

Total Quality Management (TQM) in the Indian Retail Industry to Enhance Customer Satisfaction in Context to Rajasthan Region (Marwari Business Hub)

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ABSTRACT

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Purpose: The study seeks the impact of Total Quality Management (TQM) practices on customer satisfaction in context to the Indian Retail Industry with special focus on Rajasthan Region. The study aims to identify current TQM practices in the Indian Retail Industry and also identifies the impact of demographic variables of customers on the purchase of the retail stores. The study has framed the factors to be looked forward by the retailers to create highest customer satisfaction using factor analysis.

Design/Methodology: The research employs a Descriptive research design based on quantitative cross-sectional data and utilizes a deductive approach built on GAP Model. Data was collected through questionnaire circulated online among the 500 respondents. Out of 500 respondents, 447 responses were full and complete and taken up for study. The Study used descriptive statistics, correlation, and factor analysis.

Findings: According to the research, there is a low correlation between preferences for retail stores and income levels. The availability of ISO/FPO certifications on items was also shown to have a minor positive link with the choice of retail retailer. In order to improve customer satisfaction, the research has selected six characteristics that constitute overall quality management and has transformed them into five elements that may be combined in various ways to enhance customer satisfaction.

Originality/ Value: This study focuses on Total Quality Management (TQM) in the Indian Retail Industry which was unexplored compared to manufacturing or service industries. It incorporates India specific challenges in context to customer service expectations in a highly competitive and price sensitive market. This study relates to the first principle of TQM that is Customer Focus.

Keywords: Total Quality Management (TQM), The Indian Retail Industry, GAP Model, Factor Analysis, and Customer Satisfaction.

JEL: C12, C19, C83, L81

INTRODUCTION

In this era of globalization, the world is driven towards development and advancement by a reckoned force, commonly known as technology (Alic, J. A. 2022). The global manufacturing and services sector has proven to be of critical importance in the modern scenario, even after undergoing through a tumultuous decade shaped by unprecedented challenges, including the COVID-19 pandemic and economic volatility. In the developing world, it continues to be the pathway between the agricultural growth to improved living standards and rising incomes

contributing towards the national development (Singh, L., & Kadam, A. R. 2024). In the advanced economies, it remains a vital source of innovation and competitiveness making stupendous contribution to trade, productivity growth, information technologies and operations, research and development and tackling social and environmental challenges. (Yaqub, M. Z., Yaqub, 2024). The shift in global demand for better quality, faster delivery and optimised services of manufacturing goods is happening at an accelerating pace (Ojha, R. 2023). Unlike previous decades, turbulent rise in consumer demand for quality have led to designing of revolutionary products and innovative business models among leading companies to prevent from crash and burn in the chaotic market conditions (Stone, P. J. 2022). The majority of the companies have progressed forward from customizing items to offer globally standardized and better-quality products that are advanced, reliable and low priced. A drastic change is also observed in the retail sector. The retailers and managers of stores regard quality as the highest standard while delivering services to the customers (Macchion, L., & Fornasiero, R. 2021).

Quality, as defined by ISO 9000, is the sum of a product or services features and attributes that affect its capacity to meet explicit or implicit demands (Jain, A., Rab, S. et al. 2023). It is regarded as a crucial strategic element in attaining organisational advantages and project success (Ibidapo, T. A. 2022). Due to intense competition, globalisation of the market, and consumer demand, managers, engineers, crews, and other staff members today need to understand not only how to monitor the product quality but also how to continually improve it.

As a result, the concept of quality management is highly valued in industrial industries around the globe that have implemented quality initiatives, making TQM a widely recognised component of practically every manager's toolkit (Jain, A. et al., 2023). Within broader quality management systems, supply chain managers and technicians must adhere to quality assurance and control systems for defect prevention and detection, respectively (Qamar, S. Z. et al., 2024).

