SERVICE QUALITY AND CUSTOMER SATISFACTION: AN EMPIRICAL EVALUATION OF RSQS IN SRI LANKAN SUPERMARKETS

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Abstract

Sri Lankan supermarket industry has being rapidly growing over the past few years in terms of size and number of outlets. The success of a supermarket is driven both by the service quality and the qualities of the products it retails. This study investigates the impact of service quality on customer satisfaction, where the determinants of service quality were identified using the RSQS framework with some modifications. Five dimensions of service quality were then used as antecedents to measure the customer satisfaction. The data was collected through a self-administered questionnaire which was consisted of six demographic type questions and thirty Likert scale type questions. A total of 300 respondents were surveyed to identify significant service quality dimensions. The research hypotheses were tested by means of multiple regression analysis with Minitab 17. Results of the study indicated that all five RSQS dimensions positively and significantly influence on customer satisfaction, proving that all dimensions are significant predictors of customer satisfaction. Reliability has reported the highest impact, suggesting that Sri Lankan supermarkets need to recognize the importance of this dimension while trying to attain the others. In an attempt to improve the store reliability, the management should consider the factors such as making right first impressions, providing services at times the store promises, avoiding stock outs and maintaining error-free sales transactions. Findings suggest that policy factor has the second greatest impact indicating the importance of integrating store policies like accepting major credit cards, providing high quality merchandise and maintaining convenient operating hours which are welcomed by the customers. The research findings provide useful insight into how supermarkets should improve service quality that would ultimately enhance customer satisfaction.

Keywords: *Customer satisfaction; Service quality; Sri Lanka; Supermarket*

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1.INTRODUCTION

Compared with the other services, the supermarket industry operates on relatively small profit margins (Siu & Chow, 2003). Retailing environment is such that the supermarkets in a given geographical area, tend to carry the same set of products, making it difficult to differentiate from the competitors in terms of the products they offer. Thus, profitability of the industry is largely driven by the market share of the each individual player. Those who can capture a higher market share can remain profitable (Siu & Chow, 2003). Due to this intensified competition experienced in the sector, retail marketers increasingly rely on integrating service quality into their marketing strategies to differentiate themselves from myriad of competitors (Ahmad et al., 2014). Besides intensified rivalry, ever increasing and varying customer expectations is another significant challenge confronts by the retailers (Cameran et al., 2010; Zehir et al., 2012). Nowadays, customers can choose from a large number of different supermarkets thus switching a supermarket is not an issue for them (Biesok & Wyród-Wróbel, 2018). Given the situation, long term success and survival of individual retailers is largely driven by how well they can satisfy and retain their customers. Besides product quality, nowadays service quality has become a strategic weapon and a crucial determinant of customer satisfaction and loyalty in retailing industry (Ahmad et al., 2014).

Although the supermarket concept was initially started in 1980's in Sri Lanka, it has experienced an explosive expansion from 2000 onwards (Wanninayake & Randiwela, 2007). This explosive growth is witnessed by the increasing western life styles of Sri Lankans accompanied by convenience they sought, increasing per capita income, rising urbanization (Fitch Ratings Repot, 2017). Today, the industry has almost reached to the saturation stage of its industry life cycle. At present, there are approximately 600 supermarkets and hypermarkets where majority of them are concentrated within the urban areas especially in the Western province. In addition to the several major supermarket chains that dominate the industry, there are lot of single owner, self-service and retail outlets throughout the country. Retailing sector is a catalyst of value creator for the national economy by contributing nearly one third of the national GDP while accounting for 14% of employment (CBSL Annual Report, 2019).

Research on service quality pertaining to retailing sector is quite common in developed and emerging economies, however similar studies conducted in developing countries are not only scare but also narrowly focused. In Sri Lankan context too, comprehensive studies on service quality are quite rare especially during the recent past. Wanninayake & Randiwela (2007) and Gajanayake et al.(2011) investigated the impact of visual merchandizing on customer store choice decisions where the studies were narrowly focused to a certain aspect of one service quality dimension; physical appearance. With a specific focus given to Sri Lankan supermarket industry, an attempt is made to identify the dimensions of service quality by re-examining the original RSQS model (Sivathaasan et al., 2014). Although adopting a country specific model is admirable, the major limitation of the study is that the instrument was tested using the data drawn from a small geographical area of the country so that the generalizability of the instrument is largely questionable. A study conducted by Weerasiri (2015) examined the impact of service quality on customer satisfaction, however the set of dimensions used to assess the service quality is different from the dimensions used in the present study. Service quality is usually assessed from the perception of customers, thus how they value the various dimensions may change over time with the changes of their expectations and changes in the business environment. Therefore, in order to be effective in satisfying customers in relation to service quality, it should be assessed periodic manner. This research was carried out in an attempt to fill the existing gap of unavailability of comprehensive studies on assessing service quality in supermarkets in the recent past.

