***Original Research Article***

# ASSESSMENT OF RELATIONSHIP BETWEEN SERVICE QUALITY, CONSUMER SATISFACTION AND CONSUMER LOYALTY IN RETAIL OUTLET USING SEM PLS ANALYSIS


**Abstract:**

In this era of competitiveness, organizations compete by enhancing their service quality to satisfy their customers. Primary data for the study was collected from eighty consumers who visited the retail shop which sold chilled chicken and meat products exclusively under its own brand name in Coimbatore city of Tamil Nadu state by direct interview method using Retail service quality scale. This study was undertaken to assess the interrelationships between service quality attributes, customer satisfaction and customer loyalty by developing a model, linking these three constructs were analyzed using SEM PLS method. The retail service quality model consisted of the five dimensions physical appearance, reliability, personal interaction, problem solving and policy was termed as the structural model. This model measured the strength of the five dimensions in estimating the retail service quality construct and results indicated policy, needs to be improved by the case firm for enhancing the retail service quality. The results of the study indicated that customer satisfaction and customer loyalty are dependent on retail service quality whereas customer loyalty to a particular store was not completely depending on satisfaction alone.



**Key words**: Organized retailing,Retail Service Quality,SEM-PLS,RSQS,Consumer satisfaction, Consumer Loyalty


## Introduction

Service quality is considered as a vital measure to increase the customer satisfaction towards the retail store and in turn helps the store to position its service in the minds of the customers. Service quality is defined as 'a global judgment or attitude relating to the overall superiority of the service' (Parasuraman *et.al* 1988).Service quality is perceived as a tool for increasing value for the consumer; as a means of positioning in a competitive environment (Mehta *et.al* 2000) and for ensuring consumer satisfaction (Sivadas and Prewitt, 2000).

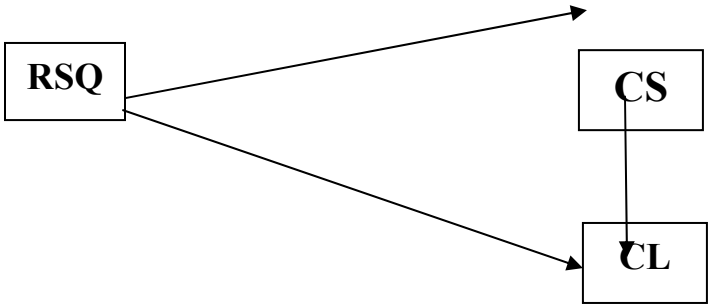
Service quality plays a significant strategic role in creating quality perceptions (Nhat & Hau, 2007). The services offered by the retail outlet influences the customer satisfaction, which may result in continuous purchase and loyalty among the consumer. The objective of the study was to assess the retail service quality of a retail outlet and to estimate its relationship with customer satisfaction and customer loyalty.

## Review of past studies

Service quality can be defined as the intensity with which the needs, expectations of the customers are met as perceived by the customers (Osman and Sentosa 2013). Customer satisfaction is the variation between the customer expectations and the actual experience after using a product or a service (Azman, *et al.* 2016). Customer loyalty is the tendency of the customer to regularly purchase a product or visit a store or utilize a service (Kuo, Wu& Deng 2009, Saura *et al.* 2008).Oliver (1997), Walsh *et al.* (2008) defined loyalty as a "deeply held commitment to re- buy or re-patronize a preferred product or service consistently in the future, which causes repetitive same-brand or same-brand set purchasing, despite any situational influences and marketing efforts that might cause switching behavior". The service profit chain (Heskett, *et al.*1994) depicts the possibility of bringing customer satisfaction through service quality and enhancing financial performance by developing customer loyalty. According to Sivadas and Prewit (2000) service quality has an impact on the customer loyalty in a retail setting. Service quality and customer satisfaction are positively associated with loyalty in traditional grocery chain shoppers (Brown 2004). Service quality has the ability to predict customer satisfaction and customer loyalty (Izmail and Yunan 2016).

## Conceptual model

The review of past studies clearly indicated the relationship between service quality, customer satisfaction and customer. Hence this study measures the retail service quality and traces the linkage of customer satisfaction and customer loyalty with retail service quality.




***RSQ- Retail Service Quality, CS – Customer Satisfaction, CL- Customer Loyalty***

**Figure 1. Conceptual model**

## Materials and Methods

The study was undertaken for estimating the consumer perception towards the organized retail shops of the case firm in Coimbatore city of Tamil Nadu state, which sold chicken meat products exclusively. The case firm which was involved in production of broiler chicken had also forayed into the retailing segment for direct selling of chicken meat products and to get an insight into the consumer preferences. The case firm was operating outlets both as company owned and franchise business models. The shops sold fresh chilled chicken in various types of portions and cuts in desired quantities and also sold ready to heat-and-eat home meal replacements and value added eggs. Eighty consumers were randomly selected as sample consumers from the two selected organized retail shops.