For food safety or other qualitative reasons, food companies are placing a greater emphasis on product quality (Li, S. et al. 2021). Food safety is a fundamental need of food quality, whereas food quality is regarded as a complex combination of attributes that influences its worth or acceptability to customers (Chhetri, K. B. 2024). The absence, or safe levels, of pollutants, adulterants, naturally occurring poisons, or any other material that might cause immediate or long-term health harm to food is what is meant by food safety. Quality attributes also include: nutritional value; organoleptic properties such as appearance, colour, texture and taste; functional properties and symbolic features (Divya, K. B. et. al. 2024). The consumers and authorities demand high levels of quality and security of food consumed (Wu, W. et. al. 2021). Food safety in the retail industry involves several divisions, units and departments which are coordinated by the quality department (Jardine, C. 2022).

According to Umar (2023), total quality management is a constantly evolving system for incorporating different organisational components into design, development, and production processes, resulting in cost-effective goods or services that are completely acceptable to the final consumer. TQM improves product quality and boosts organisational morale by meeting customer needs, reducing production line bottlenecks, and delivering more meaningful customer satisfaction. TQM strives for excellence in every aspect of business via customer focus, teamwork, and continual development throughout the whole organisation.

TQM techniques highlight the importance of workers to the company's performance and help improve productivity via quality (Saffar, N. et al. 2020). To enhance organisational performance and support the growth of the national economy, it is imperative to look at the TQM techniques now used by businesses and propose new models.

Indian Retail Industry

Due to economic progress, the retail sector in India has become one of the most dynamic and fast-paced industries of the contemporary era. Food and drink, department shops, pharmacies, books, music, and gifts are all included in the retail sector. It contributes around 8% of employment and more than 10% of the nation's GDP. India ranks as the fifth-largest retail destination worldwide. The present value of the Indian retail market is estimated by the India Retail Report to be around Rs. 84, 00,000 crore (\$1 trillion) and the annual growth rate is 9-10 percent over the last few years. Retail market for food and grocery with a worth of Rs. 52, 00,000 crore is the largest of the different types of retail industries present in India (Jyothi, R. 2024). Furthermore around 16 million retail outlets help India win the crown of having the highest retail outlet density in the world. By 2026, retail market in India is projected to reach USD1.8 trillion from USD1.3 trillion in 2020. The modern retail market is expected to grow from USD 60 billion to USD 180 billion during FY15-FY20, which is three times retail in the next 5 years. The e-

commerce sector is an integral growth driver for Indian retail industry, contributing over USD100 billion in 2024, up from USD46 billion in 2020 (Surge, A. S. 2022).

Consumer behaviour in the Indian Retail Sector

The Indian retail sector is one of the rapid growing industries in the world with the young and growing professionals as the major contributors. While this younger generation immensely contributes to the retail sector growth, growing the middle class diaspora and the increase in expenditure and large number of earning young customers also provides several opportunities for organized retail sector expansion. The younger generation looks forward to the shopping experience and believe in buying branded products as they are assured of the quality standards of these branded products by the leading producers (Husain, R. et. al. 2022). They are more explorative in nature and prefer buying from different shops and retail stores with wider variety of products, great services and reasonable price range to broaden their horizons. The people from the older generation are regarded as the loyal customers by the retailers who have been coming to their shops for generations. They focus more on leisure and convenience and often go to those preferred shops where they have been shopping regularly.

Customer Satisfaction plays a major role in the success of the Indian retailing sector (Kumarai, G. S. et. al. 2022). The quality and services are major factors that positively affect the consumer buying behaviour. The quality has a direct significance with the customer satisfaction which further influences the customer loyalty.

TQM strategies practiced in Indian Retail Industry to create quality in their stores

A number of tactics are used by merchants to increase product sales. According to recent research, while placing items on shelves, merchants make sure to do a thorough quality inspection and assurance since they view quality as a benchmark criterion. Through green supply chains, retailers are minimising their environmental effect, cutting waste, and integrating sustainability into quality initiatives (Vadakkepatt, G. G. et al. 2021). Among the several elements influencing competitiveness in the agro-food and pharmaceutical industries, quality and safety standards have grown in importance over the past ten years as key components of marketing plans and trade strategy.