Acknowledging the multi-dimensionality of the concept, this study attempts to investigate how scores for service quality dimensions may vary in a developing country where this kind of comprehensive

investigations are quite rare in the recent past. This can be accomplished through several research objectives. First, the study seeks to identify how customers may value different service quality dimensions based on their perceptions of the actual service received. Second, what relationship exists between different dimensions with customer satisfaction, will be investigated. Third, an attempt is made to help prioritization those dimensions that may help yielding maximum customer satisfaction in the Sri Lankan supermarket sector. Thus, this line of investigation is of great interest to the management of supermarket sector considering the fact that the customers' perception towards different dimensions and the impact of these dimensions on customer satisfaction are likely to be contextual specific and subject to change within a short period of time. Hence, study of service quality in supermarket sector in Sri Lanka at this moment of time is necessary. Understanding of customer perception towards different service quality dimensions may greatly help supermarket management in making wise investment decisions in order to increase the customer satisfaction. Besides these primary objectives, how these service quality dimensions may vary among selected demographic characteristics is also investigated.

The rest of the paper is organized as follows. The section after the introduction, reviews the existing literature pertaining to service quality and customer satisfaction. Research hypotheses and the conceptual framework are also presented in the same section. This is followed by the methodology, results and research findings respectively. Finally a conclusion together with limitations and directions for future studies are given.

2.LITERATURE REVIEW

2.1 Service Quality

By its very nature, service quality is an elusive, indistinct and abstract concept which makes defining the concept difficult (Verma, 2004). Various scholars have defined it in different ways. In general, service quality is how well a service meets or exceeds perceived customer expectations. More specifically it can be defined as the customers' assessment of the overall excellence or superiority of the service (Zeithaml, 1988). Parasuraman et al (1985) proposed that service quality is a function of the difference between customer expectations and their perceptions of the actual service received. Service quality is known to be a multifaceted phenomenon, consisting of different dimensions (Gronroos, 1993; Gummesson, 1991; Lapierre, 1996). Due to multi-dimensionality of the construct and other unique features such as intangibility, heterogeneity and inseparability of the production and consumption of a service, measuring the construct is always challenging and difficult (Brown & Swartz, 1989; Carman, 1990; Parasuraman et al., 1985).

Service marketing literature reports different conceptualizations for service quality – a second order construct- which is composed of several first order variables. In Gronroos (1984) model, service quality was conceptualized using three components; technical, functional and reputational quality. Lehtinen & Lehtinen (1982) proposed another three component structure for the construct; interactive, physical and corporate quality that is relatively different from the Gronroos's model. Hedvall & Paltschik (1989) introduced a new conceptualization with two dimensions; willingness and ability to serve and physical and physiological access. LeBlanc & Nguyen (1988) proposed a new measurement with five components; corporate image, internal organization, physical support of the service producing system, staff/customer interaction and the level of customer satisfaction. Garvin (1988) conceptualization is consisted of nine dimensions; performance, features, conformance, reliability, durability, service, response, aesthetics and reputation. In 1994, Rust & Oliver (1994) defined service quality in terms of functional, technical and environmental quality. Payne (1995) identified five service quality variables; reliability, responsiveness, assurance, empathy and tangibles. In the view of that service quality involves a comparison of customer expectation with customer perception of actual service performance. Parasuraman et al (1985) conceptualized the construct with five dimensions namely tangibles,

reliability, responsiveness, assurance and empathy. This conceptualization eventually led to the development of a scale called "SERVQUAL" which was then widely used in a large range of service contexts such as hospitals, banks, tyre retailing, hospitality, education and department stores (Babakus & Mangold, 1992; Carman, 1990; Fin & Lamb, 1991). Bloemer et al (1999) investigated the relationship between service quality and service loyalty in a range of services such as supermarkets, amusement parks and health care services, with the use of SERVQUAL and the results evidence that the scale is reliable and consistent.

