

Service Quality, Customer Satisfaction, Location and Customer Loyalty: Mediation and Moderation Analyses

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Abstract: The purpose of this paper is to examine the importance of incorporating service quality in the Malaysian hypermarket industry. Service quality dimensions investigated in this paper consist of several important determinants namely tangible, reliability, responsiveness, competency, courtesy and credibility. The study measures customers' perceptions of service quality offered, level of customer satisfaction and loyalty perceived from their experiences shopping in the hypermarkets. The paper specifically investigates the importance of service quality on customer loyalty mediated by customer satisfaction. In addition, the study also tries to discover whether location (strategically) plays a significant moderating role in the linkage between customer satisfaction and customer loyalty. Empirical associations in this study are analyzed through inferential statistical methods such as Pearson's correlation, hierarchical regression and regression-based mediation analyses. The findings suggest that service quality has significant correlations with both customer satisfaction and customer loyalty. The result also provides evidence that customer satisfaction fully mediates the linkages between tangible, courtesy and credibility and customer loyalty. In addition, location (from strategic perspective) significantly moderates the linkage between customer satisfaction and customer loyalty. Therefore, it is suggested that a more strategic location of a hypermarket can strengthen the relationship between customer satisfaction and customer loyalty and in the long run will benefit the retail business. The findings of the study provide striking demonstrations of the importance of service quality in enhancing customer satisfaction and customer loyalty of Malaysian hypermarkets. The result indicates that Malaysian hypermarkets should emphasise greater attention to dimensions such as tangibles, courtesy and credibility of service quality dimensions and a greater degree of hypermarket management support for service quality enhancement initiatives.

Index Terms: *Customer Loyalty; Customer Satisfaction; Hierarchical Regression; Hypermarket, Location, Service Quality*

I. INTRODUCTION

Quality has become an increasingly predominant requirement for most people. Similarly, customers are constantly looking for quality products and services for their ultimate purchase decisions. The desire for quality has caused many companies and business firms locally and globally to consider quality as a strategic tool to improve customer satisfaction and achieve

sales growth. If product or service quality improves, hence, it is expected that the operating costs would be decreased and productivity increased. Ultimately, better value added products or services would be available for customers, which in turn may enhance interests, purchases, positive word of mouth and more repurchases among customers. Service quality has received a lot of attention in the service sectors worldwide and in academic studies since 1980s [1] [2] [3] and has also aroused interest and adoptions among other sectors. The core of service quality philosophy lies on the premise that it can bring positive changes in quality-oriented management practices towards enhancing customer satisfaction as well as improving customer loyalty. Theoretically, the retail company must analyse the aspects of service quality perceived in an attempt to be chosen as the ultimate order winner, survive any business challenges and stay competitive.

Service quality has been a favourite topic of discussion among both academicians as well as practitioners for the last four decades and many empirical works have been conducted in investigating the impact of service quality on customer loyalty [1] [2] [3]. Numerous service quality studies have made constructive efforts to clarify, conceptualise, validate and measure the related service quality constructs in the banking sector and retail business context. However, there continues to be debate among scholars, academicians and practitioners regarding the identification of the service quality determinants responsible for customer performances; the direction, magnitude and/or strength of the relationships; and the presence of mediational and moderational effects between service quality determinants and their criterion constructs. Although several studies support some of the findings discovered, there are other studies that contradict, produce mixed results and hence, there exists a large body of contradictory empirical evidences [4][1]. Many researchers basically agreed that perceived service quality has positive associations with customer satisfaction and customer loyalty [5] [1][6]. However, there are recent inferential findings that demonstrate this relationship is occasionally not significant or mediated by other constructs [7][8]. Moreover, several researchers suggest that service quality does not directly improve customer loyalty. Some further propose that there should be other factors such as customer satisfaction or marketing mix constructs that affect or strengthen the relationship between service quality and customer loyalty [5] [9].

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A study by Suuroja [10] highlighted the need for a customised approach to service quality adoptions in different service sectors, since the determinants of service quality may be unique in different service contexts, depending on the specific or special features of the services. Despite considerable studies undertaken in the area of service quality, there is no consensus yet as to which set of service quality dimensions is robust and exhaustive to be used for the inferential or causal measures [11]. Bautista and Tangsoc [12] suggest that a common service quality measurement tool cannot be used accurately in all industries and hence in this present study the measures for the hypermarket industry also need validation. Several researchers also suggest that there is a lack of knowledge about a hypermarket service quality model that takes into consideration a complete coverage of all constructs that consumers consider in evaluating hypermarket service quality.

One of the main motivations of the present research is to clarify the contradictory evidence with respect to the relationships between the concepts of service quality, customer satisfaction, and loyalty, and to provide evidence of the mediating role of customer satisfaction and moderating role of location. In addition, no study, especially in Malaysia hypermarket context that has investigated the moderating role of location on the linkage between customer satisfaction and customer loyalty, though a large body of knowledge on the concept of service quality does exist. In addition, further understanding of the interrelationships between these constructs is crucial, especially since the literature has still not reached a consensus on the nature of the linkages between them. Therefore, this study will address those issues by investigating the mediating role of customer satisfaction and the moderating role of location from the strategic perspective of the hypermarket. In particular, the purposes of the present study are: to explore and validate the dimensions of perceived service quality in the Malaysian hypermarket context; to create the theoretical basis upon which a conceptual framework can be developed and hypotheses can be formulated concerning the concepts of service quality, customer satisfaction, and loyalty; and to investigate empirically the mediating role of customer satisfaction and the moderating role of location.

