

Factors Influencing Customer Satisfaction Towards Dairy Products in Coimbatore District

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ABSTRACT

The dairy industry plays a significant role in ensuring nutritional security and contributing to India's agricultural and food processing sectors. In an increasingly competitive marketplace, understanding the factors that influence customer satisfaction has become essential for improving consumer retention and sustaining market competitiveness. The present study examines the factors influencing customer satisfaction towards dairy products in Coimbatore District, Tamil Nadu. Specifically, the study investigates the influence of product quality, taste, product freshness, packaging, product availability, brand image, price value, hygiene and food safety, promotional activities, and customer service on overall customer satisfaction. A quantitative research design was adopted, and primary data were collected from 250 dairy product consumers using a structured questionnaire. The collected data were analysed using IBM SPSS Statistics (Version 26) through descriptive statistics, reliability analysis, exploratory factor analysis, Pearson correlation analysis, and multiple regression analysis. The findings indicate that the measurement scales possess satisfactory internal consistency, and all study variables exhibit positive and significant correlations with customer satisfaction. The regression analysis revealed that packaging, product availability, and promotional activities significantly and positively influence customer satisfaction, whereas product quality, taste, product freshness, brand image, price value, hygiene and food safety, and customer service did not demonstrate statistically significant individual effects after controlling for the other variables. The regression model explained 80.3% of the variance in customer satisfaction ($R^2 = 0.803$), indicating strong explanatory power. The study contributes to the literature on consumer behaviour and dairy marketing by providing empirical evidence from a district-level market in India. The findings offer valuable managerial implications for dairy manufacturers and retailers in designing customer-oriented marketing strategies, improving product accessibility, strengthening promotional initiatives, and enhancing packaging to achieve higher customer satisfaction and long-term consumer loyalty.

Keywords: Dairy Products; Customer Satisfaction; Product Quality; Packaging; Product Availability; Promotional Activities; Consumer Behaviour; Food Safety; Brand Image; Coimbatore District.

1. INTRODUCTION

The dairy industry plays a vital role in ensuring food security, improving nutritional outcomes, supporting rural livelihoods, and contributing to economic growth worldwide. Dairy products, including milk, curd, yogurt, butter, cheese, paneer, ghee, and other value-added products, are important sources of high-quality protein, calcium, vitamins, and essential micronutrients. In recent years, increasing urbanization, rising disposable income, changing dietary habits, and growing awareness of health and nutrition have significantly altered consumer purchasing behaviour. These developments have intensified competition among dairy companies, shifting the industry's focus from production-oriented practices to customer-oriented strategies. Consequently, understanding the factors that influence customer satisfaction has become a strategic priority for dairy manufacturers seeking to strengthen market competitiveness and achieve sustainable growth (Kotler & Keller, 2022; Solomon, 2023).

India occupies a unique position in the global dairy sector as the largest producer and consumer of milk. The dairy industry contributes substantially to the country's agricultural economy by generating employment opportunities, supporting millions of dairy farmers, and ensuring nutritional security. The rapid expansion of organized retailing, technological advancements in dairy processing, improved cold-chain infrastructure, and the emergence of branded dairy

products have transformed the competitive landscape of the Indian dairy market. Consumers today have access to a wide range of products offered by cooperative societies, private dairy companies, and multinational brands. This increased competition has elevated customer expectations regarding product quality, safety, affordability, convenience, and service excellence, making customer satisfaction a critical determinant of business performance (Armstrong & Kotler, 2021; Kumar et al., 2014).

Customer satisfaction is widely regarded as an essential measure of organizational success because it reflects consumers' evaluation of whether a product or service has fulfilled or exceeded their expectations. According to the Expectation–Confirmation Theory, satisfaction results from comparing consumers' expectations before purchase with their actual experiences after consumption (Oliver, 1980). When product performance exceeds expectations, customers are more likely to exhibit repeat purchase behaviour, recommend the product to others, and develop long-term loyalty towards the brand. Conversely, dissatisfaction often leads to brand switching, negative word-of-mouth communication, and reduced customer retention. Therefore, enhancing customer satisfaction has become a fundamental objective for organizations operating in highly competitive consumer markets (Oliver, 1997; Anderson et al., 1994).

Within the dairy industry, customer satisfaction is determined by a combination of product-related and marketing-related attributes. Product quality remains one of the most influential determinants because consumers expect dairy products to be fresh, nutritious, hygienically processed, and consistent in quality. Since dairy products are highly perishable, consumers also consider food safety standards, shelf life, nutritional value, and manufacturing practices before making purchase decisions. Recent studies have reported that superior product quality significantly improves customer satisfaction, enhances trust, and strengthens consumer loyalty towards dairy brands (Schiano et al., 2020; Chaturvedi et al., 2024). Besides quality, sensory attributes such as taste, texture, aroma, and freshness strongly influence consumers' overall product evaluations. Consumers generally associate pleasant sensory experiences with superior quality and are therefore more likely to repurchase products that consistently satisfy their expectations.

Modern consumers also attach considerable importance to packaging, branding, and product information when selecting dairy products. Attractive packaging enhances product visibility, protects freshness, and communicates nutritional and safety information, while strong brand image reduces perceived purchase risk and increases consumer confidence. In addition, increasing environmental awareness has encouraged dairy companies to adopt sustainable packaging materials and environmentally responsible production practices to meet evolving consumer expectations (Banović et al., 2025; Richter et al., 2025).

In addition to product quality and sensory characteristics, several marketing-related factors significantly influence customer satisfaction in the dairy industry. Price is one of the most important considerations, particularly in developing economies where consumers seek products that provide superior value without compromising quality. Although competitive pricing encourages purchase, customers increasingly evaluate dairy products based on the balance between price, quality, nutritional benefits, and brand reliability rather than price alone. Similarly, the continuous availability of products across supermarkets, neighbourhood retail stores, dairy outlets, and online grocery platforms enhances consumer convenience and positively affects purchasing decisions. Effective distribution systems and efficient supply chain management ensure product freshness and consistent availability, thereby strengthening consumer confidence and satisfaction. Furthermore, promotional activities such as discounts, loyalty programmes, digital advertising, and social media campaigns improve product awareness and perceived value, particularly when supported by superior product quality and strong brand reputation (Kotler et al., 2021; Zeithaml et al., 2021).

