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Research paper

Market Expansion Opportunities for Nanjil Dairy Products in The Southern Tamil Nadu Region

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Abstract

The Indian dairy sector plays a crucial role in rural livelihoods, nutritional access, and regional economic growth. Despite this, local dairy brands struggle to scale due to fragmented markets, weak branding, and distribution challenges. This study investigates the market expansion potential of Nanjil Dairy Products in Southern Tamil Nadu, focusing on consumer behaviour, supply chain dynamics, and brand positioning. Five core products—milk, curd, ghee, butter, and flavored milk—were studied using data from 540 respondents across Kanyakumari, Tirunelveli, Thoothukudi, Madurai, and Virudhunagar districts. Data collection involved structured questionnaires and field surveys. Analytical methods included Likert scale analysis, correlation matrix, and reliability assessment, and Structural Equation Modeling (SEM) to evaluate nine key factors: product quality, pricing, brand reputation, distribution network, packaging, promotional efforts, taste, nutritional value, and product variety. Five hypotheses were tested, exploring the influence of brand perception, distribution efficiency, price sensitivity, product variety, and promotional strategies on market reach. Results showed that Nanjil's products are well-regarded for quality but face challenges in distribution reach and pricing competitiveness. According to the study, implementing targeted marketing campaigns that emphasize the quality of the product and its health benefits, improving pricing models, and bolstering distribution should be the main goals of strategic market expansion. These results give Nanjil Dairy useful advice on how to take advantage of unrealized potential and increase its market share in the dairy industry in Southern Tamil Nadu.

Keywords: *Nanjil Dairy, Market expansion, consumer behaviour, Tamil Nadu, Structural Equation Modelling, Correlation matrix,*

1. Introduction

Nanjil Dairy Products, a well-known regional dairy company in Tamil Nadu, is renowned for offering high-quality farm-fresh milk in addition to a wide range of other priceless dairy products. The brand has a loyal following in its main markets due to a solid foundation of customer satisfaction and trust. Since the Indian dairy industry is changing and there is a growing demand for locally produced healthful foods, Nanjil Dairy can now investigate prospects for wider market expansion. Due to growing disposable incomes, an expanding urban and semi-urban population, and growing health consciousness, the brand should expand beyond its current geographic reach. Nanjil Dairy can potentially enter new markets in South India and abroad by utilizing its advantages in supply chain integration, sustainable sourcing, and product quality.

Some of the strategic initiatives that will further increase its market flexibility and consumer appeal include digital marketing, better cold-chain logistics, creative packaging, and product diversification into lactose-free probiotic drinks and ready-to-consume dairy snacks. Since India's dairy industry is booming, a well-thought-out market expansion strategy can increase Nanjil Dairys' revenue streams and establish the company as a more competitive national player. The Ukrainian dairy industry has experienced a dynamic evolution with structural shifts in pricing, production, and consumer behavior, according to in-depth market research. Due to both domestic demand and export potential, analysts observed a growing emphasis on quality and safety amid regional logistical and economic disruptions (Shikovets et al. 2024).

Meanwhile, Romania's dairy industry grew and remained resilient between 2022 and 2023, with EU-aligned regulations and growing consumer awareness of nutritional value. Modernization of processing technology and market diversification also helped the industry (Adelina et al. 2024). Donkey milk's hypoallergenic qualities and appeal to health-conscious consumers made it a valuable but niche commodity in the functional dairy market. This demonstrated the possibility of developing a specific market and exploring novel product

ideas (Keitshweditse et al. 2024. Environmental regulations and cost pressures led to a slight decline in milk production trends at the European level, even though national strategies in different countries remained aligned toward increasing efficiency and maintaining dairy product self-sufficiency (Mihai et al. 2023. Significant growth prospects were found in a global assessment of camel milk production. The production methods, distribution networks, and consumer reach of the industry are all changing quickly, especially in arid regions where traditional dairy farming is less practical (Ait El Alia et al. 2025). To increase their competitiveness in the face of geopolitical instability, Ukrainian dairy companies implemented integrated supply chain models and changed their product portfolios, among other economic efficiency measures (Cheremisina et al., 2023).