Although SERVQUAL has been widely adopted and used in the service marketing literature, it has also been widely criticized for its low reliability due to the measurement complexities of customer expectation and perception (Carman, 1990). Adding to this, Dabholkar et al (1996) argue that SERVQUAL is not a suitable instrument to measure service quality in retailing since the instrument has not proven to be adopted and validated in the retailing environment. Service quality in retailing environment is found to be different from any other services since retailers carry both products and services (Fin & Lamb, 1991; Hanjunath & Naveen, 2012). To address the need of an instrument that can accurately measure the quality from perspectives of services as well as products, Dabholkar et al (1996) developed a sector specific scale entitling "Retail Service Quality Scale" – RSQS- which consists of five dimensions; physical aspects, reliability, personal interaction, problem solving and policy. Physical aspect includes retail store appearance, layout and convenience. Reliability is keeping promises and doing the right things. Personal interaction consists of courteousness/helpfulness and inspiring confidence of the store personnel. Problem solving addresses capability of the store personnel to handle returns, exchanges and customer complaints. Policy encompasses store policies related to operating hours, credit cards and merchandize qualities. RSQS has been extensively used and tested for its validity and applicability in the retailing sector (Kumar & Gour, 2010; Mehta et al., 2000).

Customer satisfaction is key for any profit oriented organization in the face of highly competitive environment for its long term success and survival. Customer satisfaction in retailing sector leads to number of desirable outcomes such as increased sales, high profits, customer retention and loyalty (Biesok & Wyród-Wróbel, 2018; Bolton, 1998). Satisfied customers are more likely to make repurchases and become loyal customers (Biesok & Wyród-Wróbel, 2018). The paramount importance of customer satisfaction in retailing sector is such that dissatisfied customers are unlikely to make complains. Rather, they may simply select another supermarket. In order to maintain a stabilized and loyal customer base, supermarkets should be able to meet or exceed the customer expectations than their counterparts. Based on the definitions and the operationalization of service quality and customer satisfaction, literature shows that the two are distinct constructs (Oliver, 1997; Taylor & Baker, 1994). The key difference between them is that quality relates to managerial delivery of the service while satisfaction reflects customer experience with the service they went through. Service quality has been reported to have a significant relationship with customer satisfaction (Biesok & Wyród-Wróbel, 2018). The findings of the study conducted by Arun et al (2012) with data from discount stores in India, show that all the dimensions of RSQS are positively related to customer satisfaction. A similar study conducted in unorganized retail outlets in India, applied RSQS to identify service quality dimensions that are appropriate for measuring service quality in Indian retailing sector (Thenmozhi & Dhanapal, 2011). The results indicate that amongst six identified factors, store merchandise and access are the most important retail service quality determinants. In the light of the literature review, the present study attempt to examine the relationship among service quality dimensions (based on RSQS framework) with customer satisfaction.

2.2 Customer Satisfaction and Perceived Service Quality

Physical aspects basically includes store appearance and store layout (Huang, 2009). Perceived store appearance help making judgments about the service quality and prevailing literature widely acknowledged that store appearance as an essential determinant of a better shopping experience (Dabholkar et al., 1996). A well configured layout may guide the shoppers throughout the store and may significantly reduce their searching time (Beneke et al., 2012). Even if the required products are

available within the store, customers often find it difficult to locate the products they seek due to poor store layout. This may lead to poor perceptions about the store and eventually customers may turn to other competitors for better services. Clean store, a layout that facilitates customer orientation and easy product identification play a particularly important role in the service encounter of the grocery sector (Keillor et al., 2004). Visual merchandizing, defined in terms of lighting, design layout, product display and cleanliness is likely to shape consumers' store choice behavior (Wanninayake & Randiwela, 2007). Store environment, facilities, perfectly arranged layout have known to be factors that retailers can use to gain competitive advantage and influence on customer satisfaction (Dabholkar et al., 1996). In line with these arguments, we propose a positive relationship between physical aspect and service quality where better the store appearance and layout, higher the perceived customer satisfaction.

H1: Physical aspects positively impact on customer satisfaction

Reliability concerns the ability of the store to deliver those services that have been promised to customers accurately and flawlessly (Huang, 2009). In another words, reliability means getting things done right at the first time and every time. Customers tend to perceive reliability as a combination of keeping promises and 'doing things right' (Dabholkar et al., 1996). The findings of the study conducted by Newman (2001) reports that a store should be able to keep its promises made, meet deadlines and provide timely and accurate information to its customers. Accurate information includes those information with respect to product pricing and correct and precise information about the product. The ability of the store to have merchandize available when they are requested or required by the customers is another important aspect of reliability. In retailing, limited availability of stock, out of stock or long queues at the cashier reflects lack of reliability (Beneke et al., 2012). Existing studies have proven that long waiting times at the cash counter can develop negative perceptions that may eventually lead decreased customer satisfaction (Rigopoulou et al., 2008). Frequent stock outages may result in developing detrimental perceptions about the store, spreading negative word of mouth and shifting customers to other competitors (Grant & Fernie, 2008). Taking these arguments together, we theorize a positive relationship between reliability and service quality where higher the reliability, higher the perceived customer satisfaction.