Voluntary certification, which shows that the company has a certain set of knowledge in the eyes of the certifying authorities and is updated on a regular basis, is becoming a more common way to prove the adoption of quality standards. Nearly all established and emerging retail chains that operate in more developed regions require certification. The certification program's policies are set by certifying bodies, which might be non-profit organisations, professional associations, or corporate associations.

With more than 200 food standards, nearly 3000 maximum residue limits for pesticides, veterinary medications, mycotoxins, and environmental contaminants, codes of hygienic practices, a general standard for food labelling, a code of ethics for international food trade, and a plethora of guidelines and recommendations for governments and industry, the Joint FAO/WHO Codex Alimentarius Commission is a benchmarking body (World Health Organisation, 2023). Trade-related sanitary and phytosanitary measures for human health protection are specifically addressed in the SPS Agreement. Its main goal is to reduce the detrimental impact that the implementation and enforcement of SPS rules will have on trade.

While WTO member states are allowed to impose more stringent criteria, they are urged to accept globally recognised norms, if any exist. The latter are permitted as long as scientific evidence supporting the measures is presented and risk assessment procedures are put in place. Among its most well-known standards are the ISO 9000 and ISO 14000 families, also referred to as "generic management system standards," which are used by 760 and 900 organisations in 154 countries, respectively.

ISO 9001 is the sole approved standard in this family, and ISO 9000 assists organisations in meeting applicable regulatory obligations as well as customer quality criteria. Organisations can enhance their environmental performance and reduce the negative environmental consequences of their operations by implementing ISO 14000 (Ibidapo, T. A. 2022). The food industry has embraced ISO 22000, a generic food safety management system standard, which outlines a set of food safety regulations that may be implemented by any organisation in the sector. As a result, it has gained international recognition.

AI and advanced analytics technologies are being used to predict flaws, improve process efficiency, and check product quality. The adaptability of the system allows for a customised approach to food safety that may be used by primary farmers, processors, manufacturers, food service providers, and product suppliers, among other food chain participants. By integrating essential components, the standard guarantees food safety across the food chain (Gerotto, G. 2021).

Objectives of the study:

1. The study identifies the current TQM practices in the Indian Retail Industry.
2. The impact of demographic variable on the retail store to be chosen for purchasing the goods with the special reference to Rajasthan region as the data collected from there which is a hub of Marwari business involving highly in retailing.
3. The study employed the GAP Model to detect service quality gaps using Total Quality Management (TQM), which aids retailers in enhancing brand loyalty, operational effectiveness, and customer satisfaction.
4. The variables were identified and converted into factors using the factor analysis to identify its impact on customer satisfaction.

Theoretical Framework

In a general business context, gap analysis is a strategic planning tool to identify the difference between the current state and the desired state of a business or project. It helps organizations to understand where they are, where they want to be, and how to get there. The model identified five gaps that affect the customer satisfaction. First gap relates to expectations, the gap between Customer expectations and organization expectations. Second gap related to Listening gap, the gap between organization perceptions of customer expectations regarding product quality and actual product quality specifications. Third gap relates to quality gap, the gap between product quality specifications and product delivery. Fourth relates to communication gap between the product delivery and external communication to customers. Last gap related to customer brain storming in relation to expectations and perceptions regarding product delivered.

The Gap Model as shown in the figure 1 identifies the gaps in context to the Retail Industry which helps the retailers to address the gaps between customer expectations and actual goods and service forming product performance, ensuring a better shopping experience and customer satisfaction.

As this study focuses on customer satisfaction, this framework analyse the gaps between the expectations of customers and perception of the retailers being estimated during their interaction.

