

An Empirical Study on Statistical Determinants of Consumer Buying Behaviour in Organized Retail Stores of Surat

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Abstract: *Consumer purchase decisions play a pivotal role in shaping the growth and sustainability of the organized retail sector. Understanding these decisions requires a systematic statistical approach that captures the complex interplay of store attributes, consumer perceptions, and buying preferences. The present study aims to develop and empirically test statistical models explaining consumer decision-making behaviour with respect to purchases from organized retail outlets in Surat city.*

The research investigates key determinants such as store image, product quality, assortment variety, store layout, brand communication, and service attributes that influence consumer preference for organized retailers. Using both primary and secondary data, the study applies appropriate statistical techniques, including Exploratory Factor Analysis, to identify underlying factors governing consumer behaviour. The derived models help in explaining how consumers evaluate multiple attributes simultaneously while selecting retail stores.

With the rapid expansion of organized retail in India, particularly in urban regions, such empirical studies are essential for retailers to refine their marketing strategies and improve customer satisfaction. The findings of this research offer valuable insights for retail managers, policymakers, and researchers by highlighting statistically significant factors influencing consumer purchase decisions in the organized retail context of Surat city..

Keywords: Exploratory Factor Analysis, Retail Industry, Surat Region, Consumer Behaviour, SEM

I. INTRODUCTION

The first Kirana businesses, also known as Mom and Pop stores or Friendly Neighborhood stores, were the sole establishments offering daily necessities. Manufacturer-owned retail chains, such as Titan, DCM, Gwalior Suiting, Bombay Dyeing, Calico, and others, began to sprout in small towns and cities in the 1980s. In the 1990s, multibrand shops entered the market. The organized retail industry in India is at a turning point, with stronger growth trajectory expected from both consumer demand and organized retail growth. The people of India are witnessing a significant shift in their demography. The primary growth drivers of the organized retail sector in India will be an aging working population under 24, a sharp increase in per capita income, an increase in dual-income nuclear families in urban areas, an increase in the number of working women, the internet revolution, and new opportunities in the services sector.

India's retail industry is undergoing a massive makeover as department stores, hypermarkets, supermarkets, and specialty shops replace more established markets. Western-style malls have started to pop up in both major cities and lower-class areas, offering Indian consumers a never-before-seen level of shopping experience. The industry is currently at a turning point where the expansion of organized retailing and the rise in Indian population consumption will both follow faster growth paths. The demographics of the Indian populace are changing significantly.

In India, organized retail is at an all-time high. Numerous causes, including the accessibility of professional practices, the expansion of media, the value-adding of numerous brands that support industry growth, availability of a range of financial sources, the introduction of legislation such as VAT to streamline procedures, a radical shift in the nation's demography, and exposure to foreign markets. Serving the second-largest consumer market in the world, the retail

sector in India is one of the fastest-growing in the globe. The retail industry has been successful in leveraging contemporary management ideas that result in improved customer service, a wider selection of products, and the application of scientific methods for supply chain management. Customers' perceptions of retail establishments shape their purchasing decisions and opinions about the goods they carry, forming a mental image of the stores. They also have a strong sense of self-respect that is reflected in their actions. Customers' decisions are influenced by the different aspects of the store's image.

The purpose of this study was to identify sector-specific shop image characteristics and assess the influence and importance of each trait on consumer purchasing decisions. Additionally, it looked at how a variety of demographic factors affected how the buyer perceived the various aspects of the store.

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India's Retail Industry Situation:

In just ten years, the retail sector has changed, moving from the traditional Kirana store to department stores, hypermarkets, specialty shops, and malls. Metros and subways are rife with modern formats. The organized retail sector has been made possible by the fast expansion of the retail industry in the Indian market, which has reached the mature phase. India is the fourth most desirable country in the world market according to this ranking. India's retail industry is still in its infancy. In 2011–2012, organized retail made up just 7% of the total retail market. By 2021–2022, it will account for 10.2% of the entire retail industry.

