# An Approach Towards Developing Customer Experience Index in Grocery Retailing

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*The retailing sector is growing with the opening up of the sector by the government, as more and more FDI's is permitted in the retail sector. The customer experiences and their mapping are very important for every retailer because the strength of their business is dependent on the experiences given by the retailer. Different customers have different expectations from these retailers and therefore to understand the nature of experiences met by the customers is important to be studied. This will help the Retailers to change the offerings as per the customer's feedback. The customer experiences changes with the Retail format and the type of goods being shopped and is of interest for the organized retailers which can influence their sales. The experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual)".*

*This research is an effort towards the calculation of customer experience index (CEI) for grocery retail sector, which can be further used as an instrument by the grocery retailers to check the customer experience and their levels of satisfaction from the different grocery outlets. Accordingly they can find out the area which needs to be strengthened.*

***Keywords:*** *Customer Experience Index, Customer Experience, Customer Experience Management, Customer Interactions*

## INTRODUCTION

The study of consumer experience in a way is related to the study of consumer behavior but only relates to in store and after purchase behavior. The retailing being more service oriented hence, gives various types of experiences to the customers as they visit them and specifically in case of grocery products. The experiences are the perceptions which the customers have about the service quality offered by the retailers to them. Different retail formats add to different customer experiences. The understanding of these experiences is of critical issue for retail managers because it helps them to understand the level of satisfaction also. Research focused on differentiating customer behavior of food retailing formats would be highly beneficial to academics, practitioners, audiences for several reasons. One reason, in particular, is that food retailing presents different challenges to understanding customer behavior because not all customers enjoy grocery shopping (FMI News 2006). While shopping, in general, is stressful for consumers as studied by (Fram and Axelrod 1990), whereas (Aylott and Mitchell 1998) found that customers associated more stress with grocery shopping than with other forms of shopping. (Carpenter and Moore 2006) acknowledge that the changing competitive landscape within the grocery industry makes it critical for retailers to better understand grocery customers. This includes an attempt to examine customer choice with respect to store format and the store attributes that drive that choice. Marketing strategy research has shown that firms with a revenue emphasis, focusing solely on customer satisfaction and customer loyalty, have the best performance (Rust, Moorman, and Dickson 2002).

Further, it has become increasingly difficult to satisfy customers, whose expectations are higher and loyalties more transient (Colletti and Murray, 1990; Scaaf and Zemke, 1991). Consumers have become progressively more selective and informed and have higher expectations of the standard of retailing owing to the increase in competition (Belkin, 1985). These represent fundamental changes in the retail environment and significant challenges to the retailer who must address such issues and develop the means by which to tackle them (McKenna, 1988). Grewal. D, Levy. M (2003) believe that understanding and enhancing the customer experience is important, most marketing executives in consumer packaged goods, manufacturing and retailing fields consider it important and thus an area for academic research.

## LITERATURE REVIEW

Gentile, Spiller, and Noci, 2007, says that the customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual)".

Meyer and Schwager, 2007, a second and related definition is that "Customer Experience is the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representatives of a company's products, service or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews and so forth".

Schmitt, 1999, Consumers want to be sold on more than just attributes; they want to be "entertained, stimulated, emotionally affected and creatively challenged". In order to appeal to the emotions of the consumer, the experience must be conveyed.

Berry, Carbone and Haeckel (2002) Points out that an organization's first step toward managing the total customer experience is recognizing the clues it is sending to customers. Companies that sense troublein the form of falling customer satisfaction scores or new competitive threats would do well to consider undertaking the focused, comprehensive management of all the clues that give off signals to people. The clues that make up a customer experience fit into two categories. The first concerns the actual functioning of the good or service. Clues relating to functionality are interpreted primarily by the logical circuitry of the brain. Did the plumber fix the leak? Did the rental car start when I turned the key? Similarly did the retail store provide me the expected goods I am looking for etc? The second category concerns the emotions and includes the smells, sounds, sights, tastes and textures of the good or service, as well as the environment in which it is offered. The feel of product purchasing comfort, the sound and smell of a product in the store, the tone of voice of the person answering the customer-service line are all clues that envelop the functionality of a product or service. Such clues tend to address emotions rather than reason, as people consider whether to buy or move on.