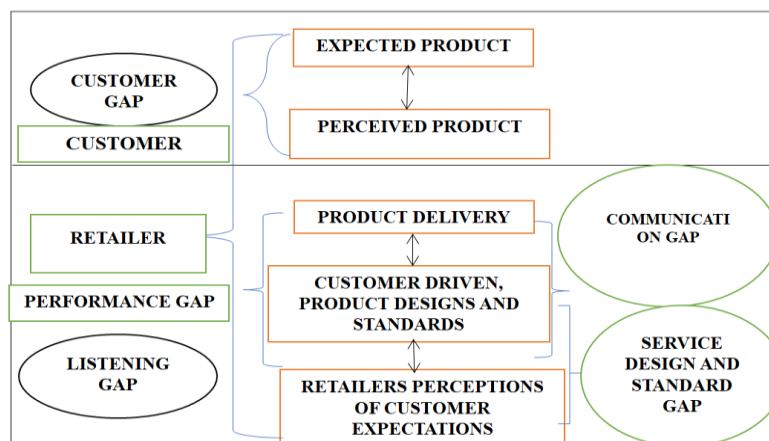


Figure 1: GAP Model in context to the retail industry

Source: Authors Composition

Literature review

The study covers the review of the existing study and literature for the period 2020-2024

Total quality management (TQM) is a management strategy that emphasizes integrating quality in every aspect of an organisation. Its goal is to secure long-term success by cultivating a culture of on-going improvement and prioritizing customer satisfaction. (Alawag, A. M. et. al. 2023). It has emerged as a dependable method for ensuring service quality that aims to meet or surpass customer expectations. (Owusu-Kyei, M. et.al. 2023) Customer perceived service is considered as one of the key determinants of business performance. In the process of creating this differentiation, the role of delivery of quality services is very vital. So far, in the Indian context, there is a dearth of tested instruments which can measure customer- perceived service quality of a retail store. (Musasa, T., & Tlapana, T. 2023). TQM by integrating with Industry 4.0 technologies can have a crucial impact on sustainable growth. These when combined could enhance the sustainability efforts of the Business organisations (Aichouni, A. B. E. et al. 2024). It would also bring about extensive benefits to Industrialised building systems (IBS), including providing cooperative associations, excellent communication, higher customer gratification, reduced costs, and productivity (Alawag, A. M. et. al. 2023). In industries like biochemistry, the concept of TQM strategy highlights several ways of using “quality” as a tool for improvement in the real work improvement during the actual execution of work. A significant number of biochemical industries recognise that sustainable business strategies and successful implementation of TQM practises lead to new opportunities and improves results in the economical and sustainable development. (Rakte, J. B. et. al. 2024). Companies such as telecommunications are subjected to very high competition caused by high innovation and customer expectations change. To gain competitive advantage, companies resort to Total Quality management to increase customer satisfaction, corporate stability, and sustainability. (Alsaqer, S. et. al. 2024). Service quality has been found to be one of the major variables of TQM in achieving customer satisfaction here (Owusu-Kyei, M. et. al. 2023). In organisations, such as healthcare, TQM and Service quality directly influence Patient satisfaction and Behaviour intentions. Thus, the hospital designs strategies that are more patient - centred and focus on technical as well as functional competencies of the service providers in order to meet client expectations. (Zaid, A. A. et. al. 2020) The manufacturing organisations are working to improve the quality, cost, and timely delivery of products through the synergistic implementation of quality principles with supply chain management as globalisation has changed the taste of customers, they want quality products at minimum cost within the minimum time. (Kaur, M. et. al. 2023).

This study focus on how TQM practices in Indian retail Industry and its impact on customer satisfaction which was not considered yet in particular to India. The study also concentrating on Rajasthan region which is one of the biggest hub of Marwari businesses working on majorly unorganised format of retailing.

Hypothesis:

H₀: The TQM Practices in the Indian Retail Industry has no impact on the Customer Satisfaction.

H_A: The TQM Practices in the Indian Retail Industry has impact on the Customer Satisfaction.

Method:

Design

The study was built on descriptive research design which describes the characteristics, behaviour, or attitude of the population. As the study was based on quantitative and cross sectional data to draw inferences which identify the satisfaction level among the customers in regards to TQM practices in the Indian Retail Industry.

Approach

The deductive approach was used in the study as it was built on GAP Model which was originally proposed by a group of American Researchers, namely Parasuraman, Zeithaml, and Berry to identify the customer expectation to create customer satisfaction which will results into zero gap.