In this study, the Retail Service Quality (RSQ) was measured using the statements based on five dimensions namely physical appearance, reliability, personal interaction, problem solving, and policy. The RSQS scale was selected based on the Kaul (2007), where the original scale was modified to suit the Indian conditions. It is important for the retail managers to pay attention on evaluation retail service quality in the stores according to relevant dimensions and measurements that the value proposition is experienced in a way which brings highly perceived value to the both sides – consumers and organization.

Retail Service Quality (RSQ) scale was used to assess the service quality of the retail shops and also to understand the relationship between service quality, customer satisfaction and

loyalty, Structural Equation Modeling (SEM) was utilized. Structural equation models (SEMs), also called simultaneous equation models, are multivariate regression models. SEM is useful to researchers as a multivariate technique combining regression, factor analysis, and analysis of variance to estimate interrelated dependence relationships simultaneously. Within the academic literature of many fields, Rigdon (1998) remarks, structural equation modeling (SEM) has taken up a prominent role.

The term Structural Equation Modeling conveys two important aspects of the procedure: (a) that the causal processes under the study could be represented by a series of structural equations, and (b) that these structural relations can be modeled pictorially (path diagrams) to enable a clearer conceptualization of the theory under study. A major advantage of SEM is the ability to estimate a complete model incorporating both measurement and structural considerations. In general, a Structural Equation Model was defined by the following pair of equations (Marcoulides and Schumacker 2001).

**The structural model:** $\eta = B\eta + \zeta$

Where $\eta$ is the vector of endogenous latent variables and B is a coefficient matrix that relates endogenous variables to each other. $\zeta$ is a vector of disturbance terms.

**The measurement model:** $\gamma = \Lambda\eta + \varepsilon$

Where $\gamma$ is a vector of endogenous variables that the model is specified to explain while $\Lambda$ is the coefficient matrix that relates endogenous variables to exogenous variables, and $\varepsilon$ is the error vector (in the covariance matrix).

SEM allows researchers to test a complex model by ensuring a solid solution in estimating the complex relationship between variables (Chin, 2010). SEM methods can be classified as either a covariance-based SEM (CBSEM) or a component-based SEM (PLS-SEM).

Covariance-based SEM techniques estimate path coefficients and loadings by minimizing the difference between observed and predicted variance–covariance matrices. The observed variance–covariance matrix is calculated by the covariance structure of the MVs. The most widely used procedure to estimate parameters is the maximum likelihood estimate (MLE), which requires the observed data to be distributed as a multivariate normal (Byrne, 1994; Joreskog & Sorbom, 1989).

PLS is a component-based SEM technique because it estimates parameters similar to the principal component with a multiple regression approach. Unlike the covariance-based SEM techniques, the familiarity with PLS is relatively low (Hulland, 1999).Visual PLS 1.04, a statistical package developed for the estimation of SEMs using the PLS approach was used in this study. The component based structural equation model will never depict the indicators in the path diagram. It will show only the latent variable. This method is best suited for sample size less than 200.

**Results and Discussion**

In order to summarize and give the overall impression about service quality Table (1) was created to present an overall view on the average values of each statement. . It could be inferred that the mean value of statements relating to the *physical appearance* ranged from 2.84 to 4.74, with the highest mean value indicating that the store has got modern looking equipment and consumers are satisfied with the machines inside the stores as against normal where the meat was cut using hand, here machine cutting was followed which was better .The consumers were not satisfied with the material such as shopping bags or materials related to the packing. The reason was that the product was packed in covers without any markings or design and meat is provided in normal plastic bags. The company changed from the earlier packing bags as it attracted some additional duties. The consumers wanted the packing to have the names so that they can easily identify them in case of raw meat. In case of sub dimensions convenience it could be observed from the table that level of satisfaction was neutral and this was due to the fact that the stores are small and the materials are kept along one side and during the weekends with crowd it was difficult to stand. The queues certain times was found standing outside the shop during the weekends as only few customers can be accommodated and there was only one the cutting and weighing machines for the raw meat, it took some time for the crowd to move around the store.

The statements under the *reliability* dimension showed that the sample consumers were satisfied with the billing, transactions of the outlet and the performance of the store (Mean value 4.63 and 4.30).The portions were weighed and billing was generated using electronic scales and the meat was packed after the weight was accepted by the consumers. The sample consumer's satisfaction level in the product availability (3.50) was less as there was shortage or unavailability of the specific cuts or marinated varieties.

