and Evanschitzky, 2006). In accounting, price is deemed as the measure of instalment asked for by the merchant of a particular merchandise or service. In proportion to the amount between two products that is being traded is characterized as price from an economic perspective. Price is dictated by a few variables, for example, the eagerness of the buyer to pay, the ability to accept, expenses, mark-up, legitimate environment, power of competition price substitute products and so forth. For distinctive item/mark quality price likewise shifts and price has an impact on the monetary execution of an item or quality of a brand (Etgar, 2002). Many business organizations are focusing on price variances which deal with the level of price performance and value judgments of the customer that is than derived from the customer’s satisfaction judgements. According to Voss et al. (1998), price and performance are related, thus this might provide an impact on the customer’s satisfaction judgement, but in some cases, it might not affect the customer’s satisfaction at all. Lien and Yu-Ching (2006) mentioned that at time, pricing has some effects on customer loyalty in different transactions venues, such as fuel stations, banks, car repair shops, etc. According to Estelami et al. (2001), the customers’ experience in prices may be influenced by natural monetary components, for example, premium rates, unemployment, swelling and entry of time and GDP development.

Researchers have been proposing different concepts of pricing strategies with different product lines. Many customers prioritize pricing when shopping at any retail store (Grewal, et al., 1998). According to Campbell (2003), the variation of price is highly associated with the customer’s responses, if the price becomes very low, most customers would be attracted to purchase that product, while they would feel they are being treated unfairly if it was a high price.

Many customers perceived that a high price means that the product or service is of a high quality. They feel that a price is the main indicator when judging a products quality. Price fairness is perceived by many customers as one of the most vital issues due to its relationship with quality (Martin et al., 2009). The explanation behind an increment in cost is sensible in the event that it is identified with the components outside the control of the firm, for example, an increment in price of supplier.

Reasons are unpardonable when the elements are internal to the firm, for example, an increment in the overall revenue (Vaidyanathan and Aggarwal, 2003). According to Zielke (2008), the pricing level and promotional offers may influence the level of dissatisfaction or satisfaction of the customer on price fairness, high prices sometimes may become a disadvantage in attracting customers. Finally, there is a great influence that exists when the marketer offers a different level of price; and that the mixed strategy of pricing has an impact on the customers mind (Matzler et al., 2006).

2.6 Brand image
Brand image is characterized as an impression of a compilation that is reflected in the affiliations that is held in the customer mind (Keller, 1993). It is the whole individuals'
impression of an association. There are several factors where brand image can be perceived by the customers. They may be the sound, smell of the product, touch, scene, taste and touch, services, experiences, and other affiliations of the business (Smith & Taylor, 2004).

There is outer view of all human and physical assets of an association, particularly qualities as employees’ behaviours and attitudes, correspondence levels, apparel and so forth (Pampaloni, 2006). It is characterized as the impression of an association that the customers’ hold in their memories. Since it acts as a channel through which an organization’s entire operation is seen, a brand image reflects the company’s general notority and eminence (Kim & Lee, 2011). It is clear that a brand image is concerned with the impression it makes on the consumers’ personality and the view that emerges as a result of that impression. In due to this fundamental manner that GSM administrators worry about the way it is viewed by their stakeholders, for example, representatives, government, media, clients, shareholders, and population, as these influences both first time and repeat purchases.

Recently, within competitors, brand image has become an important issue in order to attract and attain customers. A good brand image has the capacity to attain and retain satisfied customers and increase customer loyalty in the industry (Gronroos, 1988). Researchers have been linking the relationship between brand images, customer loyalty and their satisfaction. According to Anderson et al. (1994), a good brand image can enhance the level of customer satisfaction which is also a reason for better customer loyalty. A proper managed brand image can enhance a higher level of customer retention in the business (Smith and Taylor, 2004). From the study Kandampully (2007), it has been empirically confirmed that brand image affects both customer loyalty and their level of satisfaction. From the above discussion it has been clearly identified that brand image is an important issue among all the other issues which can affect a customer’s satisfaction toward a company’s product and services. Many studies have been conducted to identify and understand the nature of the relationship between brand image and customer satisfaction in different industries such as the banking industry, telecommunication, soft drink etc. (Chen, 2008; Groholdt et al. 2000; Liu, 2008).