Data Collection Technique

The collection of the data to draw inferences collected through the online circulation of the questionnaire in the Jaipur region. The questionnaire shared through various channels such as social media, email lists, forums, local community groups which ensure maximum reach.

Sample Size

The study analysing the customer satisfaction which involves the population size more than 10 lakhs. As per sampling table, when the population is more than 10 lakhs then the sample size to be taken for study was 384. In consideration to that questionnaire was circulated among 500 respondents and got 447 responses.

Statistical Techniques

The study used the Minitab software for Descriptive statistics, correlation, and factor analysis.

Results

Descriptive Statistics

Table 1: Descriptive Statistics showcasing the insights of the respondents

Source: Authors Composition

Variable	N	N*	Mean	SE Mean	St Dev.	Minimum	Q1	Median	Q3	Maximum
Age	447	0	3.407	0.057	1.21269	1	2	3	4	5
Income Group	447	0	3.581	0.068	1.45852	1	2	4	5	6
Monthly Shopping Budget	447	0	2.610	0.044	0.940218	1	2	2	3	4
From which retail store do you purchase	447	0	1.398	0.023	0.490078	1	1	1	2	2
Convenience and accessibility	447	0	2.982	0.067	1.42358	1	2	3	4	5
The store ambiance and decor	447	0	2.993	0.067	1.42604	1	2	3	4	5
ISO/FPO standardized mark	447	0	3.071	0.067	1.43289	1	2	3	4	5
Speed of service or product delivery	447	0	3.463	0.067	1.42931	1	2	4	5	5
Parking facility	447	0	3.738	0.063	1.33458	1	3	4	5	5
The accuracy of information on product packaging	447	0	3.756	0.063	1.33965	1	3	4	5	5

The data provides valuable insights regarding respondents purchasing experience and priorities as shown in the above table 1. The majority of respondents are in the middle age range, according to the age distribution, which has a mean value of 3.41. The moderate standard deviation of 1.21 ensures balanced representation among different age groups. The majority appear to be in the middle-to-upper income range, as indicated by the income group data's mean of 3.58. The variation in income levels, which may have an impact on purchasing habits, is shown by the comparatively large standard deviation of 1.46.

According to the analysis of the monthly shopping budget, which has a mean of 2.61 and little variability(standard deviation of 0.94) the majority of the respondents have moderate shopping expenditure . The mean value of 1.39 for preferences for retail establishments indicates that respondents had a preference for particular kinds of retail establishments, perhaps local or branded ones. There is broad agreement over this desire, as seen by the low standard deviation of 0.49.

A mean of 2.98 and a median of 3, with some variations (standard deviation of 1.42) indicate that accessibility and convenience are somewhat essential. With a mean rating of 2.99 store ambience and decor are similarly scored by respondents, suggesting modest satisfaction. It's interesting to see that having ISO/FPO certificates has a higher mean value of 3.07, indicating that many respondents find product standardization to be vital.

The highest ratings are given to the accuracy of information on product packaging (mean of 3.75) and parking facilities (mean of 3.74) and the speed of service/product mean of 3.46. According to standard deviations of 1.42 and 1.33 respectively, these factors are important to respondents, who rated the quiet constantly throughout the sample. The relevance of these characteristics is further supported by their high median values.

Correlation between Income level and the retail store from which you are buying goods



Figure 2: Matrix Plot showing relation between Income Level of the respondents and Retail store from where goods bought using MINITAB

Source: Authors Composition

Table 2: Correlation between Income Level of the respondents and Retail store from where goods bought using Pearson

Source: Authors Composition

Pearson Correlation	
Variables	Income Level
Retail store from where goods bought	0.011

The correlation analysis shows the relationship between income level and consumer preferences for retail stores when purchasing products, aiming to assess whether income has a sustainable effect on the selection of retail outlets. The calculated Pearson correlation coefficient of 0.011 indicates almost insignificant positive relations between the two variables as shown in the table 2. The confidence interval (CI) for this correlation spans from - 0.082 to 0.104, implying that the connection is not statistically significant and may simply result from random fluctuations within the data.