H2: Reliability positively impact on customer satisfaction

The way the customers are treated by the sales personnel and their attitude towards customers have been identified as important drivers of service quality (Gounaris, 2008). Sales staffs' knowledge regarding new products, prices and various store offerings help delivering a superior customer service which is perhaps the most highly visible attribute of the service encounter. Treating customers with respect will not only satisfy but also delight them (Darian et al., 2001). Sales staff is identified as facilitators of the sales process since they engage with improving the conversion ratio (Beneke et al., 2012). Furthermore, they provide customers with assistance and guidance in navigating through the store to locate the required items. Ability to build confidence in the minds of customers with regard to sales personnel's knowledge and behavior is also essential for healthy interaction. Therefore, we propose a positive relationship between personal interaction and service quality such that better the interaction between the sales staff and customers, higher the customer satisfaction.

H3: Personal interaction positively impact on customer satisfaction

Problem solving refers to the interest and capability of the store in handling product returns, exchanges, customer problems and complaints (Beneke et al., 2012). Store's ability to show a genuine interest in handling customer complaints and taking initiatives to handle complaints directly and immediately are essential for effective problem solving. Customers tend to have more favorable perceptions towards stores which are pretty good at dealing with customer problems (Huang, 2009). Good problem solving systems not only help in detecting and solving customer problems, but also encourage customers making complaints. It has been found that even dissatisfied customers are more like to make repurchases

if their complaints were handled and settled reasonably (Michel, 2001). Unless unhappy customers are dealt with effectively, their level of dissatisfaction tend to be intensified. Therefore, for the best interest of the store, it should ensure that adequate and effective problem solving measures are in place. These measures may include customer care lines, customer service counters, helpful staff or even websites (Beneke et al., 2012). Availability of effective post-transaction services are found to build credibility and favorable perception towards the store. Taking them together, we propose that better problem solving attempts lead more customer satisfaction.

H4: Problem solving interaction positively impact on customer satisfaction

Store policy refers to the decisions of the store regarding the depth and breadth of merchandize they offer, their loyalty programs, credit facilities, operating hours, parking facilities and any other additional customer services they offer. It has been found that stores endowed with wide range of products that offer good value, tend to bring pleasure, excitement, contentment, pride and satisfaction (Yoo et al., 1998). Stores that are perceived to be having superior products are likely to be preferred by consumers over the competitors (Thang & Tan, 2003). The store's ability to meet the customer expectations with respect to loyalty programs like discounts for frequent buyers, credit facilities, and convenient operating hours may result positive perceptions regarding the store and increased levels of customer satisfaction. In line with the positive impacts of favorable store policies on customer satisfaction, we theorize a positive relationship between the store policies and customer satisfaction.

H5: Store policy positively impact on customer satisfaction.

The conceptual model given below depicts the hypothesized relationships between the service quality dimensions with customer satisfaction.
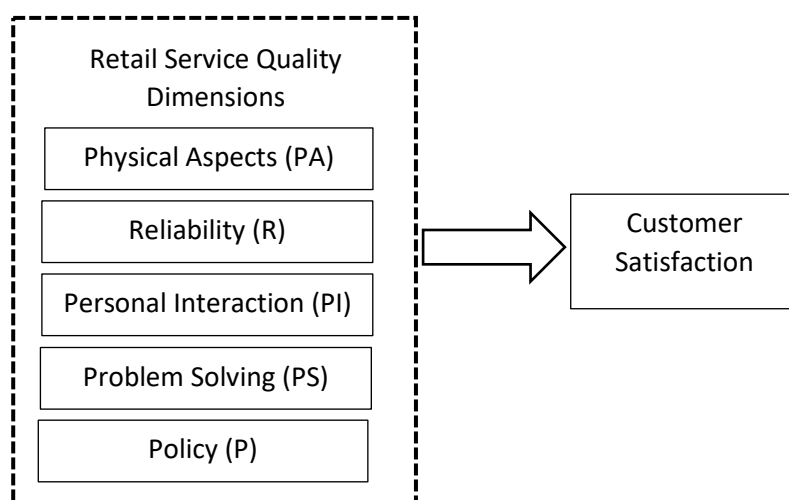

Figure 01: Conceptual model

3.METHODOLOGY

3.1 Sample and Data Collection

The study population included the total population of the Western province and a sample of 500 participants were selected using convenience sampling technique. Rationale for the choice of the area is that supermarkets are well-established within this province and almost all the key supermarket chains have located their outlets throughout the province. Moreover, majority of the residents have a modernized life style, thus they tend to make their purchases from supermarkets or hypermarkets rather than visiting small grocery stores (Fitch Ratings Repot, 2017). Questionnaires were distributed among

the participants who were basically drawn using convenience sampling technique. The survey was conducted for a period of one month. Reminders were sent via emails, phone calls and text messages at the end of the first two weeks. From a total of 500 participants in the survey, 312 had responded by returning the completed questionnaires, however, only 300 questionnaires were useful and selected for the subsequent data analysis. The response rate is 62.5% while the majority of the respondents are female (51.67%).