Specifically, the main objectives of this paper are:

- a) To empirically assess the importance of each service quality variable on customer satisfaction
- b) To empirically discover whether service quality has significant impact on customer loyalty.
- c) To empirically investigate whether customer satisfaction has a mediating effect in the relationship between service quality and customer loyalty.
To empirically determine whether location has a moderating effect on the linkage between customer satisfaction and customer loyalty.

The present paper begins with an examination of the literature pertaining to service quality principles. Second, it highlights the conceptual framework which includes the explanation of the conceptual model, determinants and hypotheses. Third, it discusses the methodology adopted, and the tests conducted to obtain reliable and valid measures of the constructs. Fourth, it highlights the inferential statistical

analyses which include Pearson's correlation, hierarchical and mediated regression analyses. Finally, conclusions and managerial implications of the study are provided and a set of future research directions is examined.

II. SERVICE QUALITY (LITERATURE REVIEW)

Service quality has become a prominent research topic in both service and manufacturing sectors due to its positive contributions toward customer satisfaction, customer retention, sales, profits, word of mouth, recommendation and referral [13]. Due to recent changing trend in customer demand, need and requirement, intense competition and the hostility of business environment, service quality has emerged as a significant marketing strategy for most companies [14]. In the management and marketing literature, many service quality researchers are aware of the three broad service quality research perspectives in the body of knowledge. It is not clear, however, which of these perspectives are the most appropriate to use in different business context. The first, proposed by Gronroos [2], defines the dimensions of service quality in global terms as being functional and technical. The second, proposed by Parasuraman et al. [1], which identify service-quality dimensions using terms that describe service-encounter characteristics (reliability, responsiveness, empathy, assurances, and tangibles). The third, proposed by Rust and Oliver [3], which considered overall perception of service quality to be based on the customer-employee interaction, the service environment, and the service outcome.

The most widely cited among the three perspectives are Parasuraman GAP and SERVQUAL models. Parasuraman et al. [15] develop the GAP Model which operationalises service quality by determining the difference between expectations and perceptions for the original ten service quality determinants. The ten service quality determinants and their descriptions are exhibited in Table 1. Later, after statistical groupings of closely related items, Parasuraman et al. [1] develop the SERVQUAL model which represented five main service quality dimensions known as tangibles, reliability, responsiveness, assurance and empathy [1]. The five service quality dimensions and other prominent scholars' service quality models are chronologically listed in Table 2 [2][16][15][17][1] [7][18][19][20]. However, many scholars have raised constructive inferential and population generalization criticisms regarding the universality of the scale and its dimensions [21][22][23]. They are concerned about the population generalization issue and point that these dimensions require customization to the specific service sector in which they are addressed.

This present study focuses on the retailing sector, specifically hypermarket industry. One of the pioneer studies in the retail sector is that by Carman [5]. The study applies the five dimensions of the SERVQUAL instrument in the car accessories retailer context. However, Carman [5] concludes that the five dimensions are not generic or holistic in nature and he has suggested adding new attributes or factors to the existing five dimensions suggested by Parasuraman et al. [1]. On the other hand, Finn and Lamb (1991) [24] focus on a difference research model based

on department stores and discount stores. However, the findings of their also study fail to obtain a good fit to their SERVQUAL model for either of these business contexts. They affirm that this instrument requires modifications and cannot be used as a valid measurement of service quality for the department or discount stores. Similarly, Teas [25] also conducts a service quality study using GAP analysis model in the context of discount stores. However, he suggests that ideal points instead of expectations gives better results in performing the service quality Gap analysis in his study.

Table1: Determinants of Service Quality

1. **RELAIBILITY:** consistency of performance and dependability, accuracy in billing, keeping records correctly, performing the service right at the designated time.
2. **RESPONSIVENESS:** willingness or readiness of employees to provide service, timeliness of service such as mailing a transaction slip immediately, calling the customer back quickly, giving prompt service.
3. **COMPETENCE:** possession of the required skills and knowledge to perform the service, knowledge and skill of the contact and support personnel, research capability of the organization
4. **ACCESS:** approachability and ease of contact, the service is easily accessible by telephone, waiting time to receive service is not extensive, convenient hours of operation, convenient location of service facility.
5. **COURTESY:** politeness, respect, consideration, friendliness of contact personnel, consideration for the consumer's property, clean and neat appearance of public contact personnel.
6. **COMMUNICATION:** keeping customers informed in language they can understand and listening to them, explaining the service itself and its cost, assuring the consumer that a problem will be handled.
7. **CREDIBILITY:** trustworthiness, believability, honesty, company reputation, having the customer's best interests at heart, personal characteristics of the contact personnel.
8. **SECURITY:** freedom from danger, risk, or doubt, physical safety, financial security, confidentiality.
9. **UNDERSTANDING/KNOWING THE CUSTOMER:** understanding customer needs, learning the customer's specific requirements, providing individualised attention, recognizing the regular customer.
10. **TANGIBLES:** physical evidence and representations of the service, other customers in service facility.