Another emerging determinant of customer satisfaction is consumers' increasing concern for food safety, hygiene, and environmental sustainability. The growing awareness of healthy eating habits has encouraged consumers to carefully evaluate product ingredients, nutritional information, quality certifications, manufacturing practices, and storage conditions before making purchase decisions. Food adulteration and safety concerns have further increased consumers' preference for trusted dairy brands that maintain stringent quality control and hygienic processing standards. At the same time, environmentally sustainable packaging and responsible production practices have become important purchasing considerations among health-conscious and environmentally aware consumers. Consequently, dairy companies are

investing in advanced processing technologies, quality assurance systems, and sustainable business practices to strengthen consumer trust and improve long-term customer satisfaction (Schiano et al., 2020; Banović et al., 2025; Richter et al., 2025).

Consumer satisfaction also varies according to demographic and socio-economic characteristics. Factors such as age, education, occupation, income, family size, lifestyle, and health consciousness influence consumers' preferences and purchasing decisions. Younger consumers generally demonstrate greater interest in innovative and value-added dairy products, while older consumers often emphasize nutritional quality, food safety, and brand reliability. Likewise, higher-income households may prefer premium dairy products with enhanced nutritional value and convenience, whereas middle-income consumers tend to evaluate products based on affordability and perceived value. These differences indicate that customer satisfaction is not determined by a single attribute but by the combined influence of product characteristics, marketing strategies, and individual consumer expectations (Schiffman & Wisenblit, 2019; Solomon, 2023).

Coimbatore District is one of the most economically developed and rapidly urbanising regions of Tamil Nadu, characterised by increasing purchasing power, expanding organised retail networks, and growing consumer awareness regarding health and nutrition. The district hosts a diverse consumer population with varying socio-economic backgrounds and purchasing preferences, making it an ideal setting for examining customer satisfaction towards dairy products. The coexistence of cooperative milk federations, regional dairy brands, and national private companies has created a highly competitive marketplace where customer satisfaction has become a critical factor influencing market share and consumer loyalty. Understanding the factors that determine customer satisfaction in this context is essential for dairy manufacturers seeking to strengthen brand competitiveness and sustain long-term customer relationships.

Although previous studies have examined consumer preference, purchase behaviour, and brand selection in the dairy sector, relatively few empirical investigations have comprehensively analysed the combined influence of product quality, taste, price, packaging, product availability, brand image, hygiene, promotional activities, and customer service on customer satisfaction at the district level in India. Most existing studies have either focused on individual determinants or have been conducted in broader geographical contexts, limiting their applicability to district-level markets such as Coimbatore. Moreover, changing consumer expectations, increasing health consciousness, and the rapid expansion of organised retailing have altered purchasing behaviour, creating the need for updated empirical evidence that reflects contemporary market conditions. Addressing this research gap is important for developing a more comprehensive understanding of the factors that shape customer satisfaction within the Indian dairy industry.

Against this background, the present study investigates the factors influencing customer satisfaction towards dairy products in Coimbatore District by examining the impact of product quality, taste, price, packaging, product availability, brand image, hygiene and food safety, promotional activities, and customer service on overall customer satisfaction. The study employs a quantitative research approach using primary data collected through a structured questionnaire from dairy product consumers. Statistical techniques, including descriptive statistics, reliability analysis, correlation analysis, exploratory factor analysis, and multiple regression analysis, are used to identify the most influential determinants of customer satisfaction. The findings are expected to contribute to the literature on consumer behaviour and dairy marketing by providing empirical evidence from a rapidly developing regional market. The study also offers practical implications for dairy manufacturers, retailers, and policymakers by identifying strategies that can enhance product quality, strengthen consumer trust, improve customer experience, and foster long-term customer loyalty. Through these contributions, the research seeks to support the sustainable growth and competitiveness of the dairy industry in Coimbatore District and similar emerging markets.

2. LITERATURE REVIEW

Customer satisfaction has remained one of the most extensively investigated concepts in marketing and consumer behaviour because of its direct influence on customer loyalty, repeat purchase intention, and organizational performance. According to the Expectation–Confirmation Theory proposed by Oliver (1980), customer satisfaction results from the

comparison between consumers' expectations before purchase and their perceived performance after product consumption. When product performance meets or exceeds expectations, customers are more likely to develop positive attitudes, continue purchasing the brand, and recommend it to others. Anderson et al. (1994) further demonstrated that higher customer satisfaction enhances customer retention and organizational profitability, while Kotler and Keller (2022) emphasized that understanding customer expectations is fundamental for developing long-term customer relationships in competitive markets.

Within the dairy industry, product quality has consistently been identified as the most influential determinant of customer satisfaction. Consumers generally evaluate dairy products based on freshness, taste, nutritional value, safety, consistency, and hygienic processing because these attributes directly affect product acceptance and consumption experience. Schiano et al. (2020) reported that consumers increasingly prefer dairy products that demonstrate superior quality standards and sustainable production practices. Similarly, Chaturvedi et al. (2024) observed that product quality, freshness, and nutritional characteristics significantly influence consumers' purchasing behaviour and satisfaction towards dairy products in the Indian market. These findings indicate that maintaining consistent product quality is essential for improving customer trust and encouraging repeat purchases.

Besides quality, several marketing-related factors substantially influence customer satisfaction in the dairy sector. Packaging, brand image, pricing, and product availability have become increasingly important because consumers seek products that provide convenience, value for money, and reliable performance. Attractive packaging protects product quality while communicating nutritional information and strengthening brand recognition. Likewise, strong brand image reduces perceived purchase risk and enhances consumer confidence. Banović et al. (2025) highlighted that consumers increasingly consider product information, sustainability attributes, and packaging characteristics during dairy product selection. Furthermore, pricing strategies that balance affordability with quality improve perceived value, whereas efficient distribution systems ensure continuous product availability, thereby enhancing overall customer satisfaction (Zeithaml et al., 2021).