The results indicate that income levels are not a major factor in determining consumer’s shopping preferences. People across different income categories- low, middle, or high displayed comparable shopping behaviour when it comes to choosing retail outlets. This implies that other elements, including product selection, pricing tactics, ease of access, shopping experience, and convenience may have a greater impact on consumer choices than income levels.

The weak relationship noted has significant consequences for business and retailers. Instead of concentrating marketing efforts exclusively on particular income segments, retail approaches could be more effectively tailored to elements that resonate with consumers across all income brackets. For instance, enhancing customer service quality, keeping prices competitive and increasing the accessibility of retail locations could significantly influence the attraction and retention of customers. Additionally, making sure that retail outlets address the diverse needs of consumers regardless of their income may strengthen their market presence.

The analysis reveals that income is not a key factor influencing preferences for retail stores. Retailers seeking to attract a wider range of customers should focus on elements that impact shopping choices for everyone like

convenience, product quality and customer satisfaction instead of focusing solely on the income-driven segments. This understanding offers important direction for companies in creating more inclusive and successful retail approaches.

Correlation between the retail store from which you are buying goods and ISO and FPO Mark on the product



Figure 3: Matrix Plot showing relation between ISO and FPO Mark on the product and Retail store from where goods bought using MINITAB

Source: Authors Composition

Table 3: Correlation between ISO and FPO Mark on the product and Retail store from where goods bought using Pearson

Source: Authors Composition

Pearson Correlation	
Variables	Retail store from where goods bought
ISO and FPO Mark on the product	0.208

The analysis of correlation between the retail outlets where goods are acquired and the existence of ISO and FPO labels on the product reveals information about consumer inclinations concerning standardization. The Pearson correlation coefficient ($r = 0.208$) shows weak positive relationship, indicating that as the selection of retail stores changes, there is a minor inclination for customers to favour products featuring IOS and FPO mark as stated in the table 3. The confidence interval (CI = 0.118 TO 0.295) indicates that although the relationship is not strong, it is statistically significant within this range. This result suggests that consumers might link the presence of certified products with particular retail locations.

The certification marks like ISO and FPO influence consumer decision making and their connection to specific retail outlets is limited. Further research could examine additional factors, such as brand reputation or pricing to gain a deeper insight into the relationship between product standardization and retail selection.

Factor Analysis of the factors that identifies TQM practices followed in the Indian Retail Industry which enhance your satisfaction

Table 4: Unrotated Factor Loadings and Communalities

Source: Authors Composition

Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Communality
Convenience and accessibility	0.448	-0.786	0.066	-0.318	-0.278	1.000
The store ambiance and decor	0.789	0.529	-0.021	0.007	0.312	1.000
ISO/FPO standardized mark	0.498	-0.181	-0.023	-0.084	-0.843	1.000
Speed of service or product delivery	0.147	-0.336	-0.220	0.880	-0.208	1.000

Parking facility	0.023	-0.045	0.984	0.166	0.038	1.000
The accuracy of information on product packaging	0.000	-0.000	0.144	0.144	0.000	0.042
Variance	1.0933	1.0448	1.0430	0.9304	0.9302	5.0417
% Var	0.182	0.174	0.174	0.155	0.155	0.840

Table 5: Rotated Factor Loading and Communalities using Varimax Rotation

Source: Authors Composition

Variable	Factor1	Factor2	Factor3	Factor4	Factor5	Communality
Convenience and accessibility	0.020	-0.023	-0.938	-0.092	-0.333	1.000
The store ambiance and decor	-0.056	-0.004	0.074	0.995	-0.029	1.000
ISO/FPO standardized mark	0.128	-0.042	-0.336	0.039	-0.931	1.000
Speed of service or product delivery	0.988	0.077	-0.032	-0.061	-0.118	1.000
Parking facility	-0.138	0.987	-0.083	-0.011	0.019	1.000
The accuracy of information on product packaging	0.085	0.183	0.033	0.001	0.008	0.042
Variance	1.0216	1.0151	1.0075	1.0043	0.9933	5.0417
% Var	0.170	0.169	0.168	0.167	0.166	0.840