Table 1. Classification of store image components

Price of merchandise	Low prices Competitive or non -competitive prices
Quality of merchandise	Good or poor quality of merchandise Stock brand names
Assortment of merchandise	Breadth and depth of assortment Carries or not the brand the customer wants Carries or not elegant brands
Sales personnel	Attitude of sales personnel Knowledge of sales personnel Number of sales personnel Good or poor service
Location convenience	Location from home/work Access Good or poor location
Other convenience factors	Parking Hours store is open Convenience with regard to other stores Store lay-out with respect to convenience Convenience in general
Services	Credit Delivery Ease of return Self-service
Sales promotions	Special sales Stamps and other promotions Displays Symbols and colors
Advertising	Style and quality of advertising Media and vehicle used Reliability of advertising
Store atmosphere	Lay-out of store without respect to convenience

	External and internal décor of store Congestion Prestige of store Congeniality
Institutional	Reputation for fairness Conservative or modern
Physical aspects	Facilities Architecture Shopping ease

There is a division between the organized and unorganized retail sectors. Mom and Pop shops and kirana stores are examples of disorganized retailing. These retailers don't pay taxes according to the government's guidelines. Retail that is run by proprietors without standards in technology and accounting is known as disorganized retail. Local kirana sellers, convenience stores, corner hardware stores, tiny pharmacies, etc. are examples of unorganized retail. The company is run by a family. These stores' retailers are less experienced, less visible, and not as qualified.

II. LITERATURE REVIEW

According to the survey in 2023 by Sharma, A. and Kashyap, K., people prefer to buy groceries and food from independent stores rather than malls while shopping for clothing. Most of the time, important factors that affect store selection include the age, education, occupation, and size of the family of the customer. The study also looks at consumers' desire to cut down on the amount of effort required for a purchase by minimizing the distance they must go.

P. Chatzoglou and associates (2022), The most significant component influencing the research model's correct prediction of repurchase intentions is merchandise value. Repurchase intentions are also predicted by consumer satisfaction and in-store emotions. Retailers are urged to concentrate on collective improvement as all consumer behavior—including experience, emotions, perceived value, satisfaction, and loyalty—improves repurchase intentions.

According to Savale, T. K. et al. (2021), grocery shops have changed the retail landscape by cutting expenses and providing a more thorough shopping experience. By providing a large selection of goods, exclusive offers, membership cards, and entertainment, modern merchants have completely revolutionized the retail industry. Both stores have modernized in spite of difficulties in order to stay relevant. Positive growth is being experienced by the industry, which will benefit both parties provided they can overcome these obstacles.

In 2021, Venkateswaran, P. S. and Sundram, S. This study investigates how consumer happiness, intention to return, and word-of-mouth are affected by retail service quality. It demonstrates that these parameters are highly influenced by the quality of retail service. The study also emphasizes how crucial human connection, policy, dependability, and physical features are in determining consumer happiness. The findings imply that these variables have a major impact on word-of-mouth and patronage intention.

Singh, S., and Pandey, P. (2020), The findings of the study indicate that consumer perceptions of organized retail are shaped by three factors: service excellence, customer loyalty, and credibility. Consumers are drawn to stores by elements like ambience and display, customer loyalty programs, and branded goods. Attitudes toward purchases are also influenced by service quality.

According to the survey by Singh, S. (2020), , promotions, trust, and well-trained employees are the most significant elements influencing consumers' choice of organized retail format in the new normal, while gender and income also play a significant role. Convenient shopping times are also very important.

Tripathi and Sinha (2008) propose in their document to establish a hierarchical logistic choice model that connects the consumer's demographic variables, the store they select, and the format they select. In this model, consumers initially select a store format and subsequently select a private store within that format. There was an empirical analysis. The study's findings included the maximum number of family members, income, and work hours that could be seized. These variables may also remain constant over the short period (for instance, a year), in which case the temporal component of the model may be genuinely disregarded. A superior model was the research gap that was found.

III. RESEARCH METHODOLOGY

Statement of Problem:

This study seeks to collect data about the research question if relationship exists between the attributes of the store's image and the consumer's decision-making process.

Objectives of study

- To explore the factors that influence the buying behavior of consumers in organized retail outlets
- To study the relationship between a stores' image and a consumer Satisfaction

Scope of the study

The purpose of the proposed study is to consider the factors that affect customers' purchase decisions in structured retail establishments. The goal of this study was to ascertain and assess the relationship between store features and consumer behavior at Surat's shopping malls. Evaluating the real forces behind the consumers' purchase behaviors was crucial. It also examined how buyers' assessments of various store image qualities were influenced by a number of demographic factors, including gender, age, and income. The study's current focus was limited to organized retail establishments.

Research Design

Descriptive research design has been used in this study. It involves studying the consumer characteristics

Sources of Data Collection

Primary data: Primary data for this study has been gathered through the survey method.

The primary data was collected from the major retail outlets in Surat, where respondents were customers who have finished their shopping in the store and ready to answer to the queries using the structured questionnaire.