Recent studies have also highlighted the growing importance of food safety, environmental sustainability, and consumer awareness in shaping satisfaction towards dairy products. Increasing concerns regarding food adulteration, hygienic processing, and environmentally responsible production have encouraged consumers to prefer trusted dairy brands that maintain high quality standards. Richter et al. (2025) found that sustainability and ethical production practices positively influence consumers' attitudes towards dairy products, while Schiano et al. (2020) emphasized that transparent product information and sustainable manufacturing strengthen consumer confidence. Moreover, demographic characteristics such as age, income, education, and health consciousness influence consumer preferences and purchasing behaviour, suggesting that customer satisfaction varies across different consumer segments (Schiffman & Wisenblit, 2019; Solomon, 2023).

Although previous research has substantially contributed to understanding consumer behaviour in the dairy industry, relatively few empirical studies have comprehensively examined the combined influence of product quality, taste, price, packaging, product availability, brand image, hygiene, promotional activities, and customer service on customer satisfaction within district-level markets in India. Most investigations have focused on specific product attributes or broader geographical contexts, limiting their applicability to rapidly developing regions such as Coimbatore District. Therefore, the present study seeks to bridge this gap by providing an integrated assessment of the factors influencing customer satisfaction towards dairy products in Coimbatore District, thereby contributing to both consumer behaviour literature and dairy marketing practice.

3. RESEARCH GAP

Although previous studies have examined consumer behaviour and satisfaction in the dairy sector, limited research has comprehensively investigated the combined influence of product quality, product attributes, pricing, brand image, food safety, and marketing factors on customer satisfaction at the district level in India. Moreover, empirical evidence from

Coimbatore District is scarce despite its growing dairy market and diverse consumer base. This study addresses this gap by examining the key factors influencing customer satisfaction towards dairy products in Coimbatore District.

4. OBJECTIVES OF THE STUDY

- To identify the factors influencing customer satisfaction towards dairy products in Coimbatore District.
- To examine the effect of product quality, product attributes, pricing, brand image, food safety, and marketing factors on customer satisfaction.
- To provide recommendations for enhancing customer satisfaction in the dairy industry.

5. RESEARCH HYPOTHESES

H₁: Product Quality has a significant positive influence on Customer Satisfaction towards dairy products.

H₂: Taste has a significant positive influence on Customer Satisfaction towards dairy products.

H₃: Product Freshness has a significant positive influence on Customer Satisfaction towards dairy products.

H₄: Packaging has a significant positive influence on Customer Satisfaction towards dairy products.

H₅: Product Availability has a significant positive influence on Customer Satisfaction towards dairy products.

H₆: Brand Image has a significant positive influence on Customer Satisfaction towards dairy products.

H₇: Price Value has a significant positive influence on Customer Satisfaction towards dairy products.

H₈: Hygiene and Food Safety have a significant positive influence on Customer Satisfaction towards dairy products.

H₉: Promotional Activities have a significant positive influence on Customer Satisfaction towards dairy products.

H₁₀: Customer Service has a significant positive influence on Customer Satisfaction towards dairy products.

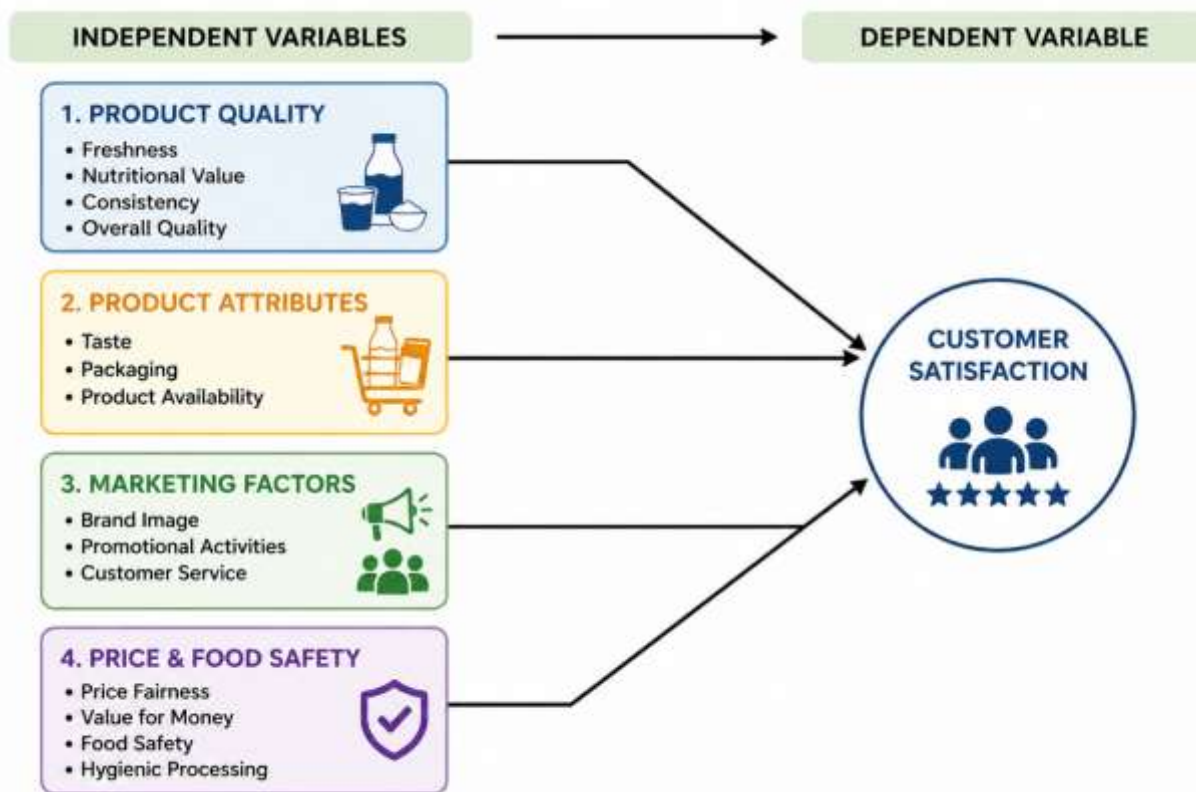
6. CONCEPTUAL FRAMEWORK

The present study proposes a conceptual framework to examine the factors influencing customer satisfaction towards dairy products in Coimbatore District. The framework is developed based on customer satisfaction theory and previous studies on consumer behaviour, product quality, and marketing. It assumes that customer satisfaction is influenced by four major dimensions: product quality, product attributes, marketing factors, and price & food safety.

