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# The Effect of Service Quality, Customer Perceived Value and Satisfaction on Loyalty

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**Abstract:** The service industry has become more and more important for business activities. Service industry contributes about 60% of the annual GDP and 70% of new jobs in America. According to the statistics of Executive Yuan of Taiwan, the service industry contributes over 70% of the annual GDP in 2008. The ultimate goal for companies is to build customer loyalty. With loyal customers, companies can reduce the operating cost and acquisition expenses. An improvement of 5 percent in customer retention leads to an increase of 25 percent to 75 percent in profit. It costs more than five times as much to obtain a new customer than to keep an existing one. This initial study was from relevant literature, then set up research structure and hypotheses. Survey was employed, and respondents were from the customers of TKEC in Taipei area. There were 199 usable questionnaires to analyze descriptive statistics, reliability, validity, and SEM model. The research found that service quality significantly affects customer perceived value and customer satisfaction, and customer perceived value and customer satisfaction have strong impact on customer loyalty for the sample. Therefore, firms have to specifically focus on these factors in order to build a long-term and mutually profitability relationship with a customer and create loyalty as competitive advantages in the market.

**Keywords:** *Service quality, perceived value, satisfaction, loyalty, SEM*

## 1. Introduction

Presently, the service industry has become more and more important for business activities. Mckee (2008) indicated that the service industry contributes about 60% of the annual GDP and 70% of new jobs in America. According to the statistics of Executive Yuan of Taiwan, the service industry contributes over 70% of the annual GDP in 2008, and the electronic industry has maintained the high growth, and the production value is ranked the top place for export trade in Taiwan. The products of computer, communication and consumer electronic (3C) are essential for people in the world. It means not only important for global markets but also drives the huge usage of domestic consumers. Owing to the high

quality demanding of 3C products, consumers focus not on prices but on the quality that enterprises provide. Thus, there are many researchers who have studied service quality and tried to examine the factors which affect customer satisfaction and loyalty in various industries to increase performance of the service industry (Parasuraman, Zeithaml & Berry, 1988; Davis, 1999; Santos, 2003).

The ultimate goal for companies is to build customer loyalty (Eakuru & Mat, 2008; Oliver, 1997). With loyal customers, companies can reduce the operating cost and acquisition expenses. Reichheld and Sasser (1990) indicated that an improvement of 5 percent in customer retention leads to an increase of 25 percent to 75 percent in profit. Wills (2009) reported that it costs more than five times as much to obtain a new customer than to keep an existing one. Moreover, with loyal customers, for example, companies can increase their revenue. First, loyal customers are less price sensitive. The premiums of loyal customers increase 8 percent annually in the personal insurance industry (Reichheld & Teal, 1996). Second, loyal customers are willing to purchase frequently, try the firms' other products or services, and bring new customers to the firms (Reichheld & Sasser, 1990). At Northwestern Mutual, the contribution of 55 percent sales is from existing customers (Reichheld & Teal, 1996). Reichheld and Teal (1996) further indicate that customer loyalty provides a foundation for a firm to examine their marketing strategy, relationship quality improvement activities, and value creation program.

Companies provide superior service quality that also has a more satisfied customer base (Gilbert & Veloutsou, 2006). Customer satisfaction is an important driver to customer loyalty and the success of businesses (Oliver, 1997). Studies have found positive evidence on the direct relationship between customer satisfaction and loyalty of repeat purchase, less price sensitive, cross-buying behavior, and profit (Bloemer & Odekerken-Schroder, 2002; Ibrahim & Najjar, 2008; Oliver, 1997). However, several studies (Dimitriades, 2006; Jones, 1996; Woodruff, 1997) show that satisfied customers do defect. For example, when customers say they are satisfied, they still purchase elsewhere (Jones, 1996).

Marketing exists to deliver more value to satisfy customers as well as build a long-term and mutually profitability relationship with customer (Kotler, 2005). If a firm's products or services do not meet the customer's needs and wants, all the strategies are insufficient. Thus, the purpose of this study is to explore the differences in the influences of service quality, customer perceived value and customer satisfaction on customer loyalty for 3C retile stores.