2.7 Quality of Mobile Service

The quality of any product or service is the main component for selection (Crosby, 1996). Quality has been identified as the differences between customers perceived and expected performance of any product or service (Kang, 2006). Customer perceived quality of a service is either an impression of positive or negative in nature from the service provider (Bitner et al., 1990). The satisfaction of the customer is highly associated with the perceived quality of the services provided by the company (Yoo and Park, 2007). Consequently, the service quality provided by the telecommunication companies may vary from company to company.

Researchers have confirmed that the quality of services is highly linked with customer satisfaction. According to Venetis and Ghauri, (2004), the level of customer
retention towards a particular company greatly depends on the quality of service provided by the company. For this reason, it has been found that the quality of services has provided the outcome of high sales volume, maximum profit and a great market share (Buzzell and Gale, 1987). The superior level of service quality can assure a company to be able to offer a premium pricing for their customers (Brown et al., 1992). Great services quality would upgrade the clients’ good behavioural plans while at the same time lessens their unfavourable propositions (Zeithaml et al., 2008). Hence, it has been assumed that telecommunication companies who are providing a high level of quality service can satisfy and retain more customers.

2.8 Competitiveness Factors and Structure of Telecommunication Carriers
Yu (2004) put forward the competitiveness of an enterprise is considered in the following five parts: enterprise economy, enterprise marketing, enterprise technology, and enterprise assets. In the Model and Application of Enterprise Competitiveness Analysis based on judgment Appraisal, Lu Jian refined the standard to 48, of which 20 fixed quantity index and 28 definite index. Such as the concept of business, tax preferential sales channel coverage and so on. Li Gang, of the Institute of Industrial and Economic Studies of the Chinese Academy of Social Sciences, will focus on the telecommunications industry. The competitiveness index of electronic communication industry can be divided into three categories, for instance, model index, efficiency index and lengthening index. Chen Zhong, manager of Heilongjiang Branch of China Unicom, believes that the competitiveness of telecommunications enterprises is reflected in the following ten aspects: network competitiveness, product competition, price competition, and brand competition.

Li (2012) put forward the viewpoint: the competitiveness of the enterprises is divided into two aspects: the dominant competitiveness and the invisible competitiveness. Explicit competitiveness includes enterprise scale, profit level, enterprise appearance and customer loyalty. Invisible competitiveness includes service quality, network scale, human capital, etc. Technical level and operation mode of five I-level indicators.

Table 3: Index set of factors affecting competitiveness

<table>
<thead>
<tr>
<th>Target</th>
<th>Classification</th>
<th>Grade I index</th>
<th>Grade II index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enterprise competitiveness</td>
<td>Invisible competitiveness (qualitative)</td>
<td>Quality of service</td>
<td>Communication quality, Employee service quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Operation mode</td>
<td>Operational mechanism, Organizational structure</td>
</tr>
<tr>
<td></td>
<td>Corporate image (CI), Enterprise image (brand image)</td>
<td>Customer loyalty</td>
<td></td>
</tr>
<tr>
<td>Dominant</td>
<td>Profit level</td>
<td>Capital profit rate, Ratio of income as a percentage of sales</td>
<td></td>
</tr>
</tbody>
</table>
Liu Chun, Jacqueline Tham, S. M. Ferdous Azam
CORPORATE COMPETENCE DETERMINING FACTORS IN CHINA TELECOM INDUSTRY
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<table>
<thead>
<tr>
<th>Target</th>
<th>Classification</th>
<th>Grade I index</th>
<th>Grade II index</th>
</tr>
</thead>
<tbody>
<tr>
<td>competitiveness</td>
<td>(quantitative)</td>
<td>Network size</td>
<td>Network coverage, Fan circumference, Network backup capacity, Transmission, Equipment number</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Human capital</td>
<td>Comprehensive quality of management staff, Average employee education, Fertility degree</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enterprise scale</td>
<td>Total assets, Net assets, Number of employees</td>
</tr>
</tbody>
</table>

The statistical quantification of service quality, corporate image and customer loyalty can be obtained by the way of investigation and visit. The accuracy depends on the design of questionnaire and the range and quantity of data collection.