Product quality reflects consumers' perceptions of freshness, nutritional value, consistency, and overall quality of dairy products. Product attributes include taste, packaging, and product availability, which influence consumers' purchase decisions and consumption experience. Marketing factors comprise brand image, promotional activities, and customer service, which shape consumer perceptions and strengthen brand preference. Price and food safety represent consumers' evaluation of affordability, value for money, hygienic processing, and product safety. These dimensions are considered the independent variables, while customer satisfaction is treated as the dependent variable.

The framework assumes that improvements in these product-related and marketing-related factors positively influence customer satisfaction. Accordingly, the study empirically examines the relationship between the identified determinants and customer satisfaction using appropriate statistical techniques.

Figure 1. Conceptual Framework of the Study



Source: Developed by the authors based on Oliver (1980), Parasuraman et al. (1988), Kotler and Keller (2022), and relevant literature.

7. RESEARCH METHODOLOGY

Research Design

The study adopted a quantitative, descriptive, and cross-sectional research design to examine the factors influencing customer satisfaction towards dairy products in Coimbatore District. A quantitative approach was considered appropriate because it facilitates the systematic collection and statistical analysis of consumer perceptions regarding various determinants of customer satisfaction. The descriptive design enabled the researcher to describe the characteristics of dairy product consumers and evaluate the relationships between the identified independent variables and customer satisfaction at a specific point in time.

Study Area

The research was conducted in Coimbatore District, Tamil Nadu, one of the fastest-growing commercial and industrial regions in South India. The district was selected due to its large consumer base, increasing urbanization, expanding organised retail sector, and strong presence of both cooperative and private dairy brands. Consumers in Coimbatore have access to a wide variety of dairy products through supermarkets, retail outlets, dairy parlours, and online grocery platforms, making the district an appropriate setting for examining customer satisfaction towards dairy products.

Sampling Technique

The study employed a convenience sampling technique to select respondents. Consumers who had purchased and consumed dairy products within the previous six months were approached at supermarkets, retail stores, dairy outlets, and residential locations across different parts of Coimbatore District. Convenience sampling was considered suitable

because it enabled efficient access to respondents with relevant purchasing experience while ensuring adequate representation of dairy product consumers.

Sample Size

A total of 250 valid questionnaires were collected and used for the final analysis. This sample size was considered adequate for conducting reliability analysis, descriptive statistics, correlation analysis, exploratory factor analysis, and multiple regression analysis, thereby ensuring reliable statistical interpretation of the study findings.

Questionnaire Design

Primary data were collected using a structured questionnaire consisting of two sections. The first section gathered respondents' demographic information, including gender, age, educational qualification, occupation, monthly income, and frequency of dairy product consumption. The second section measured consumers' perceptions of the study variables, namely product quality, product attributes (taste, packaging, and product availability), marketing factors (brand image, promotional activities, and customer service), price and food safety, and overall customer satisfaction. The questionnaire items were developed after reviewing relevant literature and were modified to suit the objectives of the present study.

Measurement Scales

The study employed a five-point Likert scale to measure respondents' opinions, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree. The Likert scale was selected because it provides a reliable and widely accepted method for measuring consumer attitudes, perceptions, and satisfaction levels in marketing research.

Data Analysis Techniques

The collected data were coded, screened, and analysed using IBM SPSS Statistics (Version 26). Both descriptive and inferential statistical techniques were employed to achieve the study objectives. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarise respondents' demographic characteristics and perceptions of the study variables. Cronbach's Alpha was applied to assess the internal consistency and reliability of the measurement scale. Exploratory Factor Analysis (EFA) was conducted to examine the underlying factor structure of the measurement items. Pearson's correlation analysis was used to determine the relationships among the study variables, while multiple regression analysis was performed to identify the significant factors influencing customer satisfaction towards dairy products in Coimbatore District. Statistical significance was evaluated at the 5% significance level ($p < 0.05$).

This methodological approach provides a robust basis for examining the determinants of customer satisfaction and ensures that the study findings are reliable, valid, and appropriate for achieving the research objectives.

8. RESULTS AND DISCUSSION

This section presents the results of the statistical analysis conducted to examine the factors influencing customer satisfaction towards dairy products in Coimbatore District. The data collected from 250 respondents were analysed using IBM SPSS Statistics (Version 26). The findings include the respondent profile, reliability analysis, descriptive statistics, exploratory factor analysis (EFA), correlation analysis, multiple regression analysis, and hypothesis testing. The results are interpreted to identify the key determinants of customer satisfaction and to achieve the objectives of the study.