## 2. Literature Review

**Service quality:** Taylor and Baker (1994) pointed out that the changing of business paradigm has made the service quality as top priority. Customers' evaluations of the service quality are critical to companies that aim to improve their marketing strategies (Jain & Gupta, 2004). Boshoff and Gray (2004) indicated

that attention to service quality can make a company different from other companies and gain competitive advantages. Measurement of service quality enables organizations to realize their position in the markets and provides a strategic advantage to enhance its competitiveness (Khan, 2010).

Parasuraman et al. (1988) defined that service quality is the difference between customers' expectations of provided service performance and their evaluation of actual service. Dehghan (2006) pointed out to the service quality as the objective comparison carried out by customers between service quality and actual service that they receive. Lovelock and Wirtz (2004) reported that service quality have various concepts and meanings according to customers difference, and way through which they realize service quality provided to them. In particular, consumers prefer service quality when the price and other cost elements are constant (Turban, 2002). One of the most popular models, SERVQUAL, used in service researches, was developed by Parasuraman, Zeithaml & Berry (1985, 1988). There are 10 dimensions of service quality originally, and later these were reduced to five including reliability, tangibles, responsiveness, assurance and empathy.

**Customer satisfaction:** Satisfaction can be separated into two approaches either as a transaction-specific satisfaction (Olsen & Johnson, 2003) or as a cumulative satisfaction/ post-consumption satisfaction (Oliver, 1997). After 1990s, many researchers view satisfaction as customers' cumulative, after purchase, and overall judgment about purchasing behavior (Johnson, Anderson, & Fornell, 1995; Engel & Blackwell, 1982; Hunt, 1977; Oliver, 1997; Tse & Wilton, 1988). According to Oliver (1997), satisfaction is defined from the mixture of both affection (emotion) and cognition approach as "the consumer's fulfillment response. It is a judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment" (Oliver, 1997, p. 13).

Previous studying suggests that service quality is an important indicator of customer satisfaction (Spreng & Machoy, 1996). Customer satisfaction is viewed as influencing repurchase intentions and behavior, which, in turn, leads to an organization's future revenue and profits. However, Bowen and Shoemaker (2003) stated that satisfied customers may not return to the firm and spread positive word-of-mouth communications to others. One of the reasons is that the firm does not deliver what customers need or want (Roig, Garcia, Tena & Monzonis, 2006). Woodruff (1997) further identified that customer satisfaction measurement without fulfillment of customer perceived value cannot really meet the customer's expectations. Therefore, other variables should exist to further explain the relationship between satisfaction and customer loyalty.

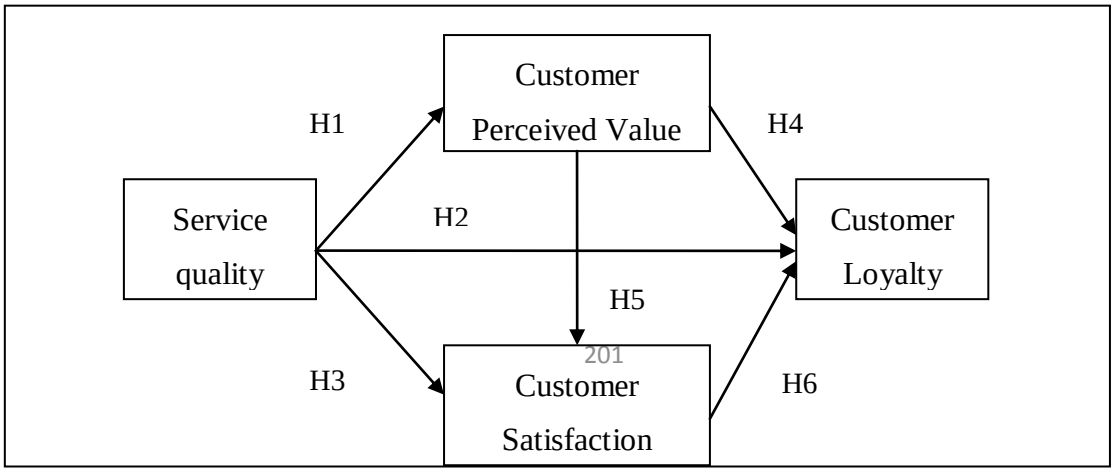
**Customer perceived value:** Customer perceived value (CPV) is identified by terms of value (Monroe, 1990; Zeithaml, 1988) or customer value (Butz & Goodstein, 1996). Delivering value to customers is to