The dimensions *personal interaction* revealed that the sample consumer were satisfied with the service, behavior and courteousness of the employees in the store. It could be understood from the results that the case firms have to train the employees' to answer the queries and few consumers opined that they were not able to get information about how to use, store certain products and sometime the meat was watery and there was a finicky about the preservation and the expiry conditions of the product. The number of employees in the shop was two and the consumers felt it took time to serve them.

Regarding the problem solving dimensions, as the quality of the product can be known only after cooking the consumers felt that the employees were quite responsive but they felt that case firm needs to work on this aspect.

The consumers faced difficulty in parking as the shops are located in main areas where it was difficult to park and few consumers came to purchase here from neighboring areas .The shops were opened an all days from morning 7 am to 8 pm and closed in the afternoons for 2 hours. The shops opened early on Sundays at 6am .So the opening hours were convenient for the consumers which were indicated by the results of the study.

**Table 1. Dimensions of Retail Service Quality Scale for the Retail Outlet**

| Dimensions | Statements | Mean* | Variance | SD |
|---|---|---|---|---|
| Physical Aspects | The store has modern-looking equipment and fixtures | 4.74 | 0.22 | 0.47 |
| | The store and its facilities are visually attractive | 4.20 | 0.54 | 0.73 |
| | Materials associated with this store's service are visually appealing such as bags, packing materials | 2.84 | 0.60 | 0.77 |
| | The store has clean, attractive, and convenient physical facilities | 3.33 | 1.12 | 1.06 |
| | The layout of the store makes it easier for customers to move around in the store | 3.73 | 0.69 | 0.83 |
| | The store layout makes it easier for customers to move around | 3.77 | 0.82 | 0.90 |
| Reliability | When the store promises to do something by a certain time, it will do so | 3.43 | 0.92 | 0.96 |
| | The store provides its services at the time it promises to do so | 3.69 | 0.48 | 0.69 |
| | The store performs the service right the first time | 4.30 | 0.33 | 0.57 |
| | The store has products available when the customers want it | 3.50 | 1.12 | 1.06 |
| | The store has fast and error-free transactions (relating to billing, returns, etc. | 4.63 | 0.32 | 0.57 |
| Personal Interaction | Employees in the store have the knowledge to answer customers' questions | 3.43 | 0.92 | 0.96 |
| | The behavior of employees in this store instills confidence in customers | 4.07 | 0.68 | 0.82 |
| | Customers feel safe in their transactions with the store | 4.20 | 0.45 | 0.67 |
| | Employees in the store give prompt service to customers | 4.29 | 0.38 | 0.62 |

| | | | | |
|---|---|---|---|---|
| | Employees in the store are never too busy to respond to customer's requests | 3.71 | 0.73 | 0.85 |
| | The store gives customers individual attention | 3.93 | 0.47 | 0.69 |
| | Employees in the store are consistently courteous with customers | 4.00 | 0.64 | 0.80 |
| Problem Solving | When a customer has a problem, the store shows a sincere interest in solving it | 3.40 | 0.79 | 0.89 |
| | Employees of the store are able to handle customer complaints directly and immediately | 3.23 | 0.70 | 0.84 |
| Policy | The store provides plenty of convenient parking for customers | 3.09 | 0.75 | 0.86 |
| | The store has operating hours convenient to all their customers | 4.16 | 0.51 | 0.71 |

*The mean is derived from a scale of 1=strongly disagree to 5= strongly agree

**Estimation of Relationship between Retail Service Quality, Customer Satisfaction and Customer Loyalty**

Normally, a satisfied customer is mainly an important person, as he will bring back more sales. The main objectives of present day marketing is to satisfy the customer. Ultimately, in this study an attempt has been made to understand relationship between service quality, consumer satisfaction and loyalty of the consumers towards the case firm retail outlet. As Hair *et al*., (2011) stated Structural equation modeling has become a quasi-standard in marketing and management research when it comes to analyzing the cause–effect relations between latent constructs, so the Structural Equation Modeling using the Partial Least Squares was used.