Li (2012) uses four-indicator valuation structure of telecommunication operators on the basis of Table 3. The four indicators include profit level (capital profit rate), network regulation model (net network coverage), technology level (communication quality), enterprise regulation model (total capital). At present, most researchers point out that enterprise competitiveness and core competitiveness can be derived from many aspects. The market leader mainly relies on the technological innovation and the vast marketing system of the broad market network.

![Figure 6: Analytical hierarchy of the competitiveness evaluation model of telecommunication enterprises](image)

3. Research Methodology

The conceptual framework of this study is as follows:
All the factors form the strategies for China Telecom to increase its customer’s satisfaction and corporate competence.

### 3.4 Research Hypotheses

- **H1:** There is a relationship between price and customer satisfaction and corporate competence.
- **H2:** There is a relationship between brand image and customer satisfaction and corporate competence.
- **H3:** There is a relationship between quality of mobile service and customer satisfaction and corporate competence.

### 3.5 Research Design Process

The current study is using the descriptive design as the most appropriate study design for this kind of study. This type of study is a guide for making observations to proper documentation of phenomenon of interest based on scientific method and therefore it is more reliable than doing casual observation which is conducted by untrained people (Bhattacherjee, 2012) also helps to understand the relationship between the independent and dependent variables (Sekaran & Bougie, 2013). Reviewing all these methods, positivism is the suitable and pertinent research paradigm. Since positivism paradigms are related with quantitative research which entails hypothesis testing (Rossman & Rallis, 2011), so this research concentrated on the positivism paradigm. A total 150 respondents were selected for this study. This study has employed a questionnaire in a structured format for collecting data from the sample. The researcher has developed an effective questionnaire for the quick collection of data and proper management of data analysis.

This research is aimed at collecting primary data. The purpose of this data collection is for data analysis, hypothesis testing and the interpretation of the results that is derived from the data analysis and to than finally meet the objectives of this research.
4. Data Analysis and Results

The age level of the respondents was less than 20 to more than 39. There were four categories. The highest numbers of respondents fell into the second category that is the age level of 20 to 29. And the lowest range is less than 20 and more than 39. Besides, there were 12.7% of the respondents falling into category of between less than 20 years old and 58% for between 20 to 29 years old, 16.7% for between 30 to 39 years old, 12.7% for between more than 39 years old. Also, it shows that the respondents’ level of formal education with the highest frequency at 52% that is educated to the level of high school and associate degree, followed by bachelors’ degree at 12.7%, and masters degree at 8.7%.

In this study, it illustrates the reliability of four research constructs. The Cronbach’s alpha was employed to examine the internal reliability of the 20 items and was used to measure these four six variables represent the reliability results of the constructs which mostly ranges from 0.769 to 0.880. According to Hair et al. (2010), the value of the Cronbach’s alpha should be at least 0.6. In this regard, all the research variables passed the reliability test, and the minimum value of the alpha here is at 0.769. The results have shown that the services provided by the different telecommunication industry the level of customer satisfaction had the highest coefficient (0.880) while the quality of service had the lowest coefficient (0.769). The multiple regressions is also one form of bivariate regression that employs more than a single independent construct that is used in the equation.

The formula for multiple regressions was calculated by as follows:

\[ Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + \ldots \ b \]  

(1)

This study has conducted a multiple regression analysis to identify the percentages of the independent and dependent constructs. The adjusted R Square will be tested as the result of the CS, the price was provided by PS, the quality of mobile services was provided by QS, the brand image was provided by CI, here PS, QS and BI towards the CS. If the percentage is high in terms of the relationship between the independent variable toward the dependent variable, this will ensure the intensive connection among the PS, QS, and BI towards the SQ.

<table>
<thead>
<tr>
<th>Table 4: Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>-------</td>
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<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), BI, SQ, PS  

b. Dependent Variable: CS

Table 4 has shown that the R Square is at 0.337 for the regression of customer satisfaction of 0.580. This means that 33.70% of the variation of customer satisfaction can be explained by the four independent variables which are the price provided by the telecom, quality of their services, and brand image. The others at 66.30% remain unexplained.
This research has developed three main hypotheses, they are as follows:

**Hypothesis 1**

**H₀**: There is no significance positive relationship of price and customer satisfaction

**H₁**: There is significance positive relationship of price and customer satisfaction.

Reject **H₀** if p<0.05

Based on the table, there is a significant value of PS at 0.000, which is below the p-value of 0.05. This can be concluded that there is a positive relationship between the tangible features and customer satisfaction, so it rejects **H₀**.