Source: Parasuraman et al., 1985

Today's era of global competition has created intense challenges for retail industry. Similarly, hypermarkets are also greatly affected by the global changes of the customer purchase trend. Hypermarkets that do not improve their service quality offerings would lose out to competitors that present better and quality services. Nowadays, hypermarkets do not only compete on prices of products offered, but also who can provide excellent service quality to customers in addition to offering creative, innovative and high quality products to satisfy customer needs and wants and ultimately improve their sales and profits [26]. Many researchers claim that service quality can result in better customer performances [1][2][3], but no empirical studies conducted so far have investigated the impact of service quality on customer satisfaction and customer loyalty moderates by strategic location in the context of Malaysian hypermarkets.

Table 2: Dimensions of Service Quality Models

Study	Model	Dimension
Grönroos, 1984	Service Quality Model	Technical quality, Functional quality, corporate image
Parasuraman et al., 1985	GAP Model	Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Understanding/Knowing the Customer, Tangibles
Haywood-Farrmer, 1988	Service Quality Attributes	Physical facilities, processes and procedures, People behavior and conviviality, Professional judgment
Parasuraman et al., 1988	SERVQUAL	Tangibles, Reliability, Responsiveness, Assurance, Empathy
Cronin & Taylor, 1992	SERVPERF	Same as SERVQUAL but with performance only statements
Dabholkar et al., 1996	RSQS	Physical aspects, Reliability, Personal interaction, Problem solving, Policy
Philip & Hazlett, 1997	PCP Model	Pivotal, Core, Peripheral attributes
Frost & Kumar, 2000	INTSERVQUAL	Reliability, Tangibles, Assurance, Responsiveness, Empathy (SERVQUAL)
Brady & Cronin, 2001	Service Quality Model	Personal interaction quality, Physical service environment quality, Outcome quality

III. THE CONCEPTUAL FRAMEWORK: THE CONCEPTUAL MODEL AND HYPOTHESES

A. The conceptual Model

This section explores linkages between service quality, customer satisfaction and customer loyalty dimensions and determinants within the context of the Malaysian hypermarket industry. The primary purpose of the research was to measure customers' perceptions of service quality encounters and to gain insights into the benefits of implementing service quality. The goal was to understand and determine measures of service quality that can enhance customer satisfaction and customer loyalty. The proposed model, as depicted in Figure 1, is based on three main constructs- (i) Service quality, (ii) Customer satisfaction, (iii) Customer loyalty. In addition, location is incorporated in the model as the moderating variable. The conceptual framework shown here highlights the linkages between these main constructs. The framework consists of six important dimensions of service quality, overall customer satisfaction, overall customer loyalty and a



single moderating variable namely location.

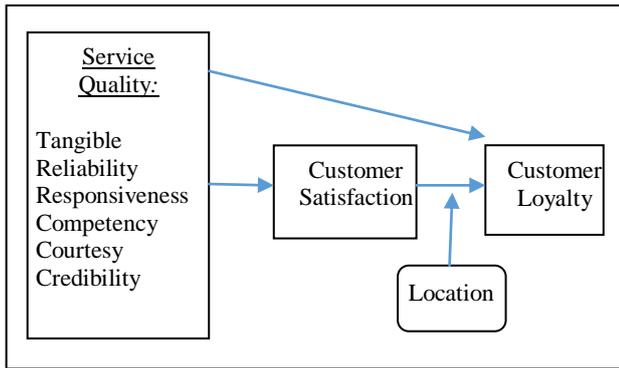


Figure 1. The conceptual model showing the relationship between service quality and customer loyalty with the mediating effect of customer satisfaction and the moderating effect of location

Several evidence suggests that service quality principles yield positive outcomes in terms of customer performances. To obtain a better understanding of the extent to which service quality permeates within the Malaysian retail hypermarket sector, a quantitative study utilising six items from the original service quality GAP model is undertaken. The six out of ten original service quality items identified by Zeithaml, Parasuraman and Berry [15] are considered to relate to the distinct attributes of hypermarket service quality in Malaysia and therefore incorporated into the present conceptual model. Incorporating ideas, theories and studies from the literature, six main service quality items included in the study are discussed as follows:

- (1) *Tangibles* – Physical characteristics of the hypermarket such as the décor, ambience, technology and equipment which are viewed as contributing to the hypermarket employees' ability to provide a desired level of service.
- (2) *Reliability* – The hypermarket employees' abilities to perform promised services in a dependable and accurate manner.
- (3) *Responsiveness* – The hypermarket employees' willingness to assist customers and provide prompt service whilst capturing the notion of flexibility and the ability to customise to individual customer needs.
- (4) *Competence* – Possession of required skills and knowledge to perform services in the hypermarket.
- (5) *Courtesy* – Politeness, respect, consideration and friendliness of hypermarket employees.
- (6) *Credibility* – Trustworthiness, believability and honesty of the hypermarket employees.
- (7)

B. Customer Satisfaction

Service quality has also shown its benefit in terms of service differentiation [15], market share, profitability [27] and developing strategy [2] and improving levels of customer satisfaction [1]. Most service quality studies highlight the importance of service offerings and employees. Service employees are considered one of the most crucial resources of any entities, particularly with respect to their roles in achieving customer satisfaction [28] [1]. There are studies

that have suggested that motivated employees are more likely to have a clear understanding of the importance of service quality, resulting in the provision of superior service which in turn positively impacts on customer satisfaction and customer loyalty [29].