develop loyal customers who can increase purchase frequency, purchase quantity, and avoid of switching behavior (Rust, Lemon & Zeithaml, 2004). Therefore, transferring customer value is the manner to building a firm's competitive advantage (Lee & Overby, 2004; Ulaga & Chacour, 2001; Woodruff, 1997). Zeithaml (1988) defined that CPV is the consumer's overall evaluation of a product based on perceptions of what is received and what is given. Moliner, Sanchez, Rodriguez and Callarisa (2007) defined customer perceived value is a dynamic variable that is also experienced after consumption. Moliner et al. (2007) view value is the perceived worth in functional value of goods or service quality and price, emotional value of feeling, and social value of social impact from self-experiences and other alternatives. Woodruff (1997) defined customer perceived value is a process from pre-purchase, transaction, and post purchase aspect in use situations.

**Customer loyalty:** Customer loyalty can be classified as brand loyalty, service loyalty, and store loyalty (Dick & Basu, 1994). Customer loyalty is a strategy that creates mutual rewards to benefit firms and customers (Reichheld & Detrick, 2003). One benefit is that firms can increase the revenue. With loyal customers, companies can maximize their profit because loyal customers are willing to (1) purchase more frequently; (2) spend money on trying new products or services; (3) recommend products and services to others; and (4) give companies sincere suggestions (Reichheld & Sasser, 1990). Thus, loyalty links the success and profitability of a firm (Eakuru & Mat, 2008).

Customer loyalty is commonly distinguished in three approaches including behavioral loyalty approach (Grahn, 1969); attitudinal loyalty approach (Bennett & Rundle-Thiele, 2002; Jacoby, 1971; Jacoby & Chestnut, 1978), and integration of attitudinal and behavioral loyalty approach (Dick & Basu, 1994; Jacoby, 1971; Jacoby & Chestnut, 1978; Oliver, 1997). The attitudinal loyalty helps to examine the factors of loyalty, to avoid switching behavior (Caceres & Paparoidamis, 2007), and to predict how long customers will remain loyal (Jacoby & Chestnut, 1978). Therefore, viewing loyalty as an attitude-behavior relationship allows integrated investigation of antecedents and consequences of customer loyalty (Dick & Basu, 1994). The theoretical propositions inform the development of following hypothesized model and research hypotheses.

**Figure 1: Hypothesized Model**



**Research hypotheses:**

H1: The service quality is a direct path and is a factor that significantly affects the customer perceived value.

H2: The service quality is a direct path and is a factor that significantly affects the customer loyalty.

H3: The service quality is a direct path and is a factor that significantly affects the customer satisfaction.

H4: The customer perceived value is a direct path and is a factor that significantly affects the customer loyalty.

H5: The customer perceived value is a direct path and is a factor that significantly affects the customer satisfaction.

H6: The customer satisfaction is a direct path and is a factor that significantly affects the customer loyalty.

## 3. Methodology

A quantitative, non-experimental, exploratory (comparative) and explanatory (correlational) study was conducted to assess the relationships among service quality, customer perceived value and customer satisfaction on customer loyalty.

**Instrumentation:** A five-part questionnaire for the study was developed by the researchers in order to measure the research variables. In the questionnaire, five of the items were designed to examine service quality according to the theory of Parasaraman, Zeithmal and Berry in 1988; four of the items were developed to test customer perceived value according to the theory of Moliner, Sanchez, Rodriguez and Callarisa in 2007; four of the items were designed to examine customer satisfaction according to the theory of Oliver in 1997; and four of the items were developed to test customer loyalty according to the theory of Reichheld and Sasser in 1990. All variables are by means of a five-point Likert scale, and ranged from strongly agree (5) to strongly disagree (1). These socio-demographic questions and the coding schemes used included: Gender: 1 = male; 2 = female. Age: 1 = under 25; 2 = 25–35; 3 = 36–45; and 4 = over 46. Education: 1 = high school diploma or equivalent; 2 = associate degree; 3 = bachelor degree; and 4 = graduate degree.