Literature on the retail experience has typically focused on the retail environment's atmospherics. For example, research has shown that music (Cameron et al. 2003; Grewal et al. 2003; Morin et al. 2007; Milliman & Ronald. 1982), scent (Bone and Ellen 1999; Mattila and Wirtz 2001; Spangenberg et al. 1996), and color (Bellizzi and Hite 1992) influence consumers' affective response and patronage likelihood in the context of retail experiences. A stream of research in marketing has also provided support for the notion that retail environments impact consumers' perceptions of interpersonal service quality, merchandise quality, time/effort costs, and psychic costs (e.g., Baker et al. 2002).

Pan& Zinkhan (2006) discussed the three antecedents that made an effect on the retail patronage. They are: (1) Product- relevant factors, which pertain to product feature and attributes, such as product quality, price and selection/assortment; (2) Market-relevant factors, which pertain to the retailer, such as convenient parking facilities, convenient location, convenient opening hours, and friendliness of salespeople, service quality, store image, store atmosphere, and fast checkout. (3) Personal factors, which pertain to consumer characteristics, such as demographics, which includes-Store type attitude, Gender, Income and Age.

## OBJECTIVES OF THE STUDY

1) To identify the factors which have an effect on the customer experience?
2) To find out the weightage given by customers to each of these factors helpful in constructing the Customer Experience Index,
3) To develop the customer experience index (CEI) which would be useful in future researches for measuring the customer's perceptions about retail stores.

## RESEARCH METHODOLOGY

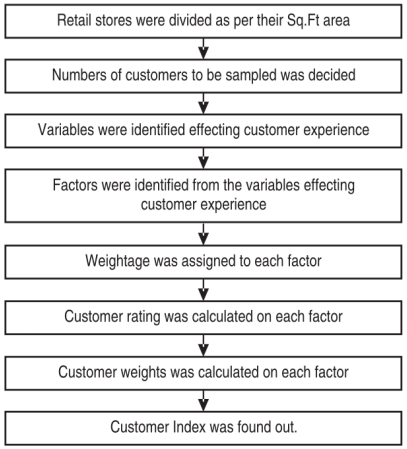
The survey was confine within the Delhi & NCR region. For data collection Structured, closed ended questionnaire was personally administered at grocery retail outlets. Validation of the survey instrument was done by taking the experts opinion on the appropriateness of the variables used. 5 academicians and 5 retail experts were consulted to check the content validity. To construct the final scale for data collection, an instrument that contains 24 statements of store experiences variables from review of literature were finally identified and evaluated on a five point scale, which varies from "strongly disagree" to "strongly agree". The questionnaire consisted of 24 statements, due to the fact that it is convenient for the shoppers to fill the same.

Consumers were contacted at the time when they had made their purchases; sampling was done using non probability purposive sampling method. One thousand customers were contacted in 180 stores out of which 900 gave their responses, making a response rate of 95 %.

## CUSTOMER EXPERIENCE INDEX (CEI)

An attempt has been made by the researchers to develop a Customer Experience Index (CEI) which would be a major contribution for future studies for measuring the customer experiences in grocery retail sector. Refer Figure for procedure of measuring CEI.