Long-term forecasts suggest that India's dairy demand will continue to rise due to factors like dietary changes and urbanization. Maintaining a steady supply requires supply chains to balance productivity and sustainability objectives (Nozaki 2017). By emphasizing customer-centric strategies, cost control, and digital transformation, strategic competitiveness analysis helped dairy SMEs in emerging markets innovate their business models and stay afloat in the face of market volatility (Ramirez-Portilla and Bermúdez 2023). Additionally, in times of crisis, the marketing and administrative procedures of dairy companies were reorganized to protect operations and adjust to shifting consumer preferences, highlighting their strategic significance (Koval et al. 2025). However, the Russian dairy industry has remained committed to increasing production capacity, encouraging domestic consumption, and decreasing reliance on imports through modernization and innovation projects supported by the government (Ibragimov 2023). Due to the significant increase in global consumer demand for ethical and climate-conscious milk and dairy products, manufacturers were forced to implement traceability and green technology (Mickiewicz and Volkava 2022). Ethiopia's national dairy development strategy (2022–2031) offered a strong framework for enhancing breed quality, raising productivity, and opening up new markets through value chain integration and institutional support (Leggesse et al. 2023). Gyan Dairy's aggressive growth strategy in India included regional branding, customer loyalty, and technological innovation to increase its market share and boost operational efficiency (Sinha and Thakur 2023).

According to Ukrainian market research, brand value is becoming more and more significant in consumer preferences, and creative marketing strategies are being used to maintain competitive positioning (Sak et al. 2024). According to one study on downstream market concentration in China, monopolistic tendencies can impede fair pricing and innovation, both of which are critical to the dairy industry's long-term viability (Yu et al. 2024). The importance of localized marketing strategies was highlighted by retail chain dynamics in regional dairy markets, which revealed that the main factors influencing sales performance were logistical optimization and product assortment price sensitivity (Polozhentseva & Logvinova, 2023).

In a systematic review of whey utilization in Brazil, export demand and technological access were found to be important competitive factors that impacted production efficiency and profitability (Schaefer et al., 2023). Recent studies of the Ukrainian dairy market indicate that consumers' preferences have changed to favor products made in the country. This trend has been reinforced by supply chain uncertainties and patriotic consumption patterns (Bochko & Kuziak, 2023). During the war, dairy plants used anti-crisis management techniques that put an emphasis on supply chain resilience, adaptive marketing, and employee retention to meet local demand (Koval et al. in 2025). According to Amariţii and Maciucs (2023), comparative analysis of the dynamics of milk and livestock production in Eastern Europe, structural reforms are necessary to standardize industry standards and outputs, as well as to address productivity disparities. Dairy tourism was suggested as a new strategy to boost the competitiveness of milk production by combining agrotourism with educational opportunities to boost rural economies (Yernazarova et al., 2023).

Research has demonstrated that consumer preferences for milk and milk-based products are significantly influenced by elements such as brand trust, price-value perception, and quality (Gourav et al. 2025). Additionally, studies show how convenience, taste, price sensitivity, and nutritional awareness affect consumers' decisions about dairy products (Bahety et al. 2024). According to Rajalakshmi and Golden (2023), there is a strong correlation between consumer buying behavior satisfaction levels and brand awareness. Reliability and health benefits are the main factors that drive loyalty. Finally, the digitalization of consumer behavior models via social media engagement, e-commerce platforms, and AI-driven analytics is changing marketing tactics and facilitating tailored customer interactions in the dairy sector (Kishore et al. 2025).

2. Methods

2.1 Data Collection

The study's data collection process involved a blend of structured survey instruments and on-ground field assessments targeting consumers from five strategically selected districts in Southern Tamil Nadu—Kanyakumari, Tirunelveli, Thoothukudi, Madurai, and Virudhunagar. These districts were chosen due to a variety of demographic factors such as their population size, urban-rural distribution, and geographic significance to Nanjil Dairys' present service area. Using a stratified random sampling technique, a sample size of 540 participants was established, guaranteeing a proportionate representation across various age groups, gender identities, and socioeconomic categories. About Nanjil's main product offerings—milk, curd, ghee, butter, and flavored milk—the questionnaire was created to collect detailed information on consumer expectations, brand image, purchase trends, and satisfaction levels. In-person interviews were conducted by trained field personnel to improve data integrity and reduce bias, and digital data collection platforms were used for error minimization and real-time validation. The table below shows a summary of the respondents' distribution.