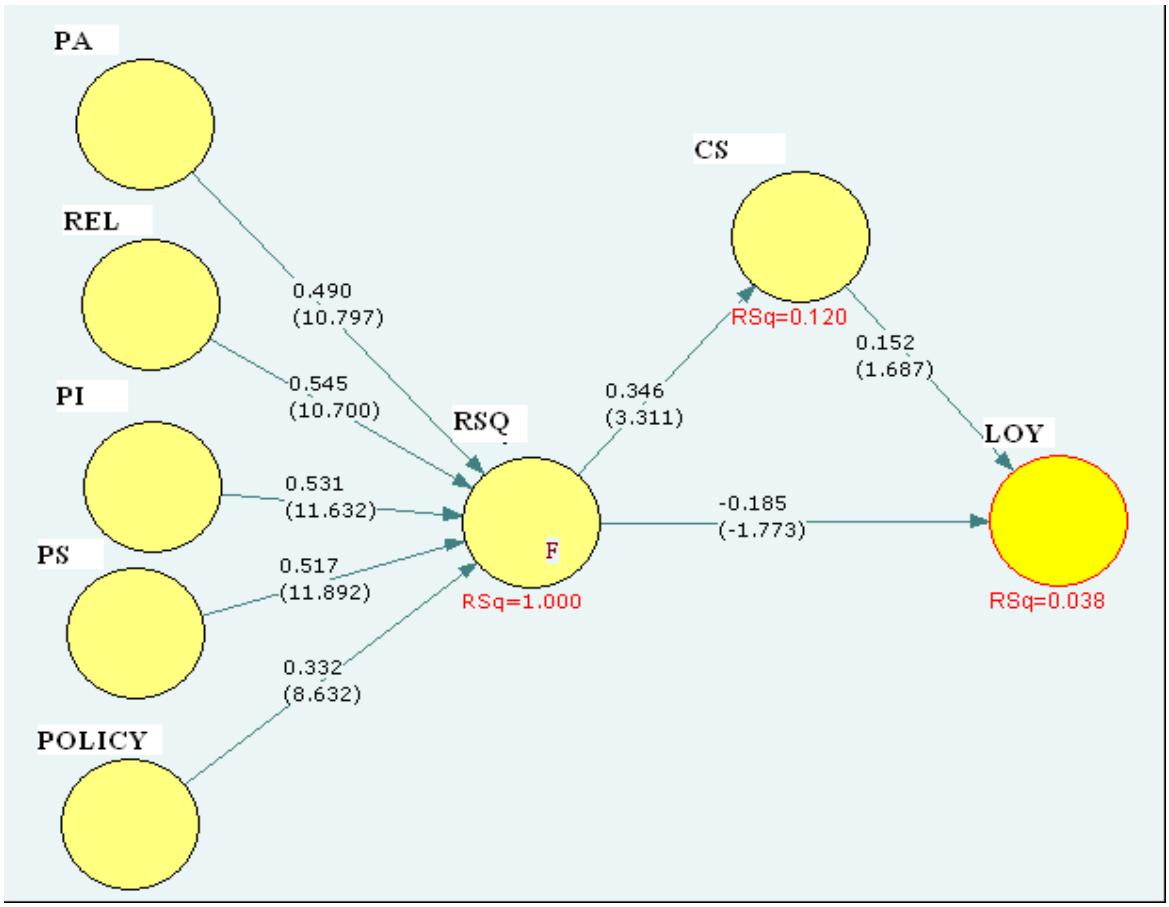
Service quality is commonly defined as how well a delivered service level matches customer expectations. Customer satisfaction involves keeping customers happy both in day-to-day interactions and from a more global, long-term perspective (Hunt, 1977; Johnson and Fornell, 1991). Loyalty has been defined as a long-term commitment to repurchase involving both repeated patronage and a favorable attitude (Dick and Basu, 1994).

Service Quality and Customer Satisfaction are considered to be distinct, but closely related constructs. Parasuraman*et al*.,(1988) and Naeem and Saif (2009) found that customer satisfaction is the outcome of service quality. There is a positive relationship between the two constructs (Beerli *et al*., 2004). Satisfied customers usually return back for future purchases which have been supported by the various research studies and according to Zeithaml *et al.,* 1996, satisfied customers have a higher likelihood of repeating purchases in time. One step ahead, Chang *et al*., (2009) posited that Service quality has influence on customer satisfaction and it thereby generates loyalty among the customers. The customer loyalty towards a store is normally influenced by their satisfaction towards the store and service quality offered to them. In studies of the retail sector, service quality has been found to be the main driver of behavior related to the development of customer loyalty, though other variables do have roles to play.

With these backgrounds, the interrelationships between retail service quality attributes, customer satisfaction and customer loyalty was found by developing a model, linking these three constructs. In this research, to analyze data, the PLS method was used which is accounted one of the SEM types. This method is used when the scales are in kind of both qualitative and quantitative and the sample size is low. The purpose of the statistical

analysis is to explain the links between the endogenous variables (Customer satisfaction and Loyalty) and the exogenous variable (Retail Service Quality of the retail outlet). This is the Structural model, because none of the variables can be directly observed (latent variables); they have to be measured by indicators (the relevant question items) and how each latent variable is linked to its indicators is described by the Measurement model. The overall model is termed as a Structural Equation Model (SEM). The result of the analysis is presented below.