**Figure : Procedure to Calculate Customer Experience Index (CEI)**






An Approach Towards Developing Customer
Experience Index in Grocery Retailing

**Appendix Showing the Customer Experience Index (CEI) of less than 2000 sq.ft area and more than 2000 sq. ft area**

| LESS THAN 2000 SQ.FT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| STORE | CEI | EFFICIENCY | STORE | CEI | EFFICIENCY | STORE | CEI | EFFICIENCY |
| 1 | 4.19 | Highly Efficient | 32 | 3.37 | Efficient | 63 | 2.09 | Less Efficient |
| 2 | 3.50 | Efficient | 33 | 2.20 | Less Efficient | 64 | 3.76 | Efficient |
| 3 | 3.60 | Efficient | 34 | 4.37 | Highly Efficient | 65 | 3.33 | Efficient |
| 4 | 3.88 | Efficient | 35 | 3.25 | Efficient | 66 | 2.14 | Less Efficient |
| 5 | 3.11 | Efficient | 36 | 3.80 | Efficient | 67 | 3.43 | Efficient |
| 6 | 3.78 | Efficient | 37 | 3.62 | Efficient | 68 | 3.56 | Efficient |
| 7 | 3.93 | Efficient | 38 | 3.25 | Efficient | 69 | 3.95 | Efficient |
| 8 | 3.64 | Efficient | 39 | 3.60 | Efficient | 70 | 3.84 | Efficient |
| 9 | 3.27 | Efficient | 40 | 2.19 | Less Efficient | 71 | 2.12 | Less Efficient |
| 10 | 3.19 | Efficient | 41 | 3.95 | Efficient | 72 | 2.09 | Less Efficient |
| 11 | 4.00 | Highly Efficient | 42 | 3.98 | Efficient | 73 | 2.15 | Less Efficient |
| 12 | 3.46 | Efficient | 43 | 3.33 | Efficient | 74 | 3.66 | Efficient |
| 13 | 4.21 | Highly Efficient | 44 | 3.72 | Efficient | 75 | 4.08 | Efficient |
| 14 | 3.20 | Efficient | 45 | 3.17 | Efficient | 76 | 2.14 | Less Efficient |
| 15 | 3.86 | Efficient | 46 | 4.14 | Highly Efficient | 77 | 3.33 | Efficient |
| 16 | 3.43 | Efficient | 47 | 3.16 | Efficient | 78 | 2.09 | Less Efficient |
| 17 | 3.20 | Efficient | 48 | 3.40 | Efficient | 79 | 3.76 | Efficient |
| 18 | 3.48 | Efficient | 49 | 3.07 | Efficient | 80 | 3.11 | Efficient |
| 19 | 3.26 | Efficient | 50 | 3.68 | Efficient | 81 | 3.00 | Efficient |
| 20 | 3.19 | Efficient | 51 | 3.65 | Efficient | 82 | 3.72 | Efficient |
| 21 | 3.34 | Efficient | 52 | 4.16 | Highly Efficient | 83 | 3.02 | Efficient |
| 22 | 2.79 | Efficient | 53 | 3.29 | Efficient | 84 | 3.47 | Efficient |
| 23 | 3.35 | Efficient | 54 | 3.60 | Efficient | 85 | 3.19 | Efficient |
| 24 | 3.27 | Efficient | 55 | 3.40 | Efficient | 86 | 2.87 | Efficient |
| 25 | 3.53 | Efficient | 56 | 3.51 | Efficient | 87 | 4.17 | Highly Efficient |
| 26 | 3.63 | Efficient | 57 | 3.75 | Efficient | 88 | 3.08 | Efficient |
| 27 | 3.06 | Efficient | 58 | 2.12 | Less Efficient | 89 | 2.56 | Efficient |
| 28 | 3.07 | Efficient | 59 | 4.92 | Highly Efficient | 90 | 4.16 | Highly Efficient |
| 29 | 3.13 | Efficient | 60 | 3.71 | Efficient | 91 | 3.57 | Efficient |
| 30 | 3.18 | Efficient | 61 | 2.17 | Less Efficient | 92 | 3.11 | Efficient |
| 31 | 3.98 | Efficient | 62 | 4.35 | Highly Efficient | 93 | 3.20 | Efficient |