A number of researchers [7][30][3] support the notion that service quality is one of the main drivers of customer satisfaction. Furthermore, other researchers also have found that service quality may have an important effect on customer satisfaction and other customer behavioral outcomes [30]. Customer satisfaction can be described as the feeling or attitude of customer towards a product or service if it meets his/her expectations and utilizations [3]. East [31] suggest that customer satisfaction play a crucial role in influencing customers decision to perform repurchases in the future. If customers are satisfied with the services or products offered, most likely they will engage in future purchases from the same retailers. Satisfied customers are more likely to purchase the same product or to patron the same hypermarkets that they are satisfied with while ignoring others that have not met their expectations. If customers are satisfied with a particular service offering after its use, then they are likely to engage in repeat purchase. Therefore, customer satisfaction is an important element of creating and maintaining long term relationships with customers. According to several researchers who have adopted similar GAP analyses, suggest that customer satisfaction is a function of pre purchase expectations and post purchase perceived performance of the product or service offered [3][32]. Customer satisfaction is also defined as overall evaluation based on the total purchase and consumption experience with a good or service [33]. Service quality has proven beneficial to businesses; and retailers should enhance their service quality to gain sustainable competitive advantage, customer satisfaction, and customer loyalty. Several studies have indicated that customers who are dissatisfied with a service spread their experiences to more than three other people within their circle [34]. But nowadays, with advanced technology and internet coverage, communication widens and news will spread even faster within and outside their circles, at the detrimental expense of the retailer's business. So, no wonder many retailers have started redirected their priorities toward service quality.

C. Hypotheses

The study proposes that service quality has an important influence on customer satisfaction and customer loyalty. The study attempts to investigate the main research hypotheses regarding associations between service quality and customer satisfaction and customer loyalty. Based on the theoretical justification and supporting empirical evidences, the hypotheses propose that service quality dimensions have positive relationships with customer satisfaction and customer loyalty. Logically, it makes sense that with good implementations of service quality management, customer satisfaction and customer loyalty would be enhanced. The study also investigates the mediating role of customer satisfaction in the linkage between service quality and customer loyalty. In addition, this study also tries to test

whether there is a moderating effect of location on the linkage between customer satisfaction and customer loyalty. Therefore, the following main research hypotheses are investigated:

- H_{1A} : Tangible has a positive relationship with customer loyalty
- H_{1B} : Reliability has a positive relationship with customer loyalty
- H_{1C} : Responsiveness has a positive relationship with customer loyalty
- H_{1D} : Competency has a positive relationship with customer loyalty
- H_{1E} : Courtesy has a positive relationship with customer loyalty
- H_{1F} : Credibility has a positive relationship with customer loyalty

- H_{2A} : The customer satisfaction mediates the linkage between tangible and customer loyalty
- H_{2B} : The customer satisfaction mediates the linkage between reliability and customer loyalty
- H_{2C} : The customer satisfaction mediates the linkage between responsiveness and customer loyalty
- H_{2D} : The customer satisfaction mediates the linkage between competency and customer loyalty
- H_{2E} : The customer satisfaction mediates the linkage between courtesy and customer loyalty
- H_{2F} : The customer satisfaction mediates the linkage between credibility and customer loyalty
- H_3 : Location moderates the linkage between customer satisfaction and customer loyalty, such that the relationship becomes stronger when the location increases its strategic level.

IV. RESEARCH METHODOLOGY

This section highlights the research design and research sample.

A. Research Design

The study was aimed at assessing the relationship between customer service quality, customer satisfaction and loyalty in the context of the Malaysian hypermarkets. The study focused on individual constructs of service quality that lead to collective influences, which in turn lead to customer satisfaction and customer loyalty. The instrument developed in this study was a structured survey questionnaire, which was designed to assess the service quality of the hypermarkets in term of the described service quality dimensions. The survey questionnaire consisted of several major parts. The first part comprised of several variables measuring service quality determinants and the second part consisted of several performance measures including customer satisfaction, customer loyalty and location. The final part captured the background or profile of the

respondent. Several items of service quality, which had been widely referred and extracted were used in the research instrument [1][2][3]. Similarly, the dependent, mediating and moderating variables namely customer satisfaction and customer loyalty as well as location also used a seven-point interval scale, representing a range of agreement on statements.

B. Research Sample

The study was a quantitative, cross-sectional research utilizing primary data collection. Due to the limitation of the non-existent sampling frame for this type of research, the study adopted a non-probability sampling method. The sample unit of analysis in this study was individual and data were collected from individual customers of major hypermarkets in Klang Valley, Malaysia. Face to face interviews with the customers were carried out to ensure the information accuracy, validating the outcome of the analyses and developing an understanding of practical aspects of service quality principles and adoption. Two hundred and five data were collected from respondents through structured questionnaire by using seven-point interval scales and the associations were analysed through statistical methods such as the Pearson's correlations, the regression-based mediation and the hierarchical regression analyses.