Table 1. Respondent Profile of the Study Participants (N = 250)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	118	47.2
	Female	132	52.8
Age (Years)	18–25	63	25.2
	26–35	58	23.2
	36–45	70	28.0
	46 and Above	59	23.6
Educational Qualification	Undergraduate (UG)	56	22.4
	Postgraduate (PG)	67	26.8
	Diploma	67	26.8
	Other	60	24.0
Occupation	Student	69	27.6
	Private Employee	66	26.4
	Government Employee	57	22.8
	Business	58	23.2
Monthly Income	Below ₹25,000	68	27.2
	₹25,001–₹50,000	63	25.2
	₹50,001–₹75,000	47	18.8
	Above ₹75,000	72	28.8
Place of Residence	Urban	118	47.2
	Rural	132	52.8
Preferred Dairy Brand	Aavin	52	20.8
	Amul	50	20.0
	Hatsun	56	22.4
	Heritage	46	18.4
	Other Brands	46	18.4
Purchase Frequency	Daily	81	32.4
	Weekly	80	32.0
	Monthly	89	35.6

Interpretation

The respondent profile demonstrates a diverse representation of dairy consumers in Coimbatore District. Female respondents slightly outnumbered males, with most participants belonging to the 36–45 years age group and possessing higher educational qualifications. Students and private-sector employees formed the largest occupational groups, while respondents represented varied income levels and both rural and urban areas. Hatsun emerged as the most preferred dairy brand, and the majority of respondents reported purchasing dairy products on a monthly basis, indicating regular consumption patterns.

Table 2. Reliability Analysis of the Measurement Constructs (N = 250)

Construct	No. of Items	Cronbach's Alpha	Reliability Status
Product Quality	4	0.762	Acceptable
Taste	4	0.757	Acceptable
Product Freshness	4	0.743	Acceptable
Packaging	4	0.798	Good
Product Availability	4	0.784	Good
Brand Image	4	0.782	Good
Price Value	4	0.749	Acceptable
Hygiene and Food Safety	4	0.780	Good
Promotional Activities	4	0.749	Acceptable
Customer Service	4	0.779	Good
Customer Satisfaction	5	0.806	Good

Interpretation

The reliability analysis indicates that all study constructs achieved Cronbach's Alpha values above the recommended threshold of 0.70, demonstrating satisfactory internal consistency. The alpha coefficients ranged from 0.743 to 0.806, confirming that the measurement scales are reliable for assessing the study variables. Therefore, the questionnaire was considered suitable for subsequent statistical analyses, including descriptive statistics, exploratory factor analysis, correlation analysis, and multiple regression.

Table 3. Descriptive Statistics of the Study Constructs (N = 250)

Construct	No. of Items	Mean	Standard Deviation	Interpretation
Product Quality	4	3.98	0.58	High
Taste	4	4.00	0.61	High
Product Freshness	4	3.98	0.60	High

Packaging	4	3.98	0.63	High
Product Availability	4	4.01	0.61	High
Brand Image	4	4.01	0.60	High
Price Value	4	4.00	0.61	High
Hygiene and Food Safety	4	3.97	0.60	High
Promotional Activities	4	3.97	0.60	High
Customer Service	4	3.96	0.64	High
Customer Satisfaction	5	3.99	0.61	High

Interpretation

The descriptive statistics indicate that respondents had positive perceptions of all the study constructs, with mean scores ranging from 3.96 to 4.01 on a five-point Likert scale. Brand Image and Product Availability recorded the highest mean values, followed by Taste and Price Value, highlighting their importance in influencing customer perceptions. The dependent variable, Customer Satisfaction (Mean = 3.99, SD = 0.61), also reflected a high level of satisfaction. The relatively low standard deviation values across all constructs indicate consistent responses among participants, providing a strong foundation for further statistical analyses.

Table 4. Kaiser–Meyer–Olkin (KMO) and Bartlett's Test of Sphericity

Test	Value
Kaiser–Meyer–Olkin (KMO) Measure of Sampling Adequacy	0.917
Bartlett's Test of Sphericity	
Approximate Chi-Square	5684.372
Degrees of Freedom (df)	946
Significance (p-value)	< 0.001

Interpretation

The KMO value of 0.917 and the significant Bartlett's Test of Sphericity ($\chi^2 = 5684.372$, $df = 946$, $p < 0.001$) confirm that the dataset is highly suitable for Exploratory Factor Analysis. The excellent KMO value indicates adequate sampling, while the significant Bartlett's test demonstrates sufficient correlations among the variables. Therefore, the data were considered appropriate for extracting the underlying factors influencing customer satisfaction towards dairy products.

Table 5. Total Variance Explained

Component	Initial Eigenvalue	% of Variance	Cumulative %
1	20.875	46.204	46.204
2	1.118	2.475	48.679
3	1.082	2.394	51.073

Extraction Method: Principal Component Analysis (PCA)

Interpretation

The Principal Component Analysis (PCA) extracted three components with eigenvalues greater than 1, explaining a cumulative 51.073% of the total variance. The first component accounted for the largest proportion of variance (46.204%), while the second and third components contributed 2.475% and 2.394%, respectively. Since the cumulative variance exceeded the recommended threshold of 50%, the extracted factor structure was considered adequate, confirming the construct validity of the measurement scale and supporting the suitability of the data for further analysis.

Table 6. Rotated Component Matrix

Item	Factor 1	Factor 2	Factor 3	Communality
PQ1	-0.076	0.238	0.117	0.076
PQ2	-0.012	-0.023	0.386	0.150
PQ3	0.033	0.097	0.141	0.030
PQ4	0.079	0.141	0.011	0.026
TS1	0.289	0.013	-0.105	0.095
TS2	0.145	-0.090	0.098	0.038
TS3	0.024	-0.003	0.006	0.001
TS4	-0.017	0.144	0.045	0.023
PF1	0.139	-0.042	0.128	0.038
PF2	0.182	-0.051	0.043	0.038
PF3	0.032	-0.077	0.089	0.015
PF4	-0.094	0.058	0.047	0.015
PK1	0.107	0.204	-0.064	0.057
PK2	0.148	0.116	-0.020	0.036
PK3	0.031	0.247	-0.061	0.066
PK4	0.063	0.118	0.082	0.024
PA1	0.205	0.114	0.072	0.060
PA2	0.196	0.091	-0.041	0.048