*CEI is Customer Experience Index*





| MORE THAN 2000 SQ.FT | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| STORE | CEI | EFFICIENCY | STORE | CEI | EFFICIENCY | STORE | CEI | EFFICIENCY |
| 1 | 4.20 | Highly Efficient | 30 | 2.19 | Less Efficient | 59 | 3.40 | Efficient |
| 2 | 3.33 | Efficient | 31 | 3.03 | Efficient | 60 | 4.18 | Highly Efficient |
| 3 | 2.13 | Less Efficient | 32 | 3.04 | Efficient | 61 | 2.20 | Less Efficient |
| 4 | 3.18 | Efficient | 33 | 3.05 | Efficient | 62 | 3.49 | Efficient |
| 5 | 2.15 | Less Efficient | 34 | 3.96 | Efficient | 63 | 4.88 | Highly Efficient |
| 6 | 2.17 | Less Efficient | 35 | 4.36 | Highly Efficient | 64 | 3.66 | Efficient |
| 7 | 3.39 | Efficient | 36 | 2.17 | Less Efficient | 65 | 3.42 | Efficient |
| 8 | 4.21 | Highly Efficient | 37 | 2.23 | Less Efficient | 66 | 2.15 | Less Efficient |
| 9 | 2.18 | Less Efficient | 38 | 3.90 | Efficient | 67 | 4.30 | Highly Efficient |
| 10 | 2.18 | Less Efficient | 39 | 3.22 | Efficient | 68 | 4.16 | Highly Efficient |
| 11 | 3.45 | Efficient | 40 | 4.66 | Highly Efficient | 69 | 3.50 | Efficient |
| 12 | 2.17 | Less Efficient | 41 | 4.36 | Highly Efficient | 70 | 3.94 | Efficient |
| 13 | 3.22 | Efficient | 42 | 2.16 | Less Efficient | 71 | 4.34 | Highly Efficient |
| 14 | 4.17 | Highly Efficient | 43 | 4.12 | Highly Efficient | 72 | 2.18 | Less Efficient |
| 15 | 3.76 | Efficient | 44 | 3.24 | Efficient | 73 | 2.11 | Less Efficient |
| 16 | 2.11 | Less Efficient | 45 | 3.40 | Efficient | 74 | 2.17 | Less Efficient |
| 17 | 2.14 | Less Efficient | 46 | 2.15 | Less Efficient | 75 | 2.19 | Less Efficient |
| 18 | 3.16 | Efficient | 47 | 2.08 | Less Efficient | 76 | 4.35 | Highly Efficient |
| 19 | 3.27 | Efficient | 48 | 3.71 | Efficient | 77 | 2.09 | Less Efficient |
| 20 | 3.27 | Efficient | 49 | 3.64 | Efficient | 78 | 4.59 | Highly Efficient |
| 21 | 3.31 | Efficient | 50 | 4.74 | Highly Efficient | 79 | 4.31 | Highly Efficient |
| 22 | 3.75 | Efficient | 51 | 3.77 | Efficient | 80 | 4.50 | Highly Efficient |
| 23 | 2.12 | Less Efficient | 52 | 4.12 | Highly Efficient | 81 | 3.51 | Efficient |
| 24 | 3.69 | Efficient | 53 | 4.92 | Highly Efficient | 82 | 4.64 | Highly Efficient |
| 25 | 4.16 | Highly Efficient | 54 | 4.44 | Highly Efficient | 83 | 3.25 | Efficient |
| 26 | 2.19 | Less Efficient | 55 | 2.18 | Less Efficient | 84 | 3.49 | Efficient |
| 27 | 4.30 | Highly Efficient | 56 | 3.55 | Efficient | 85 | 3.71 | Efficient |
| 28 | 3.28 | Efficient | 57 | 2.20 | Less Efficient | 86 | 2.17 | Less Efficient |
| 29 | 2.09 | Less Efficient | 58 | 4.44 | Highly Efficient | 87 | 3.20 | Efficient |

*CEI is Customer Experience Index*

Retail stores were divided as per their sq.ft area Retail stores from where the data was collected among the grocery stores was divided in two category, a) stores having sq. ft area less than 2000, makes it 93 stores and b) stores having sq. ft area more than 2000 sq. ft, makes it 87 stores. The total sample size of the stores was 180.

Numbers of customers was decided as a sample- Once the stores were divided among two categories, than the numbers of customer base was also decided, five customers from each stores was interviewed as an exit interview with the help of structured questionnaire which was well administered by ten experts including five experts from the academia and five expert from the industry. The total customer base was 900.

Variables were identified effecting customer experience- Different variables were identified from different studies which were effecting customer experiences as per the literature review from similar kind of researches, which includes, studies on retail experience Verhoef et al (2009), Palmer (2010), Frow & Payne (2007), Meyer & Schwager (2007) Berry et al (2002) etc., studies on Retail Service Quality Parikh (2006), Kumar et al. (2012), Siu & Cheung (2001), Ramakrishnan (2012) etc., studies on retail patronage Pan & Zinkhan (2006),Holbrook et. al (1982), Mcgrath & otnes (1995), Naylor et al. (2008) etc. studies on service quality and customer satisfaction Sivadas et al (2000), Cottet et al (2006), Kim et al (2002), Merrilees & Miller (2001) etc. Refer Table-1 for variables effecting customer experience.

Factors were identified from the variables effecting customer experience- once the variables were finalized then comes the factor identification from the factor analysis that are having a direct impact on the customer experience. This will help us to get answer to our first objective regarding the variables/ factors that have impact on the experiences of customers. Before proceeding for the factor analysis, appropriateness of factor analysis needs to be assessed, and it was tested using two test to ensure that the data is suitable for the factor analysis: The KMO (Kaiser-Meyer-Olkin) measure for sampling adequacy and the Bartlett's Test of sphericity (Pallant, 2007). KMO value greater than 0.6, can be considered as adequate (Kaiser and Rice, 1974). Refer Table-2 for KMO and Bartlett test