V. INDEPENDENT AND DEPENDENT CONSTRUCTS' MEASUREMENT: VALIDITY AND RELIABILITY TEST

This study tried to propose determinants that can achieve sufficient validity and reliability measures. Validity and reliability tests were conducted in the process of selecting and assessing the final items of the constructs that were used for further statistical inferential testing. Face and content validity are also examined to ensure the accuracy with which a specific domain of content (construct) was measured [35]. The critical variables of service quality in this study had sufficient validity because an extensive review of the literature was conducted in selecting the measurement items (face validity). In addition, the draft questionnaire and all the items and factors were pre tested and validated by two professionals and two academicians in the area of service quality; and several potential respondents were invited to give constructive comments to improve the research instrument, to ensure its validity and terminology; and later the survey instrument was modified accordingly (content validity). On the other hand, convergent validity was determined after the data were collected in order to measure the extent to which a construct positively correlates with other measures of the same concept [35][36]. A bivariate correlation analysis was computed among the constructs in the study, which supposedly measuring service quality concept. Since those service quality dimensions namely tangible, reliability, responsiveness, competency, courtesy and credibility had significant correlations among each other and with customer satisfaction and customer loyalty, it was suggested that convergent validity was evident. Ultimately, divergent or discriminant validity was



tested by analyzing bivariate correlations between each of service quality constructs and other variables such as demographic variables namely age and education level. There were no significant correlations between the service quality dimensions and these variables, and thus the constructs were not measuring other unintended concepts [36][37]. Before creating the final scales, the data were checked for normality and outliers; and were found to be satisfactory. The assessment of normality was conducted by measuring the distribution’s kurtosis and skewness. All constructs are within the desired range of ±2.58 (skewness statistics are between -0.750 to +0.710 and kurtosis statistics are between -0.840 to + 1.200).

Reliability tests were also conducted since data for the study were generated using a multi-scaled response; to ensure consistencies existed within the main constructs [37][38] (Fr. The internal consistency of each factor was examined using reliability Cronbach alpha values. The reliability analyses were conducted by calculating the Cronbach’s alphas for the main constructs in the study. Items that did not significantly contribute to the reliability and consistency were eliminated for parsimony purpose. The result indicated that the Cronbach’s alpha measures for all main constructs exceeded the threshold point of 0.70 suggested by Nunnally [35]. Alpha coefficients for service quality, customer satisfaction and customer loyalty ranged between 0.8115 and 0.9523 after the alpha maximization process were carried out, indicating internal consistency.

VI. ANALYSIS AND RESULTS

A. Correlation Analyses

To investigate the relatedness of the variables and determinants, several Pearson’s correlation analyses were conducted to establish associations between service quality dimensions and customer performances. Firstly, a correlation among service quality determinants was conducted. The main purpose of computing the correlation among service quality variables was to establish convergent validity among the determinants and to detect any possible multicollinearity problems [39][40].

Table 3: Pearson’s Correlation Among Variables and Collinearity Statistics

SERVICE QUALITY	1	2	3	4	5	6	Collinearity statistics	
							Tol er.	VIF
Tangible	1	.695*	.616*	.622**	.649*	.578**	.472	2.117
Reliability	.695**	1	.836*	.791**	.752*	.685**	.235	4.260
Response	.616**	.836*	1	.851**	.804*	.698**	.193	5.192
Competen cy	.622**	.791*	.851*	1	.845*	.702**	.193	5.189
Courtesy	.649**	.752*	.804*	.845**	1	.689**	.239	4.180
Credibility	.578**	.685*	.698*	.702**	.689*	1	.434	2.306

Note: † if p < 0.10, * if p < 0.05; ** if p < 0.01; *** if p < 0.001 2. All correlations are two-tailed

Table 3 exhibited correlations among service quality determinants and highlighted collinearity statistics. The

result indicated that the service quality dimensions had significant correlations with one another. This may suggest that service quality determinants complemented each other and need to be implemented in a holistic manner. Statistically, the result of the collinearity test did not indicate any multicollinearity problem. In this study, VIF (variance inflation factor) values associated with each service quality variable were determined. If one or more of these variance inflation factors were large, it was concluded that very high linear relationships existed between the service quality variables which may create camouflage problems and conflicting statistical significance values in the regression analyses conducted later. It has been suggested, as a rule of thumb, that the value of VIF greater than 10.00 may be considerably large to suspect a serious multicollinearity problem [38][39]. Since none of the service quality determinants exhibited the values of VIF greater than 6.00, (Table 3), it is concluded that the presence of multicollinearity in this study was not severe and therefore regression analyses were later justifiably conducted.

Table 4: Pearson correlations between service quality dimensions, customer satisfaction and customer loyalty

Constructs	Mean Customer Satisfaction	Mean Customer loyalty
1 Tangible	.652**	.581**
2 Reliability	.629**	.602**
3 Responsiveness	.664**	.640**
4 Competency	.670**	.642**
5 Courtesy	.692**	.654**
6 Credibility	.655**	.620**
7 Location (L)	.429**	.412**
8 Customer satisfaction (MCS)	1	.885**

Note: N=205. The coefficients are standardised β weights. Note: † if p < 0.10, * if p < 0.05; ** if p < 0.01; *** if p < 0.001

The result of the Pearson’s correlations between service quality constructs and customer satisfaction as well as customer loyalty was exhibited in Table 6. The customer satisfaction and customer loyalty measures demonstrated high correlations with service quality determinants, especially with ‘responsiveness’, ‘competency’ and ‘courtesy’. These findings were consistent with several previous studies that proclaimed better customer performances as a result of service quality initiatives [1]. In addition, location also indicated a significant correlation with customer satisfaction and customer loyalty. By observing Table 4, it was evident that there were positively high correlations of ‘responsiveness’ (r = 0.664), ‘competency’ (r = 0.670), and ‘courtesy’ (r = 0.692), with customer satisfaction. On the other hand, determinants which exhibited strongest relationships with customer loyalty were ‘responsiveness’ (r = 0.640),



‘competency’ ($r = 0.642$), and ‘courtesy’ ($r = 0.654$). However, the highest correlation was between customer satisfaction and customer loyalty. Most of the correlations were found to be significant at 99% confidence level.