**Population:** The survey was distributed to customers in a public area outside the main entrance of TKEC which is a famous store and focuses on products of computer, communication and consumer electronic (3C) during the weekday and weekend in Taipei area. A random sampling plan was used to select participants. When customers agreed to participate, participants were given a survey questionnaire on a clip board, and retrieved the questionnaire after finished.

Methods of data analysis: Hair, Black, Babin, and Anderson (2010) indicated that structural equation modeling (SEM) has become a popular multivariate approach because it provides a means of assessing

theories that is conceptually appealing. AMOS software (version 18.0), which includes an SEM package with maximum likelihood estimation, was used to test both the measurement and the structural models that related to the research hypotheses listed. The present research also made use of a number of criteria to determine the inclusion of items and the goodness of fit of the model. Hair et al. (2010) suggested a six-stage procedure for employing SEM, which the research also followed here.

First, EFA was used to pretest the questionnaire in order to reduce the items to a manageable and meaningful set of factors, and the reliability of the internal consistency was measured using Cronbach's coefficient alpha. Results of the Kaiser–Meyer–Olkin (KMO) test and of Bartlett's test were obtained before performing the factor analyses. The KMO test indicated whether a sufficient number of items had been predicted by each construct, and Bartlett's test indicated whether the items were sufficiently highly correlated to provide a reasonable basis for factor analysis. Cronbach's coefficient alpha was used to analyze the variables related to the scales of each item, according to the average correlation of each item with every other item. Leech, Barrett and Morgan (2005) recommended that KMO values should be greater than 0.7, and Bartlett's test should be significant. A factor loading of 0.50 or above was considered to be of practical significance (Hair et al. 2010). The lower limit for Cronbach's coefficient alpha values was 0.7 (Leech, Barrett & Morgan 2005).

The validity of the construct was measured using the convergent and discriminant validity. The convergent validity was used to determine whether scale items converged on a single construct during measurement (Steenkamp & Van Trijp 1991). This was determined from the evaluation of the factor loadings (which must be at least 0.5), composite reliability (at least 0.6) and average extracted variance (at least 0.5) in the study (Hair et al. 2010; Fornell & Larcker 1981). The discriminant validity is the extent to which a construct is truly distinct and unique, and this measure captures phenomena that other measures do not (Hair et al. 2010).

Hair et al. (2010) indicated that the goodness-of-fit of the overall model is indicated by how well it reproduces the observed covariance matrix among the indicator items. It can be classified into the following four categories: Chi-square measures including chi-square, degree of freedom (df) and probability. Measures of absolute fit, including the goodness-of-fit index (GFI), root mean square error of approximation (RMSEA), root mean square residual (RMR), standardized root mean square residual (SRMR) and normed chi-square. Incremental fit measures including the normed fit index (NFI) and the comparative fit index (CFI). Parsimony fit measures including the adjusted goodness-of-fit index (AGFI) and the parsimony normed fit index (PNFI). Chi-square ($\chi 2$) is a basic measurement of the differences between the observed and estimated covariance matrices (Hair et al. 2010). A smaller value of $\chi 2$ is more desirable in that it supports the proposed theoretical model, but values of $\chi 2$ also increase as the sample

size increases. The p-value should be large and not statistically significant ($p > 0.05$) between the two matrices (Jöreskog & Sörbom 1992).

GFI was an early attempt to produce a fit statistic. The range of possible GFI values is between 0 and 1, and if the value is 0.90 or higher the fit is considered to be good (Hair et al. 2010); however, MacCallum and Hong (1997) suggested that the GFI value could decrease to 0.80 in usage. RMSEA tries to correct for both the sample size and complexity of the model by including each in its computation. Steiger (1990) suggested that RMSEA values below 0.10 indicate a good fit, but Hair et al. (2010) and Browne and Cudeck (1993) argued that the value of RMSEA should be 0.08 or less. Hair et al. (2010) indicated that RMR is problematic because it is related to the scale of the covariances. An alternative statistic is SRMR, which is useful for comparing the fit across models. Jöreskog and Sörbom (1992) indicated that an acceptable SRMR value would be 0.05 or less. The normed chi-square is given by $\chi 2/df$, and its value should be 3 or less to indicate a better fit between the observed and modeled values (Hair et al. 2010).