**Table-1 Variables Effecting Customer Experience**

| Researches | Authors | Year | Journal | Variables Studied |
|---|---|---|---|---|
| Retail Experience | Verhoef | 2009 | Journal of Retailing | Customer experience management strategy which is affected by social environment, service interface, retail atmosphere, assortment, price, retail brands, situational moderators and consumer moderators. |
| | Palmer | 2010 | Journal of Services Marketing | Service quality and satisfaction, brands relationships, interpersonal relationships, sequencing of cues and relationship, effects of emotions on encoding, perceptual distortion over time and attitude |
| | Grewal et al. | 2003 | Journal of Retailing | Firm controlled factors (Promotion, price, merchandise, supply chain and location), Macro factors (economic and financial uncertainty) and Retail metrics ( brand value, customer value, word-of-mouth, referral value, retention and acquisition, cross buying & up buying, multiple channels and product returns) |
| | Berry et al | 2002 | MIT Sloan management review | Recognizing the clues (actual functioning of the good or service and emotions that includes- smells, sounds, sights, tastes and textures of the good or service), Building new competency (experience audit, in-depth interviews and experience motif) and emotions. |
| Retail Service Quality | Parikh | 2006 | Vikalpa | Application of Dabolkar, Thorpe and Rent'z (1996) RSQS in measuring the gap between the customer's expectations and their perceptions about the service quality of retail stores in India. |
| | Kumar et al. | 2012 | Int. Journal of Engineering and Mgmt. Sciences | Application of Dabolkar, Thorpe and Rent'z (1996) RSQS in measuring the service quality of retail stores in Karnataka. |
| | Kim et al. | 2002 | Journal of Services Marketing | Retail Service Quality Scale (RSOS) by Dabholkar 1996 was used consisting of 28 items in U.K and Korea for discount retail setting |
| | Siu & Cheung | 2001 | Marketing Intelligence & Planning | Retail Service Quality Scale (RSOS) by Dabholkar 1996 was used for UK department store chain to measure their service quality. |
| | Ramakrishna & Ravindram | 2012 | European Journal of Social Sciences | Retail Service Quality Scale (RSOS) by Dabholkar 1996 was used for measuring service quality in the south Indian retail stores. |
| Retail Patronage | Pan & Zinkhan | 2006 | Journal of Retailing | Product relevant factors (quality, price, private label brands etc.), Market relevant factors (ambience, store atmosphere, friendliness of store people, fast checkout, store image, convenience of shopping etc.) and Personal factors (gender, income, age etc.) |
| | Holbrook et. al | 1982 | The Journal of Consumer Research | Environmental inputs (products, stimulus properties, communication content) Consumer inputs (task definition, type of involvement, search activity and individual differences) Intervening response system (cognition, affect and behavior) and Output consequences, criteria and learning. |
| Service Quality & Customer Satisfaction | Sivadas et al | 2000 | Int. Jr. of retail & distribution mgmt. | Shopping frequency, overall satisfaction with the department store, likelihood to visit the store again, likelihood to recommend the stores to others, relative attitude, service quality measures of Parasuraman, loyalty, related shopping behaviours and demographics |
| | Cottet et al. | 2006 | Journal of consumer marketing | Atmosphere (five items), Peripheral services (two items), Store's employees (four items),Products (three items) and Crowding ( two items) |
| | Merrilees & Miller | 2001 | Int. Jr. of retail & distribution mgmt. | Merchandise selection (four items), Personal service (five items), store design and atmosphere (eight items) and store loyalty (four items) |

**Table-2 Showing KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .680 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2.413E4 |
| | df | 276 |
| | Sig. | .000 |

KMO stands for Kaiser-Meyer-Olkin criteria, where high KMO values signify high co-relation among the variables. KMO- the measure of sampling adequacy was used to measure the adequacy of the sample for extraction of factors. MSA is the Measure of Sample Adequacy criteria, where low values of the variables indicate that they are not sufficiently co-related to other variables in the model. From the table it can be seen that KMO value was found to be .680 which was acceptable and which is indicative of a data set considered to be highly desirable for factor analysis (Kim and Jin, 2002).

The Bartlett test for sphericity was used to test the multivariate normality of the set of distributions. This procedure also tests whether the co-relation matrix is an identity matrix or not, because factor analysis would be meaningless with an identity matrix. A significance value of p=0.00 indicates that the data do not produced in identity matrix or differ significantly from identity (George and Mallery, 2000). The analysis focusing on the Bartlett's sphericity test implies that the data is approximately multivariate normal and acceptable for factor analysis where chi-square value is 2.41, df = 276, p= 0.000.

The most common method of factor analysis is a principal component analysis (Kinnear & Gray, 2010; Cooper & Schindler, 2008) and the most common method of factor rotation is the varimax rotation. (Kinnear & Gray, 2010; Zikmund et al, 2010). Principal component technique looks at the correlation of different variables to reveal the relationship between them, and then reduces the variables by empirically summarizing them or combining them into small number of factors under common themes (Tavachnick & Fidell, 2007). Usually, a few components will account for most of the variations, and these components can be used to replace the original variables.