B. Investigating The Mediating Effect Of Customer Satisfaction In The Linkage Between Service Quality And Customer Loyalty: A Regression-Based Mediation Analysis

The study used the regression-based mediation analysis [41] to test Hypotheses H_{2A} until H_{2F} , which suggested that customer satisfaction mediated the relationships between six service quality determinants and customer loyalty. Simultaneously, Hypotheses H_{1A} until H_{1F} were also tested in Step 1 of this analysis. Mediation requires three conditions to be satisfied: (1) There must be a significant relationship between service quality dimensions and customer loyalty; (2) there must be a significant relationship between the service quality dimensions and customer satisfaction (mediator) (3) the relationship between service quality determinants and customer loyalty subsides once customer satisfaction (mediating variable) is controlled [41]. Results suggested that some of these conditions were met.

Table 5: Results of the regression-based mediation analysis of the mediating effect of customer satisfaction

Variables	STEP 1	STEP 2	STEP 3
Tangible	0.197***	0.310***	0.095
Reliability	-0.046	-0.085	0.046
Responsiveness	0.165	0.148	-.020
Competency	0.094	0.081	0.099
Courtesy	0.196**	0.201**	0.029
Credibility	0.221***	0.235**	0.113†
Customer satisfaction	-	-	0.571***
R Square	0.518	0.771	0.674
Δ R square			0.156
F	35.516***	48.228***	58.130***
Dependent variable	Customer Loyalty	Customer Satisfaction	Customer Loyalty

Note: N=205. The coefficients are standardised β weights. Note: † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$

To test the hypotheses regarding the effects of the service quality determinants on customer satisfaction and customer loyalty, three important regression steps plus one concluding procedure were conducted with the six service quality determinants as the dependent variables, customer satisfaction as the mediating variable and customer loyalty as the dependent variable, respectively. Baron & Kenny’s mediation procedures incorporate several steps that are necessary for testing various mediational hypothesis. The first step involves procedure requires indication that the

initial variable is correlated with the outcome variable. In other words, the first step in Baron & Kenny’s procedures involves the establishment of an effect which may be mediated. In Step 1 of Table 5, three service quality dimensions, namely tangible, courtesy and credibility were significantly related to customer loyalty ($\beta = 0.197$, $\beta = 0.196$ and $\beta = 0.221$, respectively; all $p < 0.05$), thus offering support for Hypotheses H_{1A} , H_{1E} and H_{1F} . The second step involved in Baron & Kenny’s procedures is that the researcher must be shown that the initial variable is being correlated with the mediator. In other words, the second step in Baron & Kenny’s procedures involves treating the mediator variable as an outcome variable. In Step 2, three service quality dimensions, namely tangible, courtesy and credibility were significantly related to customer satisfaction ($\beta = 0.310$, $\beta = 0.201$ and $\beta = 0.235$, respectively; all $p < 0.05$). The third step in Baron & Kenny’s procedures involves an establishment of the correlation between the mediator variable and the outcome variable. In this step of Baron & Kenny’s procedures, there exists correlation between the mediator and the outcome variable because they both are caused due to the initial variable. The result demonstrated that customer satisfaction had significant relationship with customer loyalty (Step 3). The final Baron & Kenny’s procedure involves the establishment of the complete mediation across the variables. This establishment can be achieved if the effect of the initial variable over the outcome variable while controlling for mediator variable is zero. The result indicated that once customer satisfaction was included in the regression-based mediation analysis, the relationship between tangible, courtesy and credibility with customer loyalty became non-significant ($\beta = 0.095$, $\beta = 0.029$ and $\beta = 0.113$, respectively; all at 95 % level of confidence) as shown in Step 3 of Table 5. Taken together, these results demonstrated that tangible, courtesy and credibility can significantly impact customer loyalty mediated through customer satisfaction, hence offering support for Hypotheses H_{2A} , H_{2E} and H_{2F} . The result suggested full mediation roles of customer satisfaction in the linkages between tangible, courtesy and credibility; with customer loyalty.

C. Investigating The Moderating Effect Of Location On The Linkage Between Customer Satisfaction And Customer Loyalty: A Hierarchical Regression Analysis.

One of the main objectives of the study was to investigate the moderating effect of location on the linkage between customer satisfaction and customer loyalty. The relationships between customer satisfaction and customer loyalty, and the moderating effect of location on the linkage between customer satisfaction and customer loyalty were tested using the hierarchical regression analysis. In Step 1 of Table 6, the relationships between two control variables (age and education level), service quality constructs and customer loyalty construct were investigated. There were significant relationships between tangible ($\beta = 0.190$), courtesy ($\beta = 0.183$), credibility ($\beta = 0.134$) and customer satisfaction ($\beta = 0.276$) with customer loyalty. Similarly, in Step 2 of Table 7, there were significant relationships between tangible ($\beta = 0.163$), courtesy ($\beta =$



0.164), customer satisfaction ($\beta = 0.159$) and location ($\beta = 0.176$) with customer loyalty. The question was then directed at examining whether location moderated the relationship between customer satisfaction and customer loyalty. The measures of the main constructs and location scale were centered at their means before computing the interactions or conducting the hierarchical regression analyses.