3.2 Instrument

The nature of retailing industry is different from other services (Ahmad et al., 2014). Thus, sector modified scale RSQS developed by Dabholkar et al (1996) was used to measure service quality. A pre-test with a sample of fifteen was carried in order to ensure that the questionnaire is unambiguous, understandable and free of errors. The feedback of the pre-test was analyzed and minor problems were addressed. The resulting questionnaire contained a total of 36 questions. Thirty questions were Likert-type scale items for capturing the service quality dimensions and customers satisfaction. The subscales consisted of six, five, eight, three and five items for capturing physical aspect, reliability, personal interaction, problem solving and policy respectively. Customer satisfaction subscale includes three items. The remaining six items consisted of demographic information which include gender, age, marital status, income level and educational level. The instrument required participants to indicate their level of satisfaction on a five-point scale ranging from 1, strongly disagree to 5, strongly agree as five-point scale would give a better normal spread of observations. The respondents were informed not to fill the questionnaire immediately after a shopping experience, since it may reflect satisfaction rather than service quality (Dabholkar et al., 1996).

The RSQS is a well-established survey instrument and has been used in many research studies and has a well-established content validity (Dabholkar et al., 1996). The modifications made to form the questionnaire were directly derived from existing literature pertaining to service quality and customer satisfaction in retailing sector. Since the RSQS was significantly modified to reflect the contextual conditions, a reliability analysis has been conducted after the data collection phase.

3.3 Data Analysis

Data organization and analysis were completed by using Minitab. Descriptive statistics for each service quality dimension and customer satisfaction were calculated for the Likert-style format items. An item reliability analysis in terms of Cronbach's Batch Alpha Coefficient, was conducted to assess the reliability of the scale. Then a confirmatory factor analysis was employed to determine the factor structure of the data set. One-way independent sample T-test and analysis of variance (ANOVA) were used to determine how the perceived relationships between the service quality dimensions and customer satisfaction may vary among the different demographic characteristics. Hypotheses were tested by means of regression analysis where service quality dimensions were used as the independent variables and customer satisfaction was used as the dependent variable. Moreover, correlation analysis between the service quality dimensions and customer satisfaction level was performed.

4.RESULTS

Table 01 shows that the majority of the respondents are female (51.57%) and married (60.33%). Respondents representing the age group 26-30 accounted for the majority (22.33%), while 18.67% of the respondents were in 41-50 age group. The mean age of the respondents was 25.3 years. Approximately 29.67% of the respondents has a monthly income of Rs.25, 000 or below while the majority (33.33%) of the respondents' monthly income is between Rs.25, 000 and Rs.50, 000. The mean monthly income of the sample is Rs.45, 162.83.

Table 01: Sample characteristics

Demographic Characteristic	Percentage (%)	Demographic Characteristic	Percentage (%)	Demographic Characteristic	Percentage (%)
Gender		**Marital Status**		**Income Level**	
Male	48.33	Married	60.33	Rs. 25,000 or below	29.67
Female	51.67	Unmarried	39.67	Rs.25,000 –Rs.50,000	33.33
Age Category		**Educational Level**		Rs.50,000-Rs.75,000	21.67
18 or below	0.33	GCE O/L or equivalent	7	Rs.75,000-Rs.100,000	9.67
19-24	16.67	GCE A/L or equivalent	30.67	Rs.100,000 or above	5.67
25-30	22.33	Diploma/ Higher Diploma	33		
31-40	13	Degree	28		
41-50	18.67	Postgraduate	1.33		
50 or above	29				

4.1 Reliability Analysis

In order to determine the internal consistency reliability of the instrument, Cronbach's alpha coefficient was calculated. The total scale includes 30 items and its reliability was high (0.68). The instrument is valid and reliable for measuring perceived service quality and customer satisfaction in retailing environment, since the scale's reliability can consider to be high enough and acceptable. The reliability of individual subscales are as given in the following Table 02. The reliability of the personal interaction subscale reports the highest (0.7420) and is acceptable. However, the reliability of the problem solving and customer satisfaction is not as high as expected. These two subscales have a lower number of items than the other subscales which may eventually lead to a low reliability.

