A STUDY ON EMPIRICAL MODEL TO DETERMINE THE DIMENSIONS OF SERVICE QUALITY OF RETAIL STORES IN CHENNAI ENVIRON

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ABSTRACT

Service organizations have begun focusing on the customer perceptions of service quality because it helps in developing strategies that lead to customer satisfaction. Excellent customer service may indeed be the best answer to countering the increasing trend of the expansion of supermarkets. The retailing sector has been the focus of much academic research and considerable attention has been directed to understand the way consumer think and feel about stores making up their attitudes and perceptions towards the stores. This study drives towards the service quality dimensions on select retail stores in the City of Chennai. This study focus on constructing an empirical model in order to measure the service quality of retail supermarkets in Chennai City.

Keywords: Structural Equation, service quality, customer relationship, reliability, etc.

INTRODUCTION

Service organizations have begun focusing on the customer perceptions of service quality because it helps in developing strategies that lead to customer satisfaction. Due to the competition faced by these grocery stores, it is crucial for retailers to gain a better understanding of the grocery consumer (Carpenter & Moore, 2006, p.435) in this connection, the chain supermarkets mushrooming in Chennai are operating with stiff competition not only other giant chain stores but also with independent stores which offers the same products, and even with reduced prices to attract customers. This competition urges the retail super marketers to provide better service to customers in order differentiate themselves from others and also to survive in the market place. Hence there is a need to study the service quality dimensions and to identify the other important dimensions which a customer expects while shopping in the supermarkets. This will also enable (ChingangNde Daniel 2010) the service providers to identify the key factors of service quality by assessing the perceptions of consumers and finding out which items or dimensions needs improvements in case of any weaknesses.

STATEMENT OF THE PROBLEM

The key to the success of any retail business firm is the store’s ability to excel at customer service and develop lasting service experience. To gain a competitive advantage and to increase organizational effectiveness, it is vital to focus attention on improving service quality as a way of differentiation. Excellent customer service may indeed be the best answer to countering the
increasing trend of the expansion of supermarkets (Sarah, 2012). In the recent years, many firms have come to realize that understanding, meeting and anticipating customer needs are probably the most important source of sustained competitive advantage (Vilares & Coelho, 2003). The retailing sector has been the focus of much academic research and considerable attention has been directed to understand the way consumers think and feel about stores making up their attitudes and perceptions towards the stores. (Tan and Mehta, 1994). Many studies have been carried out on service quality dimensions in retail stores by the researchers. However, investigation on service quality determination in supermarkets in the context of Chennai city is scanty. Hence this study drives towards the service quality dimensions on select retail stores in the city of Chennai.

**OBJECTIVES OF THE STUDY**

- To construct an empirical model in order to measure the service quality of retail supermarkets in Chennai city.

**RESEARCH DESIGN AND DATA COLLECTION**

The study is based on both primary and secondary data. The study uses both descriptive and analytical research methods. It is based mainly on the primary data collected through a well-framed and structured questionnaire to elicit the well-considered opinions of the respondents.

**SAMPLING DESIGN**

The study has adopted the stratified random sampling method to obtain the responses from shoppers of supermarkets in Chennai city, and it is disproportionately distributed. The study is conducted in a two stages format, with a preliminary pilot study followed by the main study.

**SAMPLE SIZE**

The researcher has collected 500 properly filled questionnaires from the four zones of Chennai city in which all the five chain retail stores are operating. The following table indicates the data collection processes.

**Table: 1 Questionnaire Collection process**

<table>
<thead>
<tr>
<th>STORE</th>
<th>NORTH</th>
<th>SOUTH</th>
<th>WEST</th>
<th>CENTRAL</th>
<th>Chain store includes total branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nilgiris</td>
<td>1</td>
<td>16</td>
<td>7</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>Spencer’s</td>
<td>1</td>
<td>18</td>
<td>6</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>More for you</td>
<td>1</td>
<td>9</td>
<td>6</td>
<td>1</td>
<td>17</td>
</tr>
<tr>
<td>Reliance Fresh</td>
<td>1</td>
<td>10</td>
<td>4</td>
<td>1</td>
<td>16</td>
</tr>
<tr>
<td>Heritage</td>
<td>1</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td>Total stores in zone wise</td>
<td>5</td>
<td>62</td>
<td>25</td>
<td>6</td>
<td>98</td>
</tr>
<tr>
<td>Questionnaire collected (zone wise)</td>
<td>25</td>
<td>316</td>
<td>128</td>
<td>31</td>
<td>500 (Samples)</td>
</tr>
</tbody>
</table>

Source: primary data
AN EMPIRICAL MODEL OF SERVICE QUALITY IN RETAIL SUPERMARKET STORES

The researcher has developed nine service quality dimensions which are more appropriate for retail supermarkets such as Reliability, Responsiveness, Assurance, Empathy, Tangibility, Customer Relationship Management, Confidence building, Technological Advancement, and Loyalty. These nine dimensions play a very important role to determine the service quality parameters as that of the PZB Model. Since the researcher has developed these nine elements of service quality along with the subsequent checks of reliability and validity of all these dimensions, it is very essential to sharply estimate the influence of all the elements in order determine the service quality of retail supermarket. This model construction is done through the Structural Equations Modeling.