NFI is the ratio of the difference in the value of $\chi 2$ between the fitted and null models, divided by the value of $\chi 2$ for the null model (NFI = 1 is a perfect model; Hair et al. 2010). Bentler (1992) suggested that the value of NFI should be 0.90 or above. The CFI is an improved version of NFI. It ranges between 0 and 1, with values above 0.90 being associated with a good fit (Hair et al. 2010; Gerbing & Anderson 1992). AGFI takes into account different degrees of complexity in the model, and its value is usually lower than that of the GFI in complex models (Hair et al. 2010). MacCallum and Hong (1997) recommended that the value of AGFI should be 0.80 or higher to indicate a good fit. The PNFI adjusts the NFI by multiplying it by the parsimony ratio; high values represent a better fit (Hair et al. 2010). Wu (2009) indicated that the value of the PNFI should be 0.50 or above to indicate a good fit.

## 4. Results

There were 210 questionnaires returned, but 11 questionnaires were incomplete or invalid. All questionnaires were coded for statistical analysis using the SPSS 14.0. From the 199 respondents, in total, 141 (70.9%) respondents were male and 58 (29.1%) were female. 115 (57.8%) of the respondents were under 25 years old, 53 (26.6%) were between 26 and 35, 23 (11.6%) were between 36 and 45 and 8 (4.0%) were older than 46. In the study, 7 (3.5%) respondents had a high school diploma or equivalent, 87 (43.7%) held an associate degree, 101 (50.8%) held a bachelor's degree and 4 (2.0%) had a graduate degree.

The four dimensions and 17 items were evaluated by EFA. For the first-time EFA, all items of the factor loadings less than .50 or greater than .95 were deleted. For the second-time EFA, the KMO value of the variables used in the study was .89, indicating that the data from the results were sufficiently robust to

allow EFA. The values of Bartlett's test were $\chi 2 = 1468.18$, df = 66 and p = .000, which implies that all the items in this study were sufficient for research in social science and for factor analysis. The extraction and rotation sums of the squared loading of the total variance explained were 72.79%. Three items remained for each dimension which could therefore now be applied. The four dimensions of Cronbach's coefficient alpha were between .84 and .89, which surpassed the criteria and indicated an internal reliability of the consistency of the instruments used in the present study that was appropriate for research in social science. As a result of EFA, four factors and 12 items were therefore derived to identify the construct.

The univariate normality of the skewness and kurtosis values and the multivariate normality were used to assess the normality. The most commonly used critical values of univariate normality are ±3 and ±10 (Kline, 1998). In the study, all the values of skewness were between .23 and –.86, and the values of peakedness lay between 1.48 and –.68. The observed variables all had univariate normal distributions. The value of Mardia statistic is for multinormality measurement, and it is constructed a test based on skewness and kurtosis. Bollen (1989) indicated that if the value of Mardia is smaller than p (p+2), p indicating the amount of observed variables, all dimensions are multinormality. In the study, the value of Mardia is 19.22, smaller than 12(12+2), indicating multivariate normality distribution.

In the structural models, all the factor loading estimates were higher than .77, all the composite reliability (CR) values ranged from .84 to .89, and all the extracted average values of variance lay between .64 and .73. This evidence supports the convergent validity of the measurement model, as shown in Tables 1.