Table 02: Reliability statistics for each subscale

Subscale	No. of Items	Cronbach's Alpha (α)
Physical Aspect	6	0.675
Reliability	5	0.567
Personal interaction	8	0.742
Policy	5	0.617
Problem Solving	3	0.536
Customer Satisfaction	3	0.520

4.2 Convergent and Discriminant Validity

Convergent and discriminant validity were ascertained through Confirmatory Factor Analysis (CFA) as given in Table 03. Based on the results of the analysis, only one item has been identified that fails to load on the factor and that was removed. The removed item is "the aisle spaces are sufficient for customers to do shopping" in the physical aspects subscale. This item ($p > 0.05$) is not significant at a 95% confidence level.

Table 03: Confirmatory factor analysis

Dimension	Scale Items	T-Statistic	Significance at the 5% level?
Personal Interaction	PI01: The employees give individual attention to the customers	7.92	Yes
	PI02: Employees tell customers exactly when service will be performed	4.37	Yes
	PI03: Employees are never too busy to respond to customers' requests	3.36	Yes
	PI04: Employees give prompt service to the customers	8.89	Yes
	PI05: Employees are consistently courteous with customers	12.52	Yes
	PI06: Employees' behavior in this store instill confidence in customers	9.09	Yes
	PI07: Employees have the knowledge to answer the customers' questions	12.73	Yes
	PI08: Customers feel safe in their transaction within the store	12.13	Yes
Physical Aspects	PA01:The physical facilities in this store are visually appealing	4.31	Yes
	PA02: This store has modern- looking equipment and fixture	2.93	Yes
	PA03: The store layout at this store makes it easy for customers to find what they need	7.34	Yes
	PA04: The store layout at this store makes it easy for customers to find what they need	7.57	Yes
	PA05: The aisle spaces are sufficient to for customers to do the shopping	0.40	No
	PA06: Materials associated with this store's services (such as shopping bags, catalogs) are visually appealing	4.28	Yes
Reliability	R01: The store performs the service right the first time	2.52	Yes
	R02: This store provides its service at the time it promises to do so	3.86	Yes
	R03: Product items are available when the customers want it	6.18	Yes
	R04: When the store promises to do something by a certain time, it will do so	3.62	Yes
	R05: This store insists on error- free sales transactions and records	13.56	Yes
Policy	P01: This store offers its own loyalty cards	10.52	Yes
	P02: This store accepts most of major credit cards	13.93	Yes
	P03: This store offers high quality merchandise	2.18	Yes
	P04: This store has convenient operating hours to the customers	3.06	Yes
	P05: This store provides plenty of convenient parking for customers	5.83	Yes
Problem Solving	PS01: This store shows a sincere interest on solving customers' problems	10.32	Yes
	PS02: This store willingly handles the returns and exchanges	5.74	Yes

	PS03: Employees are able to handle the customer complaints directly and immediately	8.58	Yes
Customer Satisfaction	CS01: The quality of my shopping experience allows me to form an opinion of the supermarket	8.53	Yes
	CS02: I am extremely happy about the high quality standard of the shopping experience delivered	10.04	Yes
	CS03: This store always meets my needs	8.06	Yes

p<0.05 statistically significant at a 95% confidence interval

4.3 Descriptive Statistics

The perceptions of means and standard deviations of each dimension and individual items are presented in the following Table 04. The reliability dimension was ranked the first with a mean score of 4.29 (std 0.68). It was followed by policy (4.18, 0.85), physical aspect (3.94, 0.8), problem solving (3.71, 0.81) and personal interaction (3.59, 0.75). Results indicate that the store policies such as accepting major credit cards, providing quality merchandise and providing convenient operating hours, were widely accepted and appreciated by the customers. Most of the respondents expressed that "Product items are available when the customers want it," which has scored the highest single item mean of 4.55. Personal interaction subscale reported the lowest mean score (3.71). The subscale items "The employees give individual attention to the customers" and "Employees tell customers exactly when service will be performed" obtained the lowest mean scores among all the 27 items.

Table 04: The perception of means of service quality dimensions

Dimension	Mean	Std.	Dimension		Mean	Std.
Personal Interaction			Reliability			
PI01	2.62	0.83		R01	4.09	0.64
PI02	3.22	0.86		R02	4.15	0.66
PI03	3.79	1.06		R03	4.55	0.78
PI04	3.64	0.70		R04	4.13	0.62
PI05	4.05	0.62		R05	4.47	0.68
PI06	3.68	0.61		Overall	4.29	
PI07	3.41	0.80	Policy			
PI08	4.38	0.54		P01	4.21	1.3
Overall	3.59			P02	4.46	0.68
Physical Aspect				P03	3.94	0.50
PA01	4.18	0.72		P04	4.13	0.76
PA02	4.16	0.96		P05	4.17	0.99
PA03	3.75	0.98		Overall	4.18	
PA04	3.74	0.59	Problem Solving			
PA05	4.00	1.02		PS01	3.49	0.86
PA06	3.86	0.55		PS02	4.25	0.77
Overall	3.94			PS03	3.39	0.79
				Overall	3.71	