The mathematical technique for simplifying the results of the factor analysis results is called factor rotation (Zikmund et al, 2010). Varimax rotation was favored since it minimized the correlation across factors and maximized within the factors. This helped to yield clear factors (Munnally, 1978).

All the factors in the form of 24 statements were tested using principal component factor analysis and varimax rotation. The commonalities for the 24 statements were derived. The commonalities values of .4 and above are being accepted by most of the studies using factor analysis, so we have also followed the same trend. (Stewart, 1983). Since extraction communalities values were all greater than or equal to 0.4 suggesting that the data set was appropriate for further analysis.

Factor analysis was used to identify the factors having an impact on customer experiences and retail patronage. With principal component analysis five factors were extracted depending on eigen values and variance explained. Eigen value represents the total variance explained by each factor. The standard practice normally used is that all the factors with an Eigen value of one or more should be extracted, in our case five factors comprising 24 items all having an Eigen values of unity and above were extracted. The inclusion of the item in the factor was determined by their factor loading. The factor loading was more than .4. We have taken all items with their factor loading more than .4 and left all having factor loading less than that, that ways we end up with final 19 items that satisfied the criteria. Refer Table-3.

Rotated component matrix shows the loading of each variable on each of the extracted factors. The objective of this matrix is to find variable which have high loading on one factor, but low loading on other factors. After the number of extracted factors is decided, the next task is to interpret and name the factors. (Table-3) This is done by the process of identifying the factors that are associated with the original variables. The rotated component matrix is used for this purpose.

2.3.5 Naming of the Factors-All the factors have been given appropriate names according to the variables that have been loaded on factor. The five factors which were identified from factor analysis with acceptable factor loading are-Store Image, Service Interface, Customer Service, Retail Atmospherics and Reliability Refer Table-3 for factor analysis results.

Croanbach alpha values was also calculated to see its reliability, store image-.999, service interface-.806,customer service-.961, retail atmospherics-.760, reliability-.619.As all values are more than .6 then the scale is taken as reliable.

Weightage was assigned to each factor- Weightage was calculated from the percentage variance explained by each factor in the factor analysis. As can be seen from the table given below, firstly, the percentage variance explained by each factor in factor analysis was recorded, then the cumulative variance explained by all factors was seen, here it is 60 % which is good as it means that all five factors identified are contributing 60 % in all in effecting the customer experiences of the stores under consideration. Then the variance values were converted into 100 % which decides the final Weightage given to each factor. Refer Table-4 for Weightage assignment.





**Table-3 Factors Analysis Results**

| Factors | Statements | Factor Loading | Eigen Values & Cummulative % (in brackets) |
|---|---|---|---|
| **Store Image** (3 Items) | All the products and brands you were expecting to buy are available | 0.962 | 6.714 (28) |
| | The products available in the store are fresh and not close to their expiry dates | 0.963 | |
| | The store layout makes it easy for customers to find what they need | 0.963 | |
| **Service Interface** (5 Items) | The staff are welcoming | 0.784 | 2.750 (11) |
| | Staff are available and quick to help | 0.738 | |
| | The employees here are friendly | 0.796 | |
| | The behavior of the employees in the store instill confidence in customers | 0.768 | |
| | Employees of this store are able to handle customer's complaints directly and immediately | 0.451 | |
| **Customer Service** (3 Items) | The products at this store are reasonably priced | 0.97 | 2.121 (8) |
| | The store insist on error free sales transactions | 0.969 | |
| | This Store has fast checkout (requires less time at billing) | 0.892 | |
| **Retail Atmospherics** (4 Items) | The atmosphere of the store is pleasant | 0.846 | 1.631 (7) |
| | The store has good ambience with modern outlook | 0.808 | |
| | This store has Clean and tidy environment | 0.519 | |
| | The stock displays are visually appealing | 0.567 | |
| **Reliability** (4 Items) | The store gives customers individual attention. | 0.653 | 1.425 (6) |
| | All the products are accessible and within reach | 0.725 | |
| | The products at this store is of good quality | 0.718 | |
| | The store has operating hours convenient to all their customers | 0.662 | |

*Extraction Method: Rotated Component Analysis*
*Rotation Method: Varimax with Kaiser Normalization*