The researcher has framed a conceptual model to prove nine dimensions of service quality which have been newly identified by this study. Initially the study considered five dimensions (of Parasuraman and Zithaml’s model) for identifying the quality of service. It has been found that many literatures confirmed the PZB model of service quality dimensions such as reliability, responsiveness, assurance, empathy and tangibility are more reliable factors to measure the quality of service offered by any service firms with respect to customer perception. Further this study classified the customers’ perception (the level of customers’ satisfaction), and found their influence with demographics factors. Hence, the initial model is constructed as below.

Figure: 1 Conceptual model for Service quality dimensions of Supermarkets

The above model further has been tested empirically to determine the dimensions of service quality of retail supermarket by the application of AMOS 18.0 and constructed structural equation model.

EMPIRICAL MODEL TO DETERMINE THE DIMENSIONS OF SERVICE QUALITY OF SUPERMARKET BY STRUCTURAL EQUATION MODEL

Introduction

Structural Equation Modeling (SEM) is a common statistical modeling method to create connection among the various factors. The structural equation modeling has its origin in path analysis, that was developed by the geneticist Sewall Wright (Wright 1921).
The model proposes a structure for the co-variances among the observed variables that offers the substitute name covariance structure modeling. It can be observed as a blend of both regression and factor analysis or path study. It is customary to start by sketching a path diagram. This path diagram comprises circles and boxes that are linked by arrows. In Wright’s notation, observed variables which are described by a square box or rectangle, and latent variable by a circle. Below exhibits observed variables both endogenous and exogenous which this study adopted for analysis of SEM.

The variables used in the structural equation model are

I. Observed, endogenous variables
   1. Service quality - Customer satisfaction

II. Observed, exogenous variables
   1. Reliability
   2. Responsiveness
   3. Assurance
   4. Empathy
   5. Tangibility
   6. CRM
   7. Customers’ Confidence
   8. Technological Advancement
   9. Customers’ Loyalty
   10. Age
   11. Gender
   12. Occupation
   13. Monthly income
   14. Frequency of Visit
   15. Nature of the store
   16. Frequency of purchase

III. Unobserved, exogenous variables
   1. e1: Error term for Service quality-Customers satisfaction
Hence numbers of variable in the SEM are

- Number of variables in this model: 17
- Number of observed variables: 16
- Number of unobserved variables: 1
- Number of exogenous variables: 16
- Number of endogenous variables: 1

The below Structural Equation Model enlighten the dimensions of service quality which leads to customers’ satisfaction and also the influences of demographics and stores’ details.

Figure 2 Structural Equations Modeling To Determine the Dimensions of Service Quality
Table: 2 Variables in the Structural Equation Model Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardized co-efficient</th>
<th>S.E.</th>
<th>Standardized co-efficient</th>
<th>t value.</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>sat_lev&lt;-- Reliability</td>
<td>0.114</td>
<td>0.025</td>
<td>0.108</td>
<td>4.609</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--Responsiveness</td>
<td>0.039</td>
<td>0.019</td>
<td>0.053</td>
<td>2.12</td>
<td>0.034*</td>
</tr>
<tr>
<td>sat_lev&lt;--Assurance</td>
<td>0.045</td>
<td>0.021</td>
<td>0.056</td>
<td>2.155</td>
<td>0.031*</td>
</tr>
<tr>
<td>sat_lev&lt;--Empathy</td>
<td>0.098</td>
<td>0.02</td>
<td>0.109</td>
<td>4.933</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--Tangibility</td>
<td>0.122</td>
<td>0.019</td>
<td>0.146</td>
<td>6.401</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--CRM</td>
<td>0.188</td>
<td>0.026</td>
<td>0.185</td>
<td>7.298</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--CONFIDENCE</td>
<td>0.087</td>
<td>0.022</td>
<td>0.085</td>
<td>3.911</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--TECHNOLOGY</td>
<td>0.126</td>
<td>0.016</td>
<td>0.156</td>
<td>7.655</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--LOYALTY</td>
<td>0.187</td>
<td>0.022</td>
<td>0.217</td>
<td>8.627</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--Age</td>
<td>0.021</td>
<td>0.009</td>
<td>0.052</td>
<td>2.188</td>
<td>0.029*</td>
</tr>
<tr>
<td>sat_lev&lt;--Gender</td>
<td>0.057</td>
<td>0.022</td>
<td>0.042</td>
<td>2.601</td>
<td>0.009**</td>
</tr>
<tr>
<td>sat_lev&lt;--Occupation</td>
<td>0.024</td>
<td>0.014</td>
<td>0.047</td>
<td>1.972</td>
<td>0.046*</td>
</tr>
<tr>
<td>sat_lev&lt;--Monthly Income</td>
<td>0.025</td>
<td>0.009</td>
<td>0.083</td>
<td>2.954</td>
<td>0.003**</td>
</tr>
<tr>
<td>sat_lev&lt;--Frequency of visit</td>
<td>0.088</td>
<td>0.039</td>
<td>0.055</td>
<td>2.266</td>
<td>0.023*</td>
</tr>
<tr>
<td>sat_lev&lt;--Nature of store</td>
<td>0.116</td>
<td>0.033</td>
<td>0.082</td>
<td>3.453</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td>sat_lev&lt;--Frequency of purchase</td>
<td>0.055</td>
<td>0.013</td>
<td>0.096</td>
<td>4.205</td>
<td>&lt;0.001*</td>
</tr>
</tbody>
</table>