**Table 1: Standardized parameter estimates, composite reliability and average variance extracted values for the structural model**

| Construct | Indicator | Standardized Parameter Estimates | CR | AVE |
|---|---|---|---|---|
| Service Quality | SQ 1 | .77 | .88 | .71 |
| | SQ 2 | .86 | | |
| | SQ 3 | .89 | | |
| Customer Perceived Value | PV 1 | .82 | .84 | .64 |
| | PV 2 | .80 | | |
| | PV 3 | .77 | | |
| Customer Satisfaction | CS 1 | .83 | .87 | .69 |
| | CS 2 | .87 | | |
| | CS 3 | .79 | | |
| Customer Loyalty | CL 1 | .83 | .89 | .73 |
| | CL 2 | .86 | | |
| | CL 3 | .87 | | |

Bagozzi and Phillips (1982) stated that metrics support discriminant validity if the upper and lower limits of the computed confidence interval did not include the number 1. In the present research, a model was constructed for each of the 6 paired correlations of the latent variables. Then, the correlation was set between the two constructs to 1, and a 95 percent confidence interval was applied in order to apply a bootstrap. As the results, all values of paired correlations of the latent variables were from .31 to .83, the number 1 is not included with the upper and lower limits of the confidence interval, which indicates discriminant validity among the theoretical constructs.

The results of the SEM model shown in Figure 2 were obtained using AMOS 18.0, and the model fits are reported in Table 2. The overall model fit $\chi 2$ was 33.12 with 48 degrees of freedom. The p-value associated with this result was .95. The value of RMSEA, an absolute fit index, was .00. This value is smaller than the guideline value of .08 for a model with 12 measured variables and a sample size of 199. Therefore, RMSEA supports the model fit. The value of GFI (.97) was higher than the guideline value. RMR had a value .01. SRMR (.02) was smaller than .05. The normed $\chi 2$ was .69. This measure is the chi-square value divided by the number of degrees of freedom. A number smaller than 3.0 is considered to be very good. Thus, the normed $\chi 2$ suggests an acceptable fit for the structural model.

In the SEM model, the CFI had a value of 1.00, which exceeds the CFI guidelines for a model of this complexity and sample size. The other incremental fit indices (NFI = .98) also exceeded the suggested cutoff values. All the incremental fit indices presented an acceptable fit. The parsimony index of AGFI had a value of .96 and the PNFI was .71. Both indices were considered to represent a good model fit, given the acceptable critical value. The overall structural fit results of these analyses showed that the model provides a reasonable fit.

**Table 2: Comparisons of goodness-of-fit indices of SEM models**

| GOT Indices | Criterion Guidelines | SEM Results |
|---|---|---|
| **Chi-square ($\chi$ 2)** | | |
| Chi-square | | 33.12 |
| Degree of freedom | | 48 |
| Probability | p **>** .05 (Jöreskog & Sörbom, 1992) | .95 |
| **Absolute fit measures** | | |
| GFI | **>** .90 (Hair et al., 2010) | .97 |
| RMSEA | **<** .08 (Browne & Cudeck, 1993) | .00 |
| RMR | **<** .05 (Wu, 2009) | .01 |
| SRMR | **<** .05 (Jöreskog & Sörbom, 1992) | .02 |
| Normed chi-square | **<** 3 (Hair et al., 2010) | .69 |

| **Incremental fit measures** | | |
|---|---|---|
| NFI | **>** .90 (Bentler, 1992) | .98 |
| CFI | **>** .90 (Gerbing & Anderson, 1992) | 1.00 |