**Hypothesis 2**

**H₀**: There is no significance positive relationship of brand image and customer satisfaction

**H₁**: There is significance positive relationship of brand image and customer satisfaction.

Reject **H₀** if p<0.05

Based on Table 6, there is a significant value of PS at 0.000, which is below the p-value of 0.05. This can be concluded that there is a positive relationship between the tangible features and customer satisfaction, so it rejects **H₀**.

**Hypothesis 3**

**H₀**: There is no significance positive relationship of quality of service and customer satisfaction

**H₁**: There is significance positive relationship of quality of service and customer satisfaction.

Reject **H₁** if p<0.05
Based on Table 6, there is a significant value of PS at 0.427, which is above the p-value of 0.05. This can be concluded there is a positive relationship between the tangible features and customer satisfaction, so it rejects Hₐ.

A correlation analysis was performed to identify the nature of relationships among the variables and for hypothesis testing (Zikmund, 2003). This study has tested the correlation among the variables namely the CS, provided by the PS, SQ, and CI towards the CS. The correlation analysis measures the positive or negative relationships among the studied variables.

<table>
<thead>
<tr>
<th>Table 7: Pearson Correlations</th>
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<tr>
<td>CS</td>
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<td>PS</td>
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<tr>
<td>SQ</td>
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<td>BI</td>
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**. Correlation is significant at the 0.01 level (2-tailed).

Based on Table 6, it has showed that the correlation matrix for the four examined construct which was the price (PS), quality of service (SQ), brand image (BI), and customer satisfaction (CS). According to the Table 4.9, all the constructs did not exceed the value of 0.75. The Table shows that all the variables are unique and have a positive correlation among the variables. In addition to that, the table also shows that there is no negative sign.

<table>
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<th>Table 8: Summary of Hypothesis Test</th>
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5. Findings, Conclusion and Implications

From the respondents’ descriptive study, the personal details were classified as gender, age, and race, marital status, working status, and income and education level. The majority of the respondents were female which constituted a 51.3% of the sample size, the age category was between 20-29 years old which constituted a 58% of the respondents and most of them were Malay and married which constituted 86% and 48.9% respectively of the respondents. In this study, most of the respondents had completed their high school degree or associate degrees and this constituted a 52% of the respondents. Most of the respondents were using the Celcom mobile services and this constituted a 38.7% of the respondents. The research instruments were tested through the reliability test. The
total number of items were 20 of 4 variables were tested with the Cronbach’s alpha for reliability tests. The 4 variables were the CS’s highest coefficient (0.880), followed by PS (0.820), BI (0.847) and SQ (0.769). All the alpha values of the reliability tests were above 0.6 which is acceptable. The Pearson Correlation was used to identify the nature of the relationship among the dependent and independent constructs. The range of the correlation results exists from -1 to +1 and all the variable are with a negative sign and the level of significance at p value is <0.05. The maximum correlation value is PS with r=0.504, followed by SQ with r=0.337, and BI with r=0.477. Meanwhile, the lowest correlation is the brand image with r=0.337 and all the correlation were significant at 0.01 levels. From the analysis, the R2 regression of customer satisfaction is at 0.337. The regression coefficient for PS is at 0.214, SQ is at 0.064, and BI is at 0.061.

**H1:** There is significance positive relationship of price and customer satisfaction. From this study, the researchers have found out that price is significant to CS. This can be supported by Varki and Colgate (2001), Iyer and Evanschitzky (2006), Diller (2000), Matzler and Pramhas (2004), Matzler et al., (2006), who mentioned that the price of services plays an important role for customer satisfaction. The study has confirmed that PS has a significant relation with CS. The study further confirms that customers can be attained through price consciousness and special offer prices (Grewal, et al., 1998). However, a service provider e.g. a telecommunication company can focus more on the price, thus enhancing the level of customer satisfaction. Thus, this hypothesis confirms that there is a positive link that exists between the prices that is offered by telecommunication companies are major issues for customer satisfaction.