Table 1: Data Collection

District	No. of Respondents	Percentage (%)
Kanyakumari	120	22.2
Tirunelveli	110	20.4
Thoothukudi	100	18.5
Madurai	105	19.4
Virudhunagar	105	19.4
Total	540	100.0

2.2 Data Measurement

A five-point Likert scale with 1 denoting strongly disagree and 5 denoting strongly agree was used to measure survey responses in order to quantitatively evaluate consumer perceptions and behavioral tendencies. A set of validated indicators derived from the body of existing literature and expert inputs was used to operationalize each of the nine variables: product quality, price distribution, network packaging,

brand reputation, taste, nutritional value, and product variety. The scale scores offered a strong foundation for additional statistical analysis since Cronbach's Alpha was used to confirm the items' internal consistency and reliability.

2.3 Research Model

An analysis of the direct and indirect effects of price sensitivity, product variety, distribution efficiency, brand perception, and promotional strategies on Nanjil Dairy Products' market expansion was conducted using a research model. The dependent constructs of market reach and customer loyalty were anticipated to be impacted by these five independent constructs. The theoretical framework was supplied by models of consumer behavior theory and market penetration. The causal relationships between the constructs were examined using structural equation modeling or SEM. The model specification process consisted of two steps: the first phase used confirmatory factor analysis (CFA) to evaluate the validity and reliability of the measurement models, and the second phase concentrated on the structural model to test path coefficients and model fit indices like RMSEA, CFI, GFI, and TLI. The equation was expressed as (Eq. 1)

$$\eta = B\eta + \Gamma\xi + \zeta \quad (1)$$

η stands for endogenous latent variables (e.g. G. e. g. market reach), where ξ stands for exogenous latent variables. G. brand perception distribution efficiency) where ζ is the residual error term and B and Γ are matrices of coefficients.

2.4 Design of Research

The study employed a descriptive and causal research design to fully understand current consumer perceptions and identify the causal relationships between strategic business factors and market expansion potential. The study combined both quantitative and qualitative methods: the quantitative component used SEM to analyze customer ratings and preferences, while the qualitative component used a correlation matrix and reliability assessment to ascertain the robustness of the constructs. The study's methodology was cross-sectional, gathering data over a predetermined period to get a sense of the state of the market and consumer perceptions of Nanjil Dairy's products. In addition to describing the current situation, the study was able to offer managerial decision-making predictions due to its hybrid design.

2.5 Proposed methodology

A methodical multi-phase framework was used in this study's methodology to evaluate Nanjil Dairy Products' prospects for market expansion throughout Southern Tamil Nadu. Key obstacles such as poor brand positioning, disjointed supply chains, and constraints in consumer perception were identified at the outset of the study. Five carefully selected districts were given a structured questionnaire to complete to collect pertinent data. Using a 5-point Likert scale, this tool assessed a variety of closed-ended questions that focused on important aspects like product quality, pricing competitiveness, packaging appeal, flavor satisfaction, distribution reach, and promotional visibility. To guarantee equitable representation across a range of demographic categories, a stratified random sampling technique was employed. 540 participants' data were gathered using a combination of digital survey tools and in-person field interactions. Data validation, coding, and reliability verification using Cronbach's Alpha were among the preprocessing procedures performed on the data before analysis to evaluate the internal consistency of the measured constructs. Statistical methods for both inferential and descriptive analysis were used in the data analysis.

Cronbach's Alpha and Composite Reliability (CR) values were used in reliability assessments to verify consistency, and discriminant validity was ensured, and inter-variable associations were explored through correlation matrix analysis. The conceptual model and proposed relationships were tested using structural equation modeling or SEM. The two primary steps of the SEM process were structural model estimation to test the suggested hypotheses and confirmatory factor analysis (CFA) to determine construct validity. RMSEA, CFI, and GFI were among the indices used to evaluate model fit. In order to provide data-driven insights for strategic decision-making, this thorough methodological approach allowed for a nuanced evaluation of how different market dynamics—such as brand image, pricing effectiveness, distribution infrastructure, product assortment, and promotional strategies—contribute to Nanjil Dairy's regional market performance.