Responses on 5-point Likert scale; 1=strongly disagree, 5=strongly agree

4.4 Correlation Analysis

Table 05 presents the results of the bivariate correlation tests. The correlation analysis showed that customers' perceived service quality was significantly related to their overall satisfaction of the store. All service quality dimensions personal interaction, physical aspects, reliability, policy and problem solving were positively associated with customer satisfaction (r=0.53, 0.58, 0.67, 0.67 and 0.56 respectively, all p>0.01). These results provide preliminary evidences that RSQS dimensions significant determinants of customer satisfaction. Further to this, a correlation analysis was conducted among the

service quality dimensions in order to detect any multicolliniarity issues in the data set. No pair wise correlations between any two dimensions reported to have higher values (r>0.5).

Table 05: Correlations between service quality dimensions and customer satisfaction

	Customer Satisfaction
Physical Aspects	0.58*
Reliability	0.67*
Personal Interaction	0.53*
Policy	0.67*
Problem Solving	0.56*

*Correlation is significant at the 0.01 level (two-tailed)

4.5 Multiple Regression Analysis

The research hypotheses were tested by means of multiple regression analysis where the five service quality dimensions were used as the independent variables and the customer satisfaction was used as the dependent variable. The proposed empirical model where the customer satisfaction is a function of service quality dimensions, can be written as follows.

Customer Satisfaction= β_0 + (β_1*Personal interaction) +(β_2*Physical aspects)+(β_3*Reliability)+(β_4*Policy)+(β_5*Problem solving)+ ε

Where β_0 denotes the constant and ε denotes the uncorrelated error term.

Table 06: Results of regression analysis between service quality dimensions and customer satisfaction

Dimension	Coefficient	β	Significance (p-value)	VIF
Constant	0.09	0.02	0.000*	
Physical Aspects	0.13	0.05	0.006*	1.76
Reliability	0.35	0.05	0.004*	1.64
Personal Interaction	0.19	0.05	0.000*	1.46
Policy	0.25	0.04	0.03*	1.94
Problem Solving	0.16	0.03	0.00*	1.47
Adjusted R^2 = 0.675				

* $p<0.05$ statistically significant at a 95% confidence interval

In terms of the relationship between individual service quality dimensions and customer satisfaction, the adjusted R^2 (0.678) was significant which indicates that 67.8% of the variance of the level of customer satisfaction could be explained by the five dimensions. VIF values ranging from 1.47 to 1.94 further confirm that there is no multicollinearity issues in the independent variables. The outcome of Hypothesis 1 was that physical aspect has a positive relationship with customer satisfaction. The multiple regression analysis showed physical aspects to be significant at the 5% significance level. Similarly, the outcome of Hypothesis 2 was that reliability has a positive relationship with customer satisfaction which is also significant based on the regression results. The remaining three hypotheses on the positive impact of personal interaction, problem solving and policy on customer satisfaction were also empirically supported. Based on the results of the regression analysis, it can be concluded that all the dimensions are significant predictors of level of customer satisfaction. Reliability (0.35) has the

strongest impact on customer satisfaction while physical aspects (0.13) has the weakest impact. Policy dimension has the second highest (0.25) impact on the customer satisfaction.

An independent sample T-test and ANOVA were performed to check how the service quality dimensions may vary among different demographic characteristics of the respondents. Two independent sample T-tests were conducted for gender and marital status. The results of the t-test with relation to gender showed that that there was no statistical differences in the five service quality dimensions between the female and male groups. However, the results of the t-test with relation to marital status showed that there were statistical differences on marital status ($p<0.05$) in service quality dimensions except for problem solving which reports significantly large mean differences between married and unmarried groups for personal interaction (3.59, 3.76), physical aspects (3.86, 4.05), reliability (4.04, 4.2) and policy (4.03, 4.4). Results of the ANOVA indicated that significant differences occurred among different age groups for all the dimensions. For the income levels, ANOVA statistics showed that there were statistical differences ($p<0.05$) in assessment of service quality except for personal interaction. As per the results, the assessment of service quality in terms of all the dimensions were significantly different ($p<0.05$) for education level.