**H2:** There is significance positive relationship of brand image and customer satisfaction. Based on the findings of this study, it states that a brand image is significant to CS. This can be supported by Gioia et al., (2000), Anderson et al., (1994), Smith and Taylor (2004), Liu (2008). This study has been able to identify the positive relationship between brand image and customer satisfaction. Kandampully (2007) proclaimed that a brand image influences both client faithfulness and their level of fulfilment. According to Anderson et al. (1994), a good brand image can enhance the level of customer satisfaction which is also a reason for better customer satisfaction. This means that a customer is more aware about the name of the services they receive from the service provider. The brand image put a positive scenario in the mind of the customer. They feel that with good brand image product or service is more superior.

**H3:** There is significance positive relationship of quality of service and customer satisfaction. From the study, the researchers have found out that the quality of services is not significant to CS. Usually the customers of telecommunication industries are concerned about the call rates rather than the services that is provided. Customers think that the services that is provided by the company is optimum. In this case, they focus mostly on
the lowest call rate and other outgoing call facilities. To understand the level of service quality a customer needs, to the direct interaction with sales representative in receiving a particular service, while in the telecommunication sector it not possible for this industry. From the above discussion it can be easily assessed as to why, in the telecommunication sector, service quality does not have a positive relationship with customer satisfaction.

The total findings of this research show some vital indicators for business implications that can develop a telecommunication company’s performance and its services processes. It has been assumed that after the implementation of all these steps it is able to enhance the business performance of those particular industries (De Silva et al., 2017; Kuruwitaarachchi et al., 2019; Pambreni et al., 2019; Fernando et al., 2019). Firstly, as price is one of the vital elements that enhances customer satisfaction, telecommunication companies should develop a pricing technique for the call rate, SMS charges and other internet fees. The telecommunication company can adopt a precise method for pricing their services. Besides, the telecommunication company can maintain a good competitive price in order to attain and retain customers over a long period. A telecommunication company should focus on their call rates and charges that can keep up their competitive advantage. In the price competitive company should follow rules for catching the customer among the other rivalry. But, it has become a great problem for the service provider to retain their customers over a long period. Somehow other competitive companies are also offering a good price in order to attain the customers in this market. For this reason, companies should take the necessary steps to manage their price at a good level.

Secondly, the brand image, which is also an important factor in order to attract the customers in this competitive market. Companies should take the necessary steps to conduct a number of campaigns to expand the value of their brand image into the market. They should follow and understand what others are doing. With this they are than able to manage their brand image.

Finally, company should also identify the needs of the customer, as to which types of services they really require. They should conduct massive market surveys in order to identify the particular needs and wants of the customers in this industry. This study has the capacity to add value in any further research that is done for improving the same or different industries. The good sample size with proper justification can help new researches to formulate greater findings for potential researchers which might have a better contribution towards marketing literature. However, time is one of the most vital factors for any effective research, further study should thus be conduct with the longitude of time to collect proper data with a well and modified questionnaire. The time frame of conducting a survey should be extended in order for the researchers to get sufficient time to distribute and collect from the large number of respondents. For the current study, the researchers have only distributed the questionnaire to Kuala Lumpur and Selangor, this might not represent the whole population. Thus, to obtain a larger sample size, the researchers can distribute it to all the states within China. To keep away from the
inclination of this study, a multi-dialect poll is prescribed; it ought to give Chinese, variants of survey questionnaire. By embeddings multiple dialects into the poll, it can help build the level of comprehension for the respondents who are not able to understand the full English form of the survey. Also, the respondents can pick their favoured dialect when reply; accordingly, they would be than ready to comprehend the exploration questions which prompt the precision of the result. In conclusion, there are administrative ramifications that have assisted the telecommunication industry in order to enhance their services and change to in order to boost its execution of marketing. Also, this investigation has incorporated a few confinements that have been confronted by the scholars. On the other hand, these confinements have been bolstered by suggestions to upgrade the overall telecommunication business in the future. Thus, this research assisted the telecommunication industry to stay informed regarding the three imperative variables and consistently screen their consumer satisfaction thus guaranteeing the greatest fulfilment among the customers.

References


Cavanaugh, R. Y., Delahaye, B. L. and Sekaran, U. (2001), Applied Business Research: Qualitative and Quantitative Methods, John Wiley & Sons, Brisbane.