Table 6: Results of the hierarchical analysis of the moderating effect of location

Variables	Customer loyalty		
	STEP 1	STEP 2	STEP 3
Age (control variable)	-0.198***	-0.192***	-0.193***
Education level (control variable)	0.20	0.130	0.015
Tangible	0.190**	.163*	0.147*
Reliability	-0.056	-.044	-0.074
Responsiveness	0.168	0.176	0.179
Competency	.058	0.070	.068
Courtesy	0.183*	0.164†	0.192*
Credibility	.134†	.101	0.102
Customer Satisfaction (MCS)	.276***	.159*	0.130
Location (L)		.176*	.168*
MCSxL			0.230*
R Square	0.658	0.668	0.680
Δ R square	-	0.010	0.012
F	26.908***	25.168***	23.933***

Note: N=205. The coefficients are standardised β weights. Note: † if $p < 0.10$, * if $p < 0.05$; ** if $p < 0.01$; *** if $p < 0.001$

In this paper, hierarchical regression analyses were conducted separately to test the moderating effect of location on the customer satisfaction and customer loyalty linkage. Referring to Hypothesis H_3 , it was hypothesised that the relationship between customer satisfaction and customer loyalty was moderated by the location of the hypermarket, such that the relationship became stronger when the location increased its strategic level. It was expected that the positive effect of customer satisfaction on customer loyalty would be enhanced with higher strategic level of location of the hypermarket. Baron and Kenny [41] suggested that the statistical analysis for testing the moderation effect depended on the level of measurement of the independent variable and the moderator variable. In this analysis, the dependent variable was regressed on the independent, moderator and the cross products of both variables [38][42]. In the first step (Table 6), the predictor variable (customer satisfaction) with other variables controlled, was entered into the regression equation with customer loyalty as the dependent variable. In the second step, the moderator variable (location) was entered into the equation. In the final step, the cross-product of the predictor variable (customer satisfaction) and the moderating variable (location) was entered to observe the influence of the interaction effect. According to Snell and Dean [42], evidence of moderation exists when the interaction terms account for significant incremental variance in the predictor variable, either individually, signified by the

values of betas, or collectively, signified by the values of the incremental R square (R^2) or significant F statistics after the addition of the moderator into the regression equation. Most importantly, the interaction effect ($\beta = 0.230$) was significant in support of H_3 .

As presented in Table 6, the first regression analysis indicated that customer satisfaction had a significant predictive power against customer loyalty. The second regression analysis also signified that customer satisfaction and location had significant predictive powers against customer loyalty but at a slightly higher explained variance or R square value (R^2). The third analysis indicated that the inclusion of the cross product between customer satisfaction and location provided slight changes in the predictive power as indicated by the R square value and change statistics and at a higher rate. In addition, the values of the subsequent beta of the cross product between customer satisfaction and location on customer loyalty was significant (beta = 0.230, p-value = 0.000) and therefore was able to provide the statistical evidence of the existence of the moderating effect of location on the customer satisfaction and customer loyalty linkage.

According to Cohen and Cohen [43], interaction or moderation effect exists if the interaction term gives a significant contribution over and above the main effects. As displayed in Table 8, the addition of the interaction term exhibited an explanatory contribution over and above that of the main effects. Explained variance increased from 0.668 to 0.680. The incremental was quite high and it was able to support the proposition that the moderating effect of location existed between the customer satisfaction and customer loyalty linkage. In addition, the interaction term of customer satisfaction and location also demonstrated a significant effect. Hypothesis 3 predicted that the relationship between customer satisfaction and customer loyalty would become stronger as location increased. The moderating effect of location on the link between customer satisfaction and customer loyalty was statistically proven and therefore Hypothesis 3 was supported.

The interaction effect that emerged was further examined, by plotting the simple slope of the customer satisfaction-customer loyalty relationship moderated by location. The researcher plotted the simple slope of the customer satisfaction-customer loyalty relationship at one standard deviation below the mean and one standard deviation above the location. The simple slope was also tested whether it was statistically significant. The simple slope test indicated that the linkage between customer satisfaction and customer loyalty was significant and positive when the location level was highly strategic (simple slope= 0.410, $p < .001$), and was also significant when the location level was less strategic (simple slope= 0.180, $p < .001$). Thus, Hypothesis 3 was supported which proposed that location, moderated the linkage between customer satisfaction and customer loyalty, such that the relationship became stronger when the location had higher strategic level. In addition, location, moderated the linkage between customer satisfaction and customer loyalty, such that the relationship became weaker

when the location was less strategic.

Hypothesis 3 assumed that the relationship between customer satisfaction and customer loyalty would become stronger as the location's strategic level increased. As shown by the simple slope in Figure 2, the moderating effect of customer satisfaction and customer loyalty was statistically significant. In addition, the slope was positive, indicating that as the location's strategic level increased, the positive link between customer satisfaction and customer loyalty became stronger. Thus, H3 was supported suggested that the findings provided significant evidence that location moderated positively the relationship between customer satisfaction and customer loyalty. Next, hierarchical regression results also suggested several conclusions. First, customer satisfaction and location were significantly associated with customer loyalty. Second, location, moderated the relationships between the customer satisfaction and customer loyalty. Third, the relationships between customer satisfaction and customer loyalty, became stronger as the level of location from the strategic aspect increased. No studies in Malaysia have investigated the moderating effect of strategic location on the linkage between customer satisfaction and customer loyalty.