5.DISCUSSION

This study attempted to investigate the impact of service quality on customer satisfaction in the supermarket sector. Align with the service marketing literature, especially pertaining to retailing industry, the determinants of the service quality were identified using the RSQS framework. Five dimensions, personal interaction, physical aspect, reliability, problem solving and policy were used as the predictors of customer satisfaction. The reliability dimension reports the highest factor score mean. It indicates that store's ability to keep promises and getting things done at the first time are welcomed by the customers. Meanwhile, the subscale item "products items are available when the customers want it" ranks the highest mean score among the 27 items. It indicates the necessity of effective stock maintenance practices that may help preventing stock outs which may lead negative perception on service quality.

Findings of the investigation of relationship between service quality and customer satisfaction level show that the service quality dimensions have a fairly high predictive power in customer satisfaction. This is consistent with the previous research findings that have empirically shown a strong positive relationship under investigation in the Sri Lankan supermarket industry (Ushantha et al., 2014; Weerasiri, 2015). The correlation analysis provides preliminary evidences that there are positive associations between the perceived service quality dimensions and overall customer satisfaction where reliability and store policy reported to have the highest association. Regression analysis further confirmed the preliminary evidences of correlation analysis. All the five dimensions are found to be strong in explaining customer satisfaction where reliability and policy respectively have the strongest explanatory power to customer satisfaction.

The effect of reliability was considerably stronger than the other four dimensions. This reinforce the notion that the supermarket should be able to keep its promises and should get right things done at the very first time. Reliability concerns the issues pertaining to stock availability, the visibility of product prices, information about sales promotions and length of queues. It evidences that customers are more likely to value thus more likely to shop in supermarkets where they can find all the things that they want to purchase, where they do not want to spend unnecessarily in queues and where they can be sure for error-free transactions. Personal interaction was found to be the second strongest predictor of customer satisfaction. This factor is all about the customer perception towards the sales staff. It appears that customers tend to cherish an environment where they can find knowledgeable, friendly and willing to assist sales staff. This is quite a serious concern for many supermarkets since the industry is known for

low wages and hiring temporary employees. While paying minimum wages and expecting an excellent customer service from the sales staff is a critical challenge confronts by the industry at present.

Physical aspect was found to have the least relationship with customer satisfaction. This dimension basically concerns the physical environment of a store with regard to cleanliness, effectiveness of the store layout and adequate maintenance. Stores' ability to plan an effective store design enables customers to get a safe, healthy, and convenient shopping experience (Beneke et al., 2012). Today supermarkets are continuously keen on upgrading their store layouts with the purpose of having the most attractive, convenience and safest store than their counterparts. Most of them, especially the major supermarket chains are very similar in this regard providing aesthetically appealing, logically and orderly designed layouts while ensuring the cleanliness. Thus, customer are unlikely to recognize sufficient grounds for differentiation based on the physical environment. For these reasons, customers may not perceive physical aspects as being an important predictor of customer satisfaction.

Based on the demographic data, married and unmarried groups tend to assess service quality differently for different dimensions except for problem solving. For age and level of education, the groups of the respondents are like to perceive service quality significantly different. Only the personal interaction has no significant difference among different groups pertaining to level of income. This may be explained by the fact that the individuals' desire to be treated or assisted gently by the sales staff is not limited by their level of income. The results further indicates that male and female customers tend to perceive service quality at a similar level.

6.CONCLUSION

This study attempted to investigate the impact of service quality dimensions on customer satisfaction in supermarkets in Sri Lanka. Service quality dimensions were identified using the RSQS framework. Personal interaction, physical aspects, reliability, problem solving and policy were identified as the first order constructs of service quality. These dimensions were then used as antecedents of customer satisfaction. The findings revealed that these dimensions have different influences on customer satisfaction where reliability and personal interactions reported to have the highest impacts. Supermarkets, especially in the Western province should focus on areas such as keeping promises at the best possible, doing right things at the first time, reducing waiting times in queues, making sure to conduct error free transactions and having knowledgeable and friendly sales staff who are willing and good at delivering prompt services. Moreover, each supermarket should attempt to explore the demographic characteristics of their customers, since customers tend to assess different service quality dimensions differently based on demographic factors such as marital status, age, level of income and education. Especially, there were significant differences in perceived service quality dimensions among different age groups. Thus, individual supermarkets should have some understanding about the age of their customers. This understanding will definitely enable the individual supermarkets to identify their customers' perceptions of service quality that may help them improving customer satisfaction.

It is also important to reflect the limitations of this study. The data for the study was drawn from a sample of respondents in the Western province where the supermarket industry has well established. The generalizability of the findings of this study to the other areas of the country may be problematic since customers are more likely to perceive service quality dimensions differently than the present study findings. Thus, further studies should address this issue by expanding the sample beyond the Western province. The present study employed a quality based approach for studying and modelling customer satisfaction. Future research may use both quality and value-based approaches to better model the customer satisfaction.

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