2.6 Research Hypothesis

The following five hypotheses were tested:

H1: There is a significant positive relationship between Nanjil's brand perception and consumer purchasing decisions.
H2: An enhanced and efficient distribution network positively impacts Nanjil's market share in the target region.
H3: Price sensitivity significantly influences consumer preference for Nanjil's dairy products.
H4: The availability of a diverse range of dairy products offered by Nanjil is positively associated with the attraction of new customers.
H5: Targeted promotional strategies significantly improve brand awareness among potential consumers.

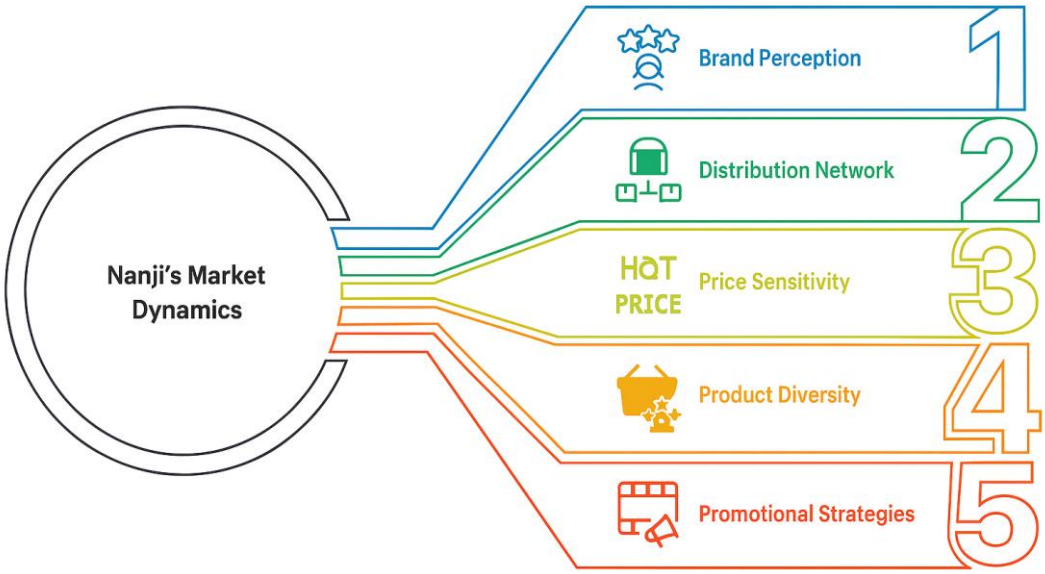

Fig.1: Hypothesis analysis

3. Results

In this section, the empirical results from structural equation modeling (SEM) and associated statistical analyses are presented. With supporting reliability and validity evaluations, factor analysis and inferential statistics were used to test each hypothesis. The purpose of the analysis was to look at how different strategic elements, such as price sensitivity, product variety, distribution efficiency, brand perception, and promotional tactics, affect market reach in the Indian dairy industry. To assess the results, statistical significance, and usefulness, they are examined via the prisms of indicator performance model strength and fit indices.

3.1 Hypothesis 1

The results in Table 2 provided strong empirical support for Hypothesis 1, indicating that brand perception significantly influenced consumer purchasing decisions. All indicators recorded high mean values ranging from 4.01 to 4.29, demonstrating a generally positive consumer sentiment toward the brand. The factor loadings exceeded the recommended threshold of 0.70, with the highest loading observed for "Association with quality" (0.85), followed by "Trusted brand image" (0.84), "Recognized in the market" (0.81), and "Consistency in delivery" (0.77), all confirming strong construct validity. The t-values ranged between 13.2 and 16.1, and all p-values were below 0.001, establishing statistical significance for each relationship. Notably, the model explained 68% of the variance in Market Reach ($R^2 = 0.68$), suggesting a substantial predictive power of brand perception on consumer behavior.