**Table-4 Weightage Assign to Factors**

| Factors | % variance explained by factor analysis | Calculation in 100 % | Weightage (A) |
|---|---|---|---|
| Store Image | 28 | =28*60/100 | 0.47 |
| Service Interface | 11 | =11*60/100 | 0.18 |
| Customer Service | 8 | = 8*60/100 | 0.14 |
| Retail Atmospherics | 7 | =7*60/100 | 0.11 |
| Reliability | 6 | =6*60/100 | 0.10 |
| **Total** | **60 %** | | **100 %** |

2.3.7 Customer rating was calculated on each factor-customer rating was calculated separately for each store (all 180 stores), for this firstly, scores of each factor was calculated by multiplying the number of variables under the concerned factor by the number of customers, say for example here we have shown the calculation for first store where under first factor 3 variables are coming which was responded by 5 customers so the total would be 15, and subsequently for all the factors. These scores will

remain same for all the stores as the number of customers and the numbers of variables under each factor will remain the same. For calculating scores of each factor per store, unique cumulative rating scores of each store on each separate variable has to be summated, as in the case of store one we have summated 18 (cumulative score of variable 11 by all 5 customers), 20 (cumulative score of variable 15 by all 5 customers) and 19 (cumulative score of variable 18 by all 5 customers) which makes it 57 for the factor store image and the same procedure is repeated for all other factors. Finally, for calculating customer rating y is divided by x that gives final value B that is customer ratings. Refer Table-5 for calculation of customer rating.

Customer weights were calculated on each factor- Once the customer rating was found out the next step would be to found out the customer weights. Customer weights were calculated by multiplying weightage scores into customer rating scores. This will help us to get answer to our second objective regarding the variables/ factors that have impact on the experiences of customers. Refer Table-6 for calculation of customer's weights.

Customer Index was found out- finally to calculate the customer index, we have to summate the values of customer weights for all the five factors, which will give us unique customer index value for each store. The same procedure needs to be repeated for calculating all the values for each different store. Once the customer indexes for all the stores are calculated then we can compare their scores.

For intra comparison between the stores, we have to calculate the maximum customer weightage scores. Maximum customer weightage score can be calculated by multiplying the each factor's unique weightage score by 5 (as there are 5 customers from each stores) and their total would be the maximum

**Table-5 Calculation of Customer Rating**

| Factors | Scores of each factor by 5 customers (x) | Scores of each factor per store (y) | Customer Rating y/x= (B) |
|---|---|---|---|
| Store Image | 15 = 3 variables * 5 customers | 57= I11+I15+I18 scores (18+20+19) | 57/15=3.80 |
| Service Interface | 25= 5 variables * 5 customers | 68= I5, I6, I7, I8, I9 scores (19+14+14+7+14) | 68/25=2.72 |
| Customer Service | 15= 3 variables * 5 customers | 39= I19+I22+I13 scores (10+16+13) | 39/15= 2.6 |
| Retail Atmospherics | 20= 4 variables * 5 customers | 80= I1, I2, I3, I4 scores (21+19+19+21) | 80/20=4 |
| Reliability | 20= 4 variables * 5 customers | 85= I10+I12+I14+21 scores (20+20+25+20) | 85/20= 4.25 |

**Table-6 Calculation of Customer Weights**

| Factors | Weightage (A) | Customer Rating (B) | Customer Weights (C) = (A) * (B) |
|---|---|---|---|
| Store Image | 0.47 | 3.80 | 3.80 * .47= 1.786 |
| Service Interface | 0.18 | 2.72 | 2.72*.18= 0.49 |
| Customer Service | 0.14 | 2.60 | 2.6*0.14= 0.36 |
| Retail Atmospherics | 0.11 | 4.00 | 4*0.11= 0.44 |
| Reliability | 0.10 | 4.25 | 4.25*0.10= 0.42 |





score one store can have. To check whether the store is effective from the point of view of customers or not we have to check whether the customer index is greater than the max. score or not, i.e.- any customer index score which is greater than 2.27 (in this case it is mean of the total score) would mean that the store is effective from the customer point of view. Weightage assigned to all the factors and the no. of respondents multiplied gives the total score for each factor. Refer Table-8 for seeing the average score of efficiency.