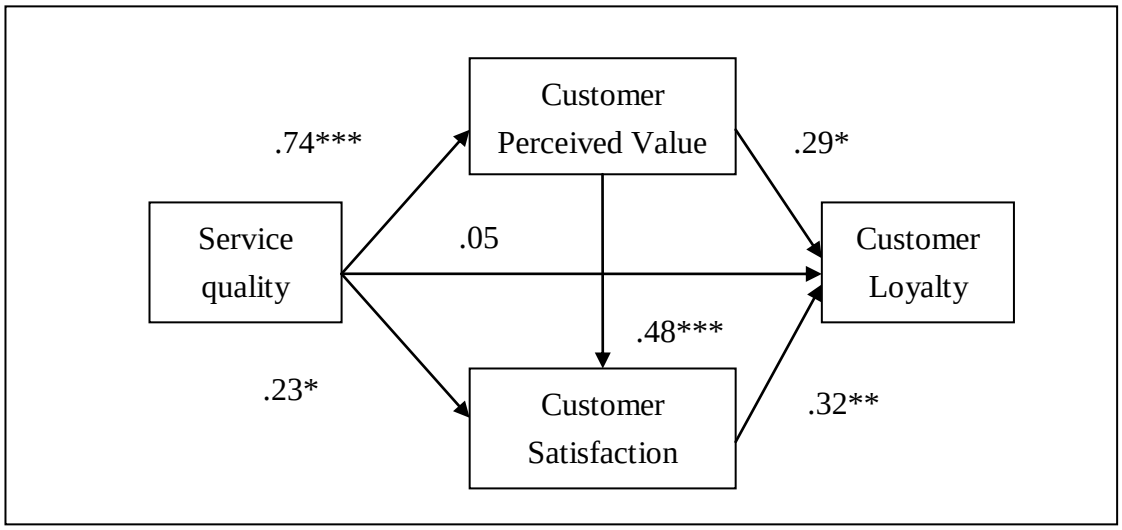
For H1, The value of the standardized parameter estimates was .586. The standard error was .08, and the t-value was significant (p = 6.84***). For H2, The value of the standardized parameter estimates was .045. The standard error was .12, and the t-value was significant (p = .39). For H3, The value of the standardized parameter estimates was .553. The standard error was .08, and the t-value was significant (p = 6.45***). For H4, The value of the standardized parameter estimates was .316. The standard error was .11, and the t-value was significant (p = 3.06**). For H5, The value of the standardized parameter estimates was .326. The standard error was .08, and the t-value was significant (p = 4.00***). For H6, The value of the standardized parameter estimates was .289. The standard error was .14, and the t-value was significant (p = 2.25*).

**Table 3: Standardized parameter estimates for the structural model**

| **Hypotheses** | **Estimates** | **S. E.** | **t-value** | **P** |
|---|---|---|---|---|
| H1 | .74 | .08 | 9.11 | *** |
| H2 | .05 | .12 | 0.39 | .69 |
| H3 | .23 | .11 | 2.01 | * |
| H4 | .29 | .14 | 2.25 | * |
| H5 | .48 | .12 | 3.98 | *** |
| H6 | .32 | .11 | 3.06 | ** |

* p< .05. ** p< .01. *** p<.001.

**Figure 2: SEM Model**



## 5. Conclusion

The results of this study show that the service quality is a direct path and is a factor that significantly affects the customer perceived value. The finding supports H1, and the result are consistent with the findings of Zeithaml (1988). For hypothesis 2, the results indicate that the service quality is not a direct path and is not a factor that significantly affects the customer loyalty. Therefore, this hypothesis is not supported, and the result is consistent with the findings of Cronin and Taylor (1992) and Parasuraman, Berry & Zeithaml (1991). The results of this study show that the service quality is a direct path and is a factor that significantly affects the customer satisfaction. The finding supports H3, and the result is consistent with the findings of Cronin and Taylor (1992); Jun, Yang and Kim (2004); and Szymanski and Hise (2000).

For hypothesis 4, the results indicate that the customer perceived value is a direct path and is a factor that significantly affects the customer loyalty. Therefore, this hypothesis is supported, and the result is consistent with the findings of Dagger, Sweeney and Johnson (2007); and Zeithaml (1988). The results of this study show that the customer perceived value is a direct path and is a factor that significantly affects the customer satisfaction. The finding supports H5, and the result is consistent with the findings of Bloemer and Kasper (1995); and Patterson and Spreng (1997). For hypothesis 6, the results indicate that the customer satisfaction is a direct path and is a factor that significantly affects the customer loyalty. Therefore, this hypothesis is supported, and the result is consistent with the findings of Eakuru and Mat (2008).

Based on the research results, service quality significantly affects customer perceived value and customer satisfaction, and customer perceived value and customer satisfaction have strong impact on customer loyalty for the sample. Therefore, firms have to specifically focus on these factors in order to build a long-term and mutually profitability relationship with a customer and create loyalty as competitive advantages in the market. From the respondents, TKEC should also pay more attention to female, elder customers, and consumers who have graduate degrees for increasing market share.

The study focuses on 3C industry in Taipei area, and adopts only a quantitative research method. Although the SEM provides a good fit to the hypothesized model, future research could use a different design to examine the causal relationships posited by the theories, such as marketing mix (4Ps) and relationship quality, and should be conducted in other industries and other Asian countries or different global regions.

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