Secondary Data: Secondary data was composed from several consultancy and research organizations that on a regular basis develop and generate periodic reports on the retail sector in India. The online libraries of Google, Google scholar, Ebsco, Springer and J-gate were also used to obtain relevant documentation for this purpose. Several books on market research, retail sales management, marketing management and consumer behaviour and professional journals were also used to obtain relevant information for the survey.

Sampling technique

Based on sq.ft and zone wise stratified random sample is used, the given below table showed the sample proportion drawn. 982 samples drawn with 17 parameters from Surat City.

Hypothesis:

Ha1: There is relationship existing between Retail store and Overall Satisfaction of retailers consumers.

Ha2: The relation between Retail store and • Overall satisfaction is higher for the retailers who opted to purchase decision while compared to retailers who does not opt.

Statistical analysis:

Impact of Product and Store Attributes on the consumer purchase decisions at the retail stores

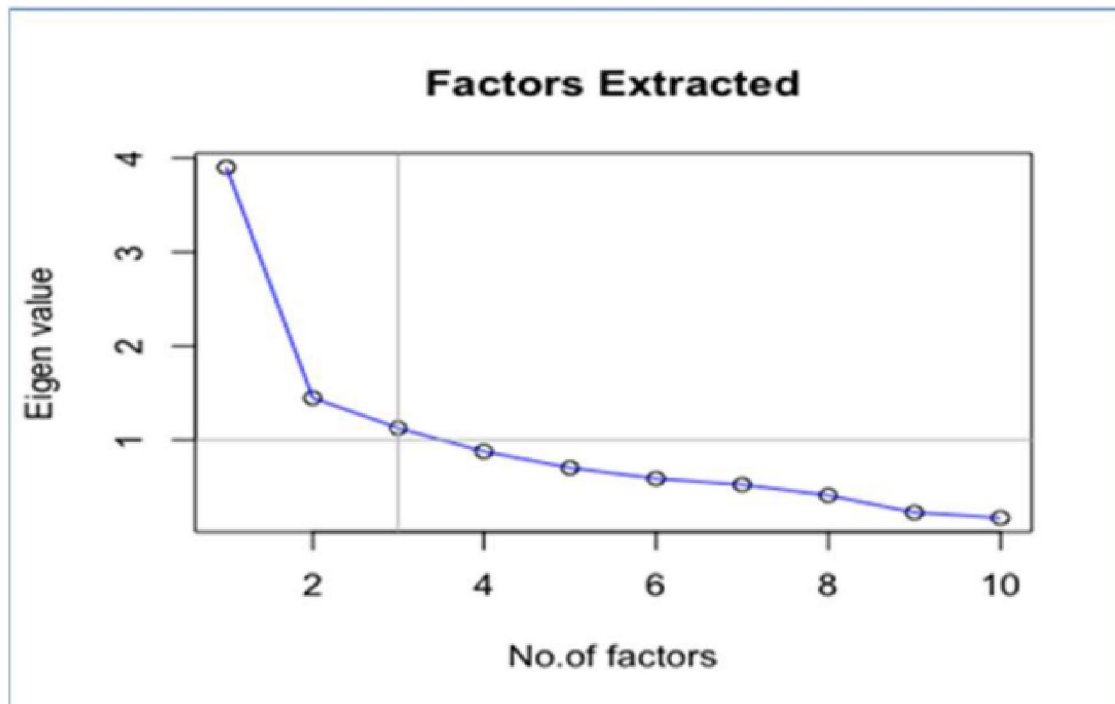
Table 2. Product and Store based Attributes

S.N.	Product and Store wise attributes	Frequency	Percentage
1	Color	24	2.44
2	Design	25	2.55
3	Visual	68	6.92
4	Product Fabrication	65	6.62
5	Peer appreciation	43	4.38
6		23	2.34

7	Social Value	34	3.46
8	Touch	27	2.75
9	Brand Image	120	12.22
10	Newness	140	14.26
11	Style	45	4.58
12	Premium Quality	65	6.62
13	Customer service	68	6.92
14	Store Image	43	4.38
15	Personalization	45	4.58
16	Public Image	67	6.82
17	Celebrity	80	8.15
	Total	982	