Table 6: Factor Score Coefficients

Source: Authors Composition

Variable	Factor1	Factor2	Factor3	Factor4	Factor5
Convenience and accessibility	0.029	-0.108	-1.236	0.107	0.459
The store ambiance and decor	0.071	0.008	-0.135	1.022	0.101
ISO/FPO standardized mark	-0.144	0.041	0.451	-0.078	-1.261
Speed of service or product delivery	1.023	0.138	-0.042	0.066	0.152
Parking facility	-0.084	1.002	-0.007	-0.002	-0.054
The accuracy of information on product packaging	0.000	0.000	-0.000	0.000	0.000

According to the table after varimax rotation performed on the data, the rotated factor loadings are calculated. The Interpretation of the data as stated in the table 5 as follows:

1. Convenience and accessibility (0.020), ISO/FPO standardized mark (0.128), Speed of service or product delivery (0.988), and the accuracy of information on product (0.085) have positive loading on factor 1. This factor describes that Convenience and accessibility, ISO/FPO standardized mark, Speed of service or product delivery, and the accuracy of information on product accounts Customer Service Quality Factor.
2. Speed of service or product delivery (0.077), Parking facility (0.987), and The accuracy of information on product packaging (0.183) have positive loading on factor 2. This factor describes that speed of service or product delivery, parking facility, and the accuracy of information on product packaging accounted Customer Experience Factor.
3. The store ambiance and décor (0.074) and the accuracy of information on product packaging (0.033) have positive loading on factor 3. This factor describes that the store ambiance and décor and the accuracy of information on product packaging which accounts Customer Trust and Perceived Quality.
4. The store ambiance and décor (0.995), ISO/FPO standardized mark (0.039), and The accuracy of information on product packaging (0.001) have positive loading on factor 4. This factor describes that the store ambiance and décor, ISO/FPO standardized mark, and the accuracy of information on product packaging which identifies perceived quality and credibility of the shopping environment.

5. Parking facility (0.019) and the accuracy of information on product packaging (0.008) have positive loading on factor 5. This factor describes that Parking facility and the accuracy of information on product packaging accounted as convenience and reliability.

Factor score coefficient table 6 in the factor analysis using varimax rotation provides coefficients used to calculate factor scores for each observation based on the variables included in the analysis. These coefficients indicate the contribution of each variable to the respective factor and are critical for interpreting and using factor score. As per the table, Speed of service or product delivery (1.023) has the larger absolute value of coefficients indicate a stronger contribution to the factor 1. Parking Facility (1.002) has the larger absolute value of coefficients indicate a stronger contribution to the factor 2. ISO/FPO standardized mark (0.451) has the larger absolute value of coefficients indicate a stronger contribution to the factor 3. The store ambience and décor (1.022) has the larger absolute value of coefficients indicate a stronger contribution to the factor 4 and Convenience and accessibility (0.459) has the larger absolute value of coefficients indicate a stronger contribution to the factor 5.

Discussion

The purpose of this study was to investigate the relationship between customer satisfaction and Total Quality Management (TQM) methods in the Indian retail industry. The results provide significant new information on the factors influencing consumer choices and perceptions. First, the analysis made clear how important "Customer Service Quality" is. Important drivers affecting consumer satisfaction were found to include things like service speed, product detail accuracy, and ease of access.

These results unequivocally show that in order to meet customer expectations, merchants must place a high priority on streamlining their processes, guaranteeing on-time delivery, and offering convenient shop locations. Second, the report highlights the importance of "Customer Experience," pointing out that factors like parking availability and service effectiveness directly affect the whole purchasing experience. A satisfying shopping experience that is characterised by easy parking and effective services is essential for raising consumer satisfaction and promoting repeat business.