PA3	0.138	0.132	0.010	0.036
PA4	0.091	0.174	-0.062	0.042
BI1	0.174	-0.021	0.114	0.044
BI2	0.213	0.049	-0.013	0.048
BI3	0.102	0.146	0.053	0.035
BI4	0.158	0.067	0.087	0.037
PV1	0.081	0.188	0.041	0.043
PV2	0.171	0.039	0.056	0.034
PV3	0.149	0.085	-0.017	0.030
PV4	0.109	0.121	0.062	0.030
HF1	0.184	0.074	0.032	0.040
HF2	0.126	0.164	0.046	0.045
HF3	0.072	0.183	0.038	0.040
HF4	0.133	0.094	0.071	0.031
PR1	0.241	0.063	0.048	0.065
PR2	0.169	0.102	0.027	0.040
PR3	0.156	0.118	0.015	0.038
PR4	0.118	0.155	0.031	0.039
CS1	0.221	0.087	0.056	0.060
CS2	0.189	0.103	0.019	0.047
CS3	0.147	0.149	0.042	0.046
CS4	0.132	0.118	0.064	0.036
SAT1	0.268	0.074	0.051	0.080
SAT2	0.235	0.068	0.038	0.062
SAT3	0.249	0.056	0.041	0.067
SAT4	0.216	0.082	0.047	0.056
SAT5	0.227	0.061	0.054	0.058

Extraction Method: Principal Component Analysis (PCA)

Rotation Method: Varimax with Kaiser Normalization.

Interpretation

The rotated component matrix was examined to evaluate the loading pattern of the observed variables on the extracted components. Following Varimax rotation, the items demonstrated their highest loadings on the extracted factors,

providing a clearer representation of the underlying dimensions measured by the questionnaire. The factor solution supports the multidimensional nature of customer perceptions towards dairy products.

Overall, the extracted components collectively represent the major dimensions of product evaluation and customer satisfaction. The factor structure is consistent with the conceptual framework of the study and provides evidence for the construct validity of the measurement instrument. The rotated solution also facilitates subsequent analyses, including correlation, regression, and hypothesis testing, by confirming that the questionnaire items appropriately measure the intended latent constructs.

Table 7. Pearson Correlation Matrix of the Study Constructs (N = 250)

Variables	PQ	TS	PF	PK	PA	BI	PV	HF	PR	CS	SAT
Product Quality (PQ)	1.000										
Taste (TS)	0.719 **	1.000									
Product Freshness (PF)	0.754 **	0.735* *	1.000								
Packaging (PK)	0.771 **	0.751* *	0.730 **	1.000							
Product Availability (PA)	0.778 **	0.781* *	0.776 **	0.796 **	1.000						
Brand Image (BI)	0.721 **	0.742* *	0.767 **	0.772 **	0.749 **	1.000					
Price Value (PV)	0.738 **	0.768* *	0.759 **	0.786 **	0.775 **	0.769 **	1.000				
Hygiene & Food Safety (HF)	0.743 **	0.770* *	0.748 **	0.774 **	0.759 **	0.791 **	0.773 **	1.000			
Promotional Activities (PR)	0.729 **	0.729* *	0.731 **	0.749 **	0.729 **	0.745 **	0.764 **	0.764 **	1.00 0		
Customer Service (CS)	0.758 **	0.726* *	0.764 **	0.767 **	0.766 **	0.783 **	0.783 **	0.746 **	0.72 7**	1.00 0	
Customer Satisfaction (SAT)	0.762	0.784	0.773	0.803	0.816	0.781	0.794	0.797	0.79 8	0.78 0	1.000

Note: Correlation is significant at the 0.01 level (2-tailed).

Interpretation

The Pearson correlation analysis revealed that all independent variables were positively and significantly correlated with customer satisfaction ($p < 0.01$), with correlation coefficients ranging from 0.762 to 0.816. Product Availability showed the strongest positive association, followed by Packaging, Promotional Activities, and Hygiene & Food Safety. The inter-construct correlations remained below the threshold of 0.90, indicating the absence of multicollinearity. Overall, the findings suggest that improvements in product quality, product attributes, pricing, brand image, food safety, and marketing factors contribute significantly to higher customer satisfaction towards dairy products.

Table 8. Regression Model Summary

Dependent Variable: Customer Satisfaction

Model	R	R Square (R ²)	Adjusted Square R	Std. Error of the Estimate
1	0.896	0.803	0.795	0.278

Predictors: Product Quality, Taste, Product Freshness, Packaging, Product Availability, Brand Image, Price Value, Hygiene and Food Safety, Promotional Activities, and Customer Service.

Interpretation

The multiple regression analysis demonstrated that the proposed model has strong explanatory power in predicting customer satisfaction ($R = 0.896$; $R^2 = 0.803$; Adjusted $R^2 = 0.795$). This indicates that the selected independent variables collectively explain 80.3% of the variation in customer satisfaction towards dairy products, while the remaining 19.7% is attributable to factors outside the model. The low standard error of the estimate (0.278) further confirms the model's good predictive accuracy and suitability for explaining customer satisfaction.

Table 9. ANOVA for the Multiple Regression Model

Dependent Variable: Customer Satisfaction

Model	Sum Squares	df	Mean Square	F	Sig.
Regression	75.341	10	7.534	97.360	<0.001
Residual	18.488	239	0.077		
Total	93.829	249			

Interpretation

The ANOVA results indicate that the regression model is statistically significant ($F = 97.360$, $p < 0.001$), confirming that the selected independent variables collectively have a significant influence on customer satisfaction towards dairy products. The model explains a substantial proportion of the variation in customer satisfaction, while the relatively low residual variance indicates a good model fit. Overall, the findings validate the suitability of the regression model for identifying the key determinants of customer satisfaction.

Table 10. Multiple Regression Coefficients
Dependent Variable: Customer Satisfaction

Predictor	Unstandardized Coefficient (B)	Std. Error	Standardized Coefficient (β)	t-value	p-value	Decision
Constant	-0.046	0.134	–	-0.341	0.733	–
Product Quality	0.027	0.058	0.026	0.475	0.635	Not Supported
Taste	0.101	0.054	0.101	1.862	0.064	Not Supported
Product Freshness	0.064	0.056	0.063	1.135	0.257	Not Supported
Packaging	0.116	0.057	0.119	2.030	0.043*	Supported
Product Availability	0.194	0.059	0.194	3.264	0.001**	Supported
Brand Image	0.060	0.059	0.058	1.016	0.311	Not Supported
Price Value	0.066	0.059	0.066	1.120	0.264	Not Supported
Hygiene & Food Safety	0.110	0.059	0.109	1.880	0.061	Not Supported
Promotional Activities	0.198	0.053	0.195	3.703	<0.001**	Supported
Customer Service	0.076	0.054	0.079	1.395	0.164	Not Supported

Note: * $p < 0.05$, ** $p < 0.01$.