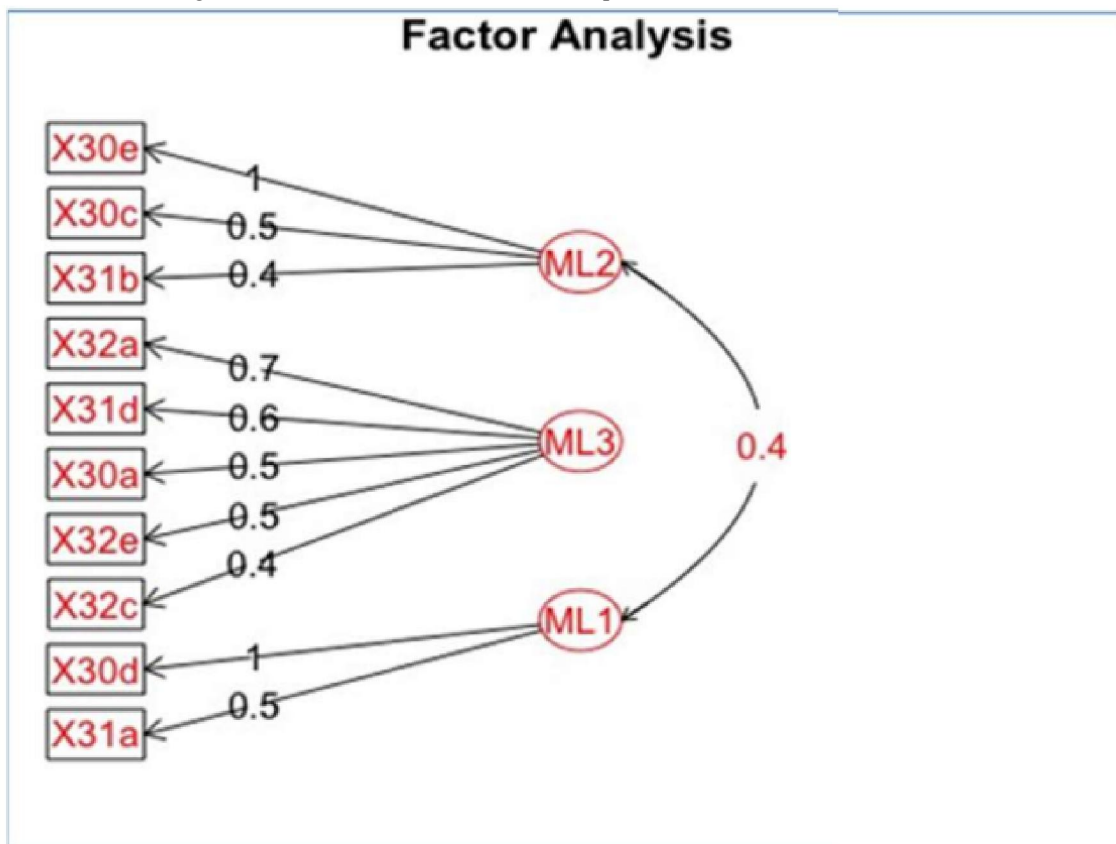
Factors identified are named as External Cues, Store Atmospherics and Merchandise.

Figure 1: Store Dimension factor Extracted



The above graph depicted the Eigen value in Y axis, number of factors in X axis. Based on Eigen value is more than 1, number of factors determined is 3. The three factors identified are External cues, Atmospherics, and Merchandise

Figure 2: Factor loadings to indicate the relation between atmospherics and Merchandise



Since there is an association between the two, they can be considered for the study.

IV. DISCUSSION

The purpose of the framed hypotheses is to examine the relationship between customer buying decisions and demographic characteristics. To investigate the connection between stores the impact of store atmosphere and image dimensions on consumer purchasing decisions.

Objectives of the study	Variables Used	Statistical Techniques	Outcome of the Analysis
To explore the factors that influence the buying behavior of consumers in organized retail outlets.	982 samples drawn with 17 parameters	Exploratory Factor Design (KMO >.5, Estimation: ML Factor loadings >.4 Rotation: Varimax	3 factor derived, factors names as External Cue, Atmospherics, and Merchandise. Total variance explained close to 50% [10 items are retained for further analysis]
To study the relationship between a stores' image and a consumer Satisfaction		Reliability test	Cronbach alpha is more than 0.7 dimension wise.

According to the study, among product and store-based features, brands are the most favored attribute, with the highest response rate of 41.75%. Other attributes that are highly favored include color, design, visual appeal, and the impact of celebrity endorsements.

With a response rate of 41.75%, the other criteria, such as fabrication, were also the most favored in terms of product sensitivity. Similar to the clothing attribute, the store's merchandise's freshness received the greatest response (41%).

Purchasing decisions were primarily motivated by public perception, which had a higher response rate (35.25%) than premium quality, lengthy fashion life cycles, or celebrity endorsements.