**Table-7 Calculation of Customer Index**

| Factors | Customer Weights (C) |
|---|---|
| Store Image | 1.786 |
| Service Interface | 0.49 |
| Customer Service | 0.36 |
| Retail Atmospherics | 0.44 |
| Reliability | 0.42 |
| **Customer Index (D)** | **3.496** |

**Table-8 Calculation of Average Score of Efficiency**

| Factors | Max. score |
|---|---|
| Store Image | 2.35=0. 47*5 |
| Service Interface | .90= 0.18*5 |
| Customer Service | 0.7=0.14*5 |
| Retail Atmospherics | .55=0.11*5 |
| Reliability | .05=0.10*5 |
| **Total** | **4.55** |
| | Average = 4.55/2 = **2.27** |

So, the formula for calculating the Customer Experience Index (CEI) would be:-

$$CEI = \Sigma CW[FW@100\% * CR \{I1+I2+I3……..In/\alpha I*\beta C\}]$$

Where, ΣCW is summation of all customer weights

FW is factor weights at 100%

CR is customer ratings of all Items taken, i.e. - I1+I2+I3……..In

Divided by number of items taken, i.e. Alpha α into * beta β number of customers per Store

Customer Experience Index (CEI) for all the 180 stores is given in Appendix, where we have divided 180 stores into two parts- stores less than 2000 sq. ft area (93 stores) and stores more than 2000 sq. ft (87 stores). As per their index scores we have rated the stores on Experience Index from the customer's point of view as, stores having scores 4 or more are rated as highly efficient stores, stores having scores 3-3.99 are efficient stores and stores having scores less than 2.27 (half of the max. weightage score) are less efficient. When stores are rated on the basis of their weighted scores it was found out that there were highly efficient -10 stores in less than 2000; 24 in more than 2000, efficient stores; 72 in less than 2000; 36 in more than 2000 and finally less efficient stores- 11 in less than 2000 and 27 in more than 2000 sq. ft area.

## RESULTS & DISCUSSION

All the underlying factors of customer experience play an important role in stimulating repeated store patronage and developing good customer's perceptions. However, the first factor is the one which is contributing the most among all the others factors identified, having a high eigen value, i.e-6.7 and cumulative variance of 28 %. So, the Retail Managers of all the less efficient stores should concentrate more on improving their store image to become efficient stores from the customer point of view .They need to carry further studies on store image or services cape which could help them to identify which specific areas in improving the store image need improvement.

Next factor of importance has been the Service interface with eigen value of 2.7 and 11% cumulative variance having an impact on the customer experience of the Retail Stores. Service Interface can be interpreted as Sales service and it could be enhanced by providing continuous personal empowerment programs to store staff, training on interpersonal communication skills, continuous product knowledge, how to handle the customers, knowledge about competitor products. Staff

empowerment will enable staff in the retail business to be more responsive to the needs of their customers.

Due to cultural differences, retailers need to be responsive in understanding as to what customer service is of relevance to a particular section of the cultural segment. In this regard, a thoughtful and continuous customer research should be conducted to advance an understanding of local customer's behavior and their shopping experience (Siu and Cheung 2001).

Further in terms of customer experience, it is found that the retail atmospherics and reliability are also two relatively influential and important factors that will affect customer's future consumption behavior. This can be a significant reference point for retailers when developing their retailing strategies. Schlosser (1998) argues that, since store atmosphere has a social identity appeal, a pleasing atmosphere in the store should influence perceptions of socially communicative products in the store. A pleasing store atmosphere provides substantial hedonic utility to consumers and encourages them to visit more often, stay longer and buys more. Reliability factor which consists of giving individual attention to the customers, accessibility of the products, products quality and the store operating hours has its own importance in the eyes of the customers beyond the factual things as apart from the product how it is being delivered has its own importance for the customers.

The researchers has divided the store in two types- stores with less than 2000 sq .ft area and stores with more than 2000 sq. ft area, because nowadays the store size is used as a critical basis of grocery stores categorization due to shoppers preference to form “simple perceptual categories of grocery stores”. Categorizing of grocery stores according to store type or store format is seen as ambiguous and complex by consumers. Furthermore, consumers will use expectations of a store category (store size in this case) to guide their perceptions and evaluation of a particular store or store choice (Uusitalo, 2001). Due to the importance of store size to in consumer's perception of grocery stores this research will use store size as a basis of categorization for consumer's evaluation of a store customer experience.

## CONCLUSIONS

Customer experience is long been the most basic marketing tool for retailers to create competitive advantage and to enhance customer shopping experience. There are many studies who have discussed much about the customer experience and the items concerned under it. But this study demonstrates the practicality of measuring the customer experience quotient and the rating of the stores with the help of Customer Experience Index (CEI) to see where the stores falls in the Index as seen from the eyes of the customers and what are the areas where action is required to improve them and make the required action plan. In this respect the findings reported here provide some insights for other supermarket retailers in India on how to create good customer experience and develop the customer retention strategies.

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