Note: ** denotes significant at 1% level  
* denotes significant at 5% level

The above table shows explicitly that the regression co-efficient value 0.114 of Reliability dimension is significant at 1% level, which represents that the Reliability dimension of service quality is having high influence on customers’ satisfaction. Customers wanted promised services both dependably and independently. The estimated positive sign implies that customer satisfaction would increase by every one unit increase of stores’ ability to perform the promised service both
dependably and accurately. The co-efficient value 0.039 of Responsiveness dimension is significant at 5% level indicates that there is an influence between the stores’ willingness and prompt services to customers and customers satisfaction. The estimated positive sign implies that customer satisfaction would increase by every unit by increase in prompt services to customers and their readiness to respond to the customer’s request.

The co-efficient value 0.045 of Assurance dimension is significant at 5% level which indicates the influence of the knowledge and courtesy of store’s employees and their ability to convey trust and confidence to the customers would increase the customer satisfaction. Further this positive indication denotes that customer satisfaction would increase by every one unit increase in the knowledge and courtesy of store staffs. The co-efficient value 0.098 of Empathy dimension is significant at 1% level and shows that the influence of stores’ provision of caring individualized attention to the customers will leads to the customers’ satisfaction. The co-efficient value 0.122 of Tangibility dimension is significant at 1% level which indicates that the stores’ physical facilities, equipment, personnel, and communication materials of the stores are influence customer satisfaction. The co-efficient value 0.188 of Customer Relationship Management dimension is significant at 1% level. This indicates the store’s relationship process is influencing on customers satisfaction. If the store maintains a strong relationship with customers, then the customers’ satisfaction will also be increased.

The dimension called customers’ confidence building is significant at 1% level whose coefficient value is 0.087. The supermarkets’ steps towards to build the customer confidence by customers satisfaction. If the customers have more confidence on store then there will be more visits to the store. The co-efficient value 0.126 of Technological advancement dimension is statistically significant at 1%. This means the more technological facilities offered by the stores such as toll free, electronic billing facilities etc. are attract customers to have smooth transaction with the store. The last dimensions namely customers’ loyalty is having 0.187 coefficient values and it is highly significant at 1%. Hence there is influence between the customers’ satisfaction and the customers’ loyalty.

These 9 dimensions of service quality pertaining to the retail supermarket are statistically significant and they have a relationship with customer satisfaction. Further the customers’ satisfaction has classified into three heterogamous clusters and found out their relationship with the independent demographic variables and store’s information by the customers. The variable age is (0.021) significant at 5%, the variable gender holds 0.057 of coefficient value, and it is significant at 1% level. This shows that the gender has a greater influence on service quality which ultimately leads to customer satisfaction. The occupation of the customers holds 0.024 of coefficient value which is significant at 5%, and shows that there is a relationship between the occupation of the customers and their satisfaction level. Customers’ monthly income plays a major role in their purchase. Its coefficient value is 0.025 which is significant at 1% and shows that monthly income has influences on customer satisfaction. The customers’ frequency of visit to the supermarket holds coefficient value 0.088, significant at 5% and its influence on customers’ satisfaction. The Nature of the store and the customers’ frequency of purchase are significant at 1% and are highly influence on the customers’ satisfaction, whose coefficient values are 0.116 and 0.055 respectively.
The above table shows that the calculated P value 0.121 is greater than 0.05 which indicates a model fit. Here GFI (Goodness of Fit Index) value and AGFI (Adjusted Goodness of Fit Index) value is greater than 0.9 which represent that, it is a good fit. The calculated CFI (Comparative Fit Index) value is 0.939 which means that it is a perfectly fit and also it is found that RMR (Root Mean Square Residuals) and RMSEA (Root Mean Square Error of Approximation) value is 0.046 which is less than 0.10 which indicated that, the structure equation model for service quality of retail supermarket is perfectly fit. Therefore it can be concluded that the derived model with 9 service quality elements are more suitable to determine the service quality of retail supermarket in Chennai city.

CONCLUSION

The study concludes that all the nine dimensions such as Reliability, Responsiveness, Assurance, Empathy, Tangibility, CRM, Customers’ confidence building, Technological Advancement, and Customers loyalty that have been demonstrated by the factor analysis are greatly important to understand the service quality of supermarkets in Chennai city and customers satisfaction. The study indicates that both the chain supermarkets and independent stores should give much importance to their customers’ needs, and emphasis to be given to build strong relationship with customers by offering best price, quality products, updated products, safe transaction, online shopping, the relationship between the staff and customers, both in the internal and external atmospheres of the store which results in production of repeat business from existing customers and to capture new customers are the backbone for the supermarket to survive in the present retail marketing scenario in city of Chennai.

REFERENCES