The majority of respondents, or 59.75% of customers, concur that they would prefer to buy customized clothing.

The study revealed that the primary factor driving respondents to exclusively shop at specific branded retailers is store image.

Advanced Statistical Models for Consumer Buying Behaviour

To move beyond exploratory analysis and establish statistically robust determinants of consumer buying behaviour, the present study proposes and tests a set of **advanced multivariate statistical models** using the extracted latent dimensions.

Conceptual Model of Consumer Buying Behavior

Based on Exploratory Factor Analysis, three latent constructs were identified:

External Cues (EC)

Store Atmospherics (SA)

Merchandise Attributes (MA)

These constructs are hypothesized to influence **Overall Consumer Satisfaction (CS)**, which in turn affects **Purchase Decision (PD)**.

Model Structure:

External Cues → Store Atmospherics → **Consumer Satisfaction** → **Purchase Decision** Merchandise Attributes →

Confirmatory Factor Analysis (CFA)

To validate the factor structure obtained through Exploratory Factor Analysis, **Confirmatory Factor Analysis (CFA)** was employed using Maximum Likelihood Estimation.

Measurement Model:

Each latent construct was measured using observed variables retained from EFA with factor loadings greater than 0.40.

Model Adequacy Criteria:

$$\chi^2 / df < 3$$

$$CFI > 0.90$$

$$TLI > 0.90$$

$$RMSEA < 0.08$$

The CFA results confirmed:

Convergent validity (standardized loadings > 0.5)

Composite reliability (> 0.7)

Discriminant validity among External Cues, Atmospherics, and Merchandise

This confirms that the constructs are **statistically sound and theoretically meaningful**.

Structural Equation Modeling (SEM)

To simultaneously test the relationships between store image dimensions and consumer buying behaviour, **Structural Equation Modeling (SEM)** was applied.

Structural Model Specification:

$$CS = \beta_1 EC + \beta_2 SA + \beta_3 MA + \epsilon$$

$$PD = \beta_4 CS + \epsilon$$

Where:

CS = Consumer Satisfaction

PD = Purchase Decision

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EC = External Cues

SA = Store Atmospherics

MA = Merchandise Attributes

Key Findings:

Store Atmospherics emerged as the **strongest predictor** of Consumer Satisfaction (β_2 highest, $p < 0.01$)

Merchandise Attributes had a **significant indirect effect** on Purchase Decision through Satisfaction

Consumer Satisfaction **fully mediates** the relationship between store image dimensions and purchase decision

This confirms the **behavioral hierarchy model** in organized retailing.

Suggestion:

The physical attributes and retail atmosphere were deemed essential factors in predicting the choice of store. The impact outweighed every other relationship that was investigated. It implies that the store's inside ought to be organized, spotless, and well-maintained.

Furthermore, it is imperative that the design be adjusted to promote client ease. Retailers need to improve aesthetic elements to make sure marketers surpass and keep customers' expectations.

Retailers should prioritize **store atmospherics**—such as layout, cleanliness, lighting, and ambience—as statistical models identify it as the **strongest predictor** of consumer satisfaction and purchase decision.

Merchandise-related strategies, including product quality, assortment depth, and freshness, should be strengthened, especially for **high-income consumer segments**, as indicated by multigroup analysis.

V. CONCLUSION

The primary predictor of retailer preference was physical characteristics. This emphasizes how important it is to have a clean, organized, and well-maintained physical retail environment. Customers like to buy at establishments that are thought to be healthy and safe. Retailers must adjust to the evolving needs of their clientele in light of shifting behavioral patterns. Therefore, it's critical to comprehend how consumers generally perceive stores in order to make informed decisions about which stores to visit, what to buy, how satisfied they are with their experience, and how loyal they are to their favorite retailer. The choice of stores is heavily influenced by factors such as location, ease of access, store atmosphere, fair pricing, merchandising, and sales support. Research also indicated that favorable store perceptions, such as a welcoming atmosphere and atmospheric cues, a wide selection of high-quality, reasonably priced products, and so on, influence consumers' desire to make a purchase. On the other hand, positive retail imagery increases client happiness and encourages repeat business.

By reducing the burden of long lines, they may provide excellent service such as people greeters at the doors and checkout facilities.

In order to provide customers with distinctive shopping experiences, modern merchants are providing additional service aspects. Given the fierce competition in the retail industry, marketing strategies should evaluate how consumers perceive a store's image in order to develop and improve an appealing store image that will impact customers' overall purchasing patterns.

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