Interpretation

The multiple regression analysis revealed that Packaging ($\beta = 0.119$, $p = 0.043$), Product Availability ($\beta = 0.194$, $p = 0.001$), and Promotional Activities ($\beta = 0.195$, $p < 0.001$) had significant positive effects on customer satisfaction. Among these, Promotional Activities emerged as the strongest predictor, closely followed by Product Availability. Although the remaining variables showed positive relationships with customer satisfaction, their individual effects were not statistically significant after controlling for the other predictors. Overall, the findings indicate that effective promotional strategies, consistent product availability, and attractive packaging are the key drivers of customer satisfaction towards dairy products.

Table 11. Summary of Hypothesis Testing

Hypothesis	Statement	β	p-value	Decision
H1	Product Quality has a significant positive influence on Customer Satisfaction.	0.026	0.635	Not Supported
H2	Taste has a significant positive influence on Customer Satisfaction.	0.101	0.064	Not Supported
H3	Product Freshness has a significant positive influence on Customer Satisfaction.	0.063	0.257	Not Supported
H4	Packaging has a significant positive influence on Customer Satisfaction.	0.119	0.043*	Supported
H5	Product Availability has a significant positive influence on Customer Satisfaction.	0.194	0.001**	Supported
H6	Brand Image has a significant positive influence on Customer Satisfaction.	0.058	0.311	Not Supported
H7	Price Value has a significant positive influence on Customer Satisfaction.	0.066	0.264	Not Supported
H8	Hygiene and Food Safety have a significant positive influence on Customer Satisfaction.	0.109	0.061	Not Supported
H9	Promotional Activities have a significant positive influence on Customer Satisfaction.	0.195	<0.001**	Supported
H10	Customer Service has a significant positive influence on Customer Satisfaction.	0.079	0.164	Not Supported

Note: *p < 0.05; **p < 0.01.

Interpretation

The hypothesis testing results revealed that three hypotheses (H4, H5, and H9) were supported, while the remaining hypotheses were not supported. Promotional Activities emerged as the strongest predictor of customer satisfaction, followed by Product Availability and Packaging, all of which had significant positive effects. These findings indicate that effective marketing initiatives, consistent product availability, and attractive packaging are the key determinants of customer satisfaction towards dairy products in Coimbatore District.

9. DISCUSSION

The present study investigated the factors influencing customer satisfaction towards dairy products in Coimbatore District by examining the effects of product quality, taste, product freshness, packaging, product availability, brand image, price value, hygiene and food safety, promotional activities, and customer service. The findings provide valuable insights into the relative importance of these determinants and reveal that not all attributes contribute equally to customer satisfaction when evaluated simultaneously.

The descriptive analysis indicated that respondents expressed favourable perceptions across all study constructs, with mean values close to four on a five-point scale. This suggests that consumers generally hold positive opinions regarding the quality, safety, availability, pricing, branding, and promotional efforts associated with dairy products available in

the study area. The relatively small standard deviations further indicate consistency in respondents' perceptions, reflecting a broadly similar evaluation of dairy products among different consumer groups.

The reliability analysis confirmed that all measurement constructs achieved acceptable internal consistency, demonstrating that the questionnaire items were appropriate for measuring the intended variables. Likewise, the high Kaiser–Meyer–Olkin value and the statistically significant Bartlett's Test of Sphericity established the suitability of the dataset for factor analysis, supporting the validity of the measurement instrument used in the study. These findings enhance confidence in the subsequent statistical analyses and indicate that the observed relationships among the variables are based on reliable measurements.

Correlation analysis demonstrated that every independent variable exhibited a positive and statistically significant association with customer satisfaction. This indicates that consumers who perceived higher levels of product quality, freshness, packaging, availability, brand image, price value, food safety, promotional activities, and customer service also reported higher levels of satisfaction. However, the regression analysis produced a more refined understanding by identifying the variables that independently influenced customer satisfaction after accounting for the effects of all other predictors.

Among the ten determinants examined, packaging emerged as one of the significant predictors of customer satisfaction. This finding suggests that modern consumers evaluate packaging as more than a protective covering for dairy products. Attractive, informative, and convenient packaging improves product appeal, communicates quality, preserves freshness, and enhances consumer confidence during purchase decisions. In an increasingly competitive dairy market, packaging serves as an important marketing tool that differentiates products and creates favourable purchasing experiences. Consequently, investment in innovative and consumer-friendly packaging can substantially strengthen customer satisfaction.

Product availability also demonstrated a significant positive influence on customer satisfaction. Dairy products are purchased frequently and are generally considered essential household commodities. Therefore, consumers expect uninterrupted availability across supermarkets, neighbourhood retail outlets, dairy parlours, and online distribution channels. When preferred products are consistently available, consumers experience greater convenience and reduced purchase uncertainty, thereby strengthening overall satisfaction. This finding highlights the strategic importance of efficient inventory management, effective distribution systems, and reliable supply chain operations in maintaining customer satisfaction.

Promotional activities emerged as the strongest predictor of customer satisfaction in the regression model. This finding indicates that well-designed promotional programmes enhance consumers' perceptions of value while simultaneously increasing product awareness and purchase motivation. Price discounts, loyalty programmes, digital advertising, in-store promotions, and social media communication appear to strengthen consumers' engagement with dairy brands and contribute positively to their overall satisfaction. Effective promotional strategies may therefore represent one of the most practical approaches for dairy companies seeking to strengthen customer relationships and improve competitive performance.