**Fig 1 Customer Loyalty Model**




PA – Physical Appearance
Rel – Reliability
PI -Personal Interaction
PS-Problem Solving
Po -Policy

RSQ- Retail Service Quality
CS - Consumer Satisfaction
Loyalty - Consumer Loyalty

RSq – R Squared Value

(Values in parentheses indicates t values)
(Values above parentheses indicates β coefficient values)

**Table 2.Customer Loyalty Model**

| S.No | CONSTRUCTS | β Coefficient | t-statistic |
|---|---|---|---|
| 1 | Physical appearance -> Retail Service Quality | 0.4900 | 10.797 |
| 2 | Reliability -> Retail Service Quality | 0.5450 | 10.700 |
| 3 | Personal interaction -> Retail Service Quality | 0.5310 | 11.632 |
| 4 | Problem solving -> Retail Service Quality | 0.5170 | 11.892 |
| 5 | Policy -> Retail Service Quality | 0.3320 | 8.632 |
| 6 | Retail Service Quality -> Consumer Satisfaction | 0.3460 | 3.311 |
| 7 | Consumer Satisfaction ->Loyalty | 0.1520 | 1.687 |
| 8 | Retail Service Quality ->Loyalty | -0.1850 | -1.773 |

**Measurement model**

The retail service quality model consisting of the five dimensions Physical appearance, Reliability, Personal interaction, Problem solving and Policy is termed as the structural model. This model measures the strength of the five dimensions in estimating the retail service quality construct. The β coefficients of the measurement model, Retail Service Quality (Table 2) were Physical appearance (0.490), Reliability (0.545), Personal interaction (0.531), Problem solving (0.517) and Policy (0.332). This indicated that among the 5 dimensions of RSQ, Policy had mediocre value and results showed that this dimensions needs to be improved by the case firm for enhancing the retail service quality. Besides the t values of all the dimensions of retail service quality are significant at 0.05 per cent level. Moreover the r square value of the measurement model (1.00) indicated that the construct retail service quality of a company owned retail outlet in India consisted of the five

dimensions mentioned above. This proved the construct validity of retail service quality using component based structural equation model.

**Structural model**

The model stating the relationship among retail service quality customer satisfaction and loyalty is termed as the structural model. The β coefficients of the structural model relating consumer satisfaction with retail service quality and loyalty were 0.346 and 0.152 were minimum. The β coefficient of loyalty with retail service quality was 0.185 was found to be minimum. But all the β coefficients were significant at 0.05 per cent. This indicated that loyalty of customer was influenced by retail service quality of the store and customer satisfaction squared value of satisfaction seemed to be to be 0.120 and it seemed to be not bad as R square value of 0.2 in consumer behavior studies were considered to be high (Hair *et al*., 2011). Hence it can be concluded that customer satisfaction and customer loyalty are dependent on retail service quality in the retail setting. As the R square value of loyalty was very low (0.038) and the low β coefficient of loyalty and customer satisfaction confirmed that there may exist some unidentified parameters in the study which can be probed in future studies. Moreover Pont and McQuilken (2005) pointed out that satisfied customers are not always loyal customers.

**Conclusion**

The results of the study indicated that consumers were satisfied with the physical appearance of the shop and found difficulty to move during peak hours of sales. Sample consumers were satisfied with the billing, transactions of the outlet and the performance of the store, service, behavior and courteousness of the employees in the store. The consumers faced difficulty in parking as the shops are located in main areas resulted in low turnover of consumers from neighboring areas. The interrelationships between service quality attributes, customer satisfaction and customer loyalty was found by developing a model. The retail service quality model consisted of the five dimensions Physical appearance, Reliability, Personal interaction, Problem solving and Policy was termed as the structural model. This model measured the strength of the five dimensions in estimating the retail service quality construct and results indicated policy, which had a mediocre value, which needs to be improved by the case firm for enhancing the retail service quality. The study showed that customer satisfaction and customer loyalty are dependent on retail service quality. But it was found that there exist some other factors besides customer satisfaction for the customers to be

loyal to the retail store. This might open avenues for future studies in a retail setting. Besides, retail service quality analysis of the case firm's retail outlets indicated a greater scope for improvement of retail environment in terms of waiting time management, space layout and newer payment modes. Moreover in future, studies can be conducted with larger sample size to prove the construct validity of the retail service quality using covariance based structural equation model.

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