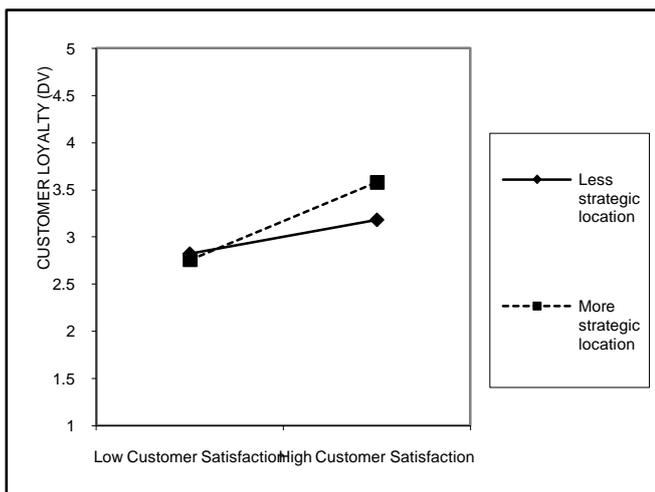


Figure 2. The Simple Slope for the interaction effect of location on the linkage between customer satisfaction and loyalty

VII. DISCUSSION

This paper develops a model which investigates the relationships between service quality dimensions (i.e. Tangible, reliability, responsiveness, competency, courtesy and credibility), customer satisfaction and customer loyalty. As expected, higher service quality is more likely to lead to a higher level of customer satisfaction and loyalty. As such, the results support the argument by several prominent researchers[1][2][3] that service quality has a significant contribution towards customer satisfaction and customer loyalty. The findings also suggest that customer satisfaction significantly mediates the relationships between several service quality determinations and customer loyalty. Even though many studies have looked into the relationship of service quality, customer satisfaction and customer loyalty,

very few have measured inferentially the magnitude, strength and direction of the relationships especially in the context of hypermarkets in Malaysia. Thus, the present paper enhances our understanding about the role of service quality, customer satisfaction and customer loyalty in the context of Malaysian hypermarkets.

Another important implication of the findings is that location plays an important role in how and why customer satisfaction leads to customer loyalty. For example, in this study, the linkage between customer satisfaction and customer loyalty is strengthened or enhanced when location was strategically high, and therefore the hypermarket can enact on this important information when selecting the site for the business. The study develops and tests hypotheses that the effectiveness of customer satisfaction-customer loyalty relationship also depends on the strategic location of the business, and Hypotheses H3 is supported by the data. Interestingly, the interaction results are significant in both directions of the strategic location levels. Specifically, the linkage between customer satisfaction and customer loyalty significantly dampens when strategic location is low, but is even strongly strengthened when location is strategically higher. Therefore, future management of hypermarkets should consider choosing a strategic location for the establishment of their business since the customer satisfaction-customer loyalty linkage can be significantly dampened when the location of the hypermarket is less strategically situated. Of course, future research is needed to further investigate this post hoc interpretation of the results.

VIII. CONCLUSION

The findings offer some important theoretical and methodological implications for the body of knowledge of service quality, customer satisfaction and customer loyalty studies, and also suggest several opportunities for more in-depth research. Given the scarcity of research on the moderating effect of location on the linkage between customer satisfaction and customer loyalty, one important reminder from this investigation is establishing there may be other moderating variables that can dampen or strengthen the customer satisfaction-customer loyalty relationships. Accordingly, there is a need to investigate the nature of relationships from different perspectives. Future research is needed to investigate whether switching cost, other new emergence of budget-typed retailers, coupons, membership cards may have negative or positive effects in the customer satisfaction-customer loyalty relationship equation.

The findings also contribute to the literature on service quality in hypermarkets since the role of service quality towards customer outcomes has received increasing attention in service quality research. Despite the importance of understanding how service quality facilitates customer satisfaction and customer loyalty, very few studies have examined the dynamics of this relationship. The findings of this study also have some practical implications from several perspectives. First, the results imply that management of hypermarkets should implement service quality to further capture the customer support, satisfaction and loyalty. In either case, the results also suggest that hypermarkets

could enhance the positive effect of customer satisfaction-customer loyalty relationship by choosing a strategic location for the hypermarket site. If hypermarket is not situated in a strategic location, it can significantly dampen the customer satisfaction-customer loyalty relationship which can have a detrimental effect on this retail business. In Malaysia, the old locations of many major hypermarkets are isolated or not strategically located probably because of land ownership and resource limitations. Some of them are not strategically accessed by public transports such as MRT or LRT which can hinder customers' accessibility and the convenience of shopping. Therefore, it is suggested that the more newly established hypermarket buildings should be situated within the vicinity of major shopping complexes or the location that can be easily accessed by public transports.

The study will be of particular interest to management or service quality managers of hypermarkets as it suggests what service quality factors that should be emphasised or prioritised to stimulate customer performances with the availability of very limited resources. The result indicates that hypermarkets should emphasise greater attention to aspects pertaining to tangibles, courtesy and credibility and a greater degree of management support for service quality enhancement initiatives. In the challenging global business environment, effective implementation of service quality management is critical for the survival and success of businesses specifically in the case of Malaysian hypermarkets.

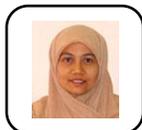
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