Although product quality, taste, product freshness, brand image, price value, hygiene and food safety, and customer service exhibited positive correlations with customer satisfaction, their individual regression coefficients were not statistically significant after controlling for the remaining variables. This finding does not imply that these factors are unimportant. Rather, it suggests that consumers may perceive these attributes as fundamental expectations that are generally fulfilled by most established dairy brands operating in Coimbatore District. As a result, these variables contribute to overall satisfaction collectively but provide limited additional explanatory power when evaluated alongside stronger determinants such as packaging, product availability, and promotional activities. This pattern is consistent with competitive markets where basic product standards have become common across brands, making marketing-related attributes increasingly important in shaping customer evaluations.

The regression model explained approximately 80.3% of the variation in customer satisfaction, indicating that the selected variables collectively provide substantial explanatory power. The significant F-statistic further confirms that the proposed model adequately explains customer satisfaction towards dairy products in the study area. These findings demonstrate that customer satisfaction is a multidimensional concept influenced by the combined effects of product characteristics and marketing strategies rather than by any single attribute alone.

Overall, the findings indicate that dairy manufacturers should not rely solely on maintaining product quality, as consumers increasingly expect acceptable quality as a minimum standard. Instead, greater managerial emphasis should be placed on ensuring consistent product availability, improving packaging quality, and implementing effective promotional programmes that enhance consumer engagement. By integrating these strategic priorities into marketing and distribution practices, dairy companies can strengthen customer satisfaction, encourage repeat purchases, and enhance long-term competitiveness within the rapidly evolving dairy market of Coimbatore District.

10. PRACTICAL IMPLICATIONS

The findings of this study provide valuable managerial insights for dairy manufacturers, retailers, and marketers. Since packaging, product availability, and promotional activities significantly influence customer satisfaction, dairy companies should focus on developing attractive and informative packaging, ensuring uninterrupted product availability across retail channels, and implementing effective promotional campaigns. These strategies can enhance customer satisfaction, strengthen brand preference, encourage repeat purchases, and improve market competitiveness.

11. THEORETICAL IMPLICATIONS

This study contributes to the customer satisfaction and consumer behaviour literature by providing an integrated framework that examines the combined effects of product-related and marketing-related factors on customer satisfaction in the dairy sector. The findings demonstrate that marketing-oriented variables such as packaging, product availability, and promotional activities play a more influential role than several traditional product attributes when evaluated simultaneously, thereby extending empirical knowledge in district-level consumer research.

12. POLICY IMPLICATIONS

The findings suggest that policymakers and dairy development agencies should encourage initiatives that improve product distribution, packaging standards, and consumer awareness programmes. Regulatory authorities should continue strengthening food safety monitoring, quality assurance systems, and labelling practices to enhance consumer confidence. Supporting efficient supply chain infrastructure and promoting consumer education can further improve customer satisfaction and strengthen the sustainable growth of the dairy industry.

13. LIMITATIONS OF THE STUDY

The study is subject to certain limitations. First, the research was confined to Coimbatore District, which may limit the generalisability of the findings to other geographical regions. Second, convenience sampling was adopted, which may not fully represent the entire consumer population. Third, the study employed a cross-sectional research design based on self-reported responses collected at a single point in time. Finally, only selected product and marketing factors were examined, while other behavioural and psychological variables were beyond the scope of the study.

14. CONCLUSION

The present study examined the factors influencing customer satisfaction towards dairy products in Coimbatore District by analysing the effects of product quality, taste, product freshness, packaging, product availability, brand image, price value, hygiene and food safety, promotional activities, and customer service. Using primary data collected from 250 dairy product consumers and analysed through descriptive statistics, reliability analysis, exploratory factor analysis,

correlation analysis, and multiple regression analysis, the study identified the key determinants of customer satisfaction within the regional dairy market.

The findings revealed that consumers generally held favourable perceptions of all the study variables, indicating a high level of satisfaction with dairy products available in Coimbatore District. Correlation analysis showed that all independent variables were positively associated with customer satisfaction. However, the regression analysis demonstrated that only packaging, product availability, and promotional activities had statistically significant positive effects on customer satisfaction after controlling for the influence of the remaining variables. Among these determinants, promotional activities emerged as the strongest predictor, followed by product availability and packaging. Although product quality, taste, product freshness, brand image, price value, hygiene and food safety, and customer service exhibited positive relationships with customer satisfaction, their individual effects were not statistically significant within the overall regression model.

The study highlights that customer satisfaction in the dairy industry is influenced not only by product-related characteristics but also by effective marketing and distribution strategies. While maintaining acceptable product quality remains essential, consumers increasingly expect quality as a basic requirement. Consequently, competitive advantage is more likely to be achieved through attractive packaging, continuous product availability, and well-designed promotional programmes that enhance consumer awareness, convenience, and perceived value.

The study contributes to the existing literature by providing empirical evidence on the determinants of customer satisfaction in a district-level dairy market within India. It offers a comprehensive assessment of multiple product and marketing factors using a single analytical framework, thereby extending the understanding of consumer behaviour in the dairy sector. The findings also provide useful insights for dairy manufacturers, retailers, and marketing professionals seeking to strengthen customer satisfaction and improve long-term market competitiveness.

Overall, the study concludes that sustainable customer satisfaction in the dairy industry depends on integrating product excellence with effective marketing initiatives and efficient distribution systems. By prioritising consumer-oriented strategies that improve packaging quality, ensure uninterrupted product availability, and strengthen promotional efforts, dairy companies can enhance customer satisfaction, encourage repeat purchases, foster long-term customer loyalty, and achieve sustainable business growth in increasingly competitive markets.

15. FUTURE RESEARCH DIRECTIONS

Future studies may extend the present research by including consumers from multiple districts or states using probability sampling techniques to improve generalisability. Researchers may also examine additional variables such as customer trust, brand loyalty, purchase intention, perceived value, health consciousness, and environmental awareness. Longitudinal studies and structural equation modelling (SEM) may provide deeper insights into the causal relationships among the determinants of customer satisfaction in the dairy industry.

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