Additionally, the research demonstrated the importance of "Customer Trust and Perceived Quality" elements, including shop atmosphere, ISO/FPO standardised markings, and the accuracy of product package information, all of which work together to build consumer trust and perceived product quality. These results highlight how important it is for merchants to maintain a clean and welcoming shop environment, adhere to quality standards, and give customers clear and accurate product information in order to gain their trust and confidence.

According to the research, there is very little correlation between preferences for retail stores and income level. This implies that elements like product quality, ease of use, and brand reputation have a greater impact on customer decision-making than wealth. The availability of ISO/FPO certificates on products was also shown to have a modest positive association with the choice of retail outlet, suggesting that although customers value standardised products, their awareness and preference for certified products may not be widely distributed.

In order to improve customer satisfaction, the research has selected six characteristics that constitute overall quality management and transformed them into five elements that may be combined in various ways. Convenience and dependability, perceived quality and credibility of the shopping environment, customer service quality, customer experience, customer trust, and perceived quality are the elements that were developed. The investigation revealed that, for the majority of the elements, the correctness of the information on the product packaging is a significant variable that represents total quality management (TQM).

As it highlights differences between consumer expectations and actual service delivery, the GAP Model of Service Quality and its implications for Total Quality Management (TQM) in the Indian retail industry are noteworthy. By using Total Quality Management (TQM) to close service quality gaps, merchants may increase customer happiness, operational effectiveness, and brand loyalty. A well-executed TQM plan can provide a competitive edge in the changing retail sector due to shifting consumer expectations.

These findings have a number of important ramifications for merchants. First and foremost, it is critical to implement customer-focused initiatives by increasing operational effectiveness, guaranteeing timely services, and choosing handy retail locations. Furthermore, it's crucial to create a favourable shopping experience by

incorporating elements like ample parking, clean businesses, and a cheerful mood. To gain the trust of customers, it is also crucial to uphold quality standards, encourage openness, and correctly communicate product specifics.

Retailers can employ ISO/FPO certificates to enhance their brand image and draw in quality-conscious customers, despite the fact that the impact of certification may be little. Finally, merchants should tailor their tactics to cater to the diverse requirements and tastes of customers across all income levels, rather than only focussing on income-based segmentation. This study provides insightful information about the factors influencing customer satisfaction in the Indian retail industry. This research outperforms the previous one because it is more customer-centric, which is a vital part of the retail sector.

Retailers may proactively modify their methods to meet evolving consumer needs, strengthen their competitive advantage, and achieve long-term success in the dynamic Indian market by comprehending the key elements influencing customer satisfaction and the impacts of TQM procedures. Knowing all the variables and which ones to focus on can also help you accomplish data-driven supply chain quality management (Kumar, A., et al., 2023). This study will serve as a guide for all customer-driven businesses across all industries.

The study's primary focuses on an unorganised segment of the retail industry may limit the findings' generalisability to the entire sector, despite the fact that it offers insightful information about Total Quality Management (TQM) in the Indian retail industry. The study was restricted to the Rajasthan area. A direct comparison with worldwide retail TQM procedures, which would offer a more comprehensive view of best practices and international standards, might not be included in the research.

Conclusion

The importance of Total Quality Management (TQM) in the Indian retail sector is highlighted in this study, along with how it raises customer happiness. The study's findings, which addressed the first TQM principle—customer focuses—indicates the elements that should be prioritised in order to get the maximum levels of customer satisfaction. The GAP Model of Service Quality, which acknowledges the discrepancy between customer expectations and actual service delivery and has an impact on both customer satisfaction and business success, was employed in the study. The research takes into account the literature that provided Indian perspectives on TQM practices in the Indian retail sector and offered useful suggestions for companies looking to improve their quality management procedures. Longitudinal studies, cross-sector comparisons, and new technologies like artificial intelligence and automation in quality management can all be used to build on this work in future study.

In a nutshell companies must see TQM as a strategic requirement rather than an operational option if the Indian retail sector is to maintain growth and satisfy international standards. To ensure long-term success in a dynamic, competitive market, policymakers, business executives, and academic researchers must work together to advance quality-centric initiatives.

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