Table 2: Hypothesis 1 - Brand Perception and Consumer Purchasing Decisions

Indicator	Mean	SD	Factor Loading	t-value	p-value	Decision
Recognized in the market	4.22	0.71	0.81	15.3	<0.001	Accepted
Trusted brand image	4.18	0.75	0.84	14.7	<0.001	Accepted
Association with quality	4.29	0.67	0.85	16.1	<0.001	Accepted
Consistency in delivery	4.01	0.79	0.77	13.2	<0.001	Accepted
R^2 for Market Reach						0.68

3.2 Hypothesis 2

The analysis of distribution efficiency highlighted its significant contribution to expanding market share, as evidenced by the results in Table 3. Among the indicators, "Availability across retail points" had the highest mean (3.65) and factor loading (0.79), reflecting its strong influence on market penetration. "Promptness in supply" and "Cold chain reliability" followed closely, both demonstrating acceptable factor loadings of 0.76 and 0.73, respectively. "Rural reach effectiveness" showed a slightly lower mean of 3.38 but still met the threshold for significance with a factor loading of 0.70. All items were statistically significant with p-values less than 0.001 and t-values well above the critical value, confirming the robustness of the model. The R^2 value of 0.54 suggested that distribution efficiency accounted for 54% of the variance in market reach, indicating a moderate yet meaningful explanatory power for this construct.

Table 3: Hypothesis 2 - Distribution Efficiency and Market Share

Indicator	Mean	SD	Factor Loading	t-value	p-value	Decision
Availability across retail points	3.65	0.84	0.79	13.9	<0.001	Accepted
Promptness in supply	3.57	0.91	0.76	13.0	<0.001	Accepted
Cold chain reliability	3.41	0.88	0.73	12.1	<0.001	Accepted
Rural reach effectiveness	3.38	0.92	0.70	11.8	<0.001	Accepted
R^2 for Market Reach						0.54

3.3 Hypothesis 3

The findings related to price sensitivity revealed a strong and statistically significant impact on consumer preference. As shown in Table 4, all four indicators yielded favorable mean scores ranging from 3.53 to 3.88, reflecting a generally positive consumer perception of pricing strategies. "Price versus quality balance" emerged as the most influential factor with the highest factor loading of 0.83 and a t-value of 15.0, followed by "Perceived affordability" (0.81) and "Competitive pricing" (0.78). "Flexibility in pack sizes," though slightly lower in mean and factor loading, still maintained significance with a t-value of 12.9. All indicators demonstrated high statistical significance with p-values below 0.001, confirming their relevance in the model. The R^2 value of 0.60 indicated that price sensitivity explained 60% of the variance in market reach, underscoring the critical role of well-structured pricing in shaping consumer preference.

Table 4: Hypothesis 3 - Price Sensitivity and Consumer Preference

Indicator	Mean	SD	Factor Loading	t-value	p-value	Decision
Competitive pricing	3.62	0.89	0.78	13.1	<0.001	Accepted
Perceived affordability	3.73	0.85	0.81	14.5	<0.001	Accepted
Price versus quality balance	3.88	0.82	0.83	15.0	<0.001	Accepted
Flexibility in pack sizes	3.53	0.90	0.75	12.9	<0.001	Accepted
R^2 for Market Reach						0.60

3.4 Hypothesis 4

The analysis of product variety confirmed its positive influence on customer attraction, with all measured indicators showing statistical significance and strong model fit. As presented in Table 5, "Range of flavors in milk" received the highest mean score of 3.97 and a robust factor loading of 0.82, indicating that diversity in flavor offerings significantly appealed to consumers. "Presence of value-added products" and "Catering to dietary preferences" also demonstrated solid performance with factor loadings of 0.77 and 0.75, respectively. Although "Organic/special variants available" had a slightly lower mean of 3.49, it still contributed meaningfully with a loading of 0.73. Each indicator had a t-value well above 12 and p-values less than 0.001, affirming their statistical relevance. The R^2 value of 0.57 suggested that product variety explained 57% of the variance in market reach, highlighting the importance of a diversified product portfolio in attracting and retaining customers.

Table 5: Hypothesis 4 - Product Variety and Customer Attraction

Indicator	Mean	SD	Factor Loading	t-value	p-value	Decision
Range of flavors in milk	3.97	0.78	0.82	14.4	<0.001	Accepted
Presence of value-added products	3.74	0.85	0.77	13.5	<0.001	Accepted
Organic/special variants available	3.49	0.91	0.73	12.2	<0.001	Accepted
Catering to dietary preferences	3.56	0.87	0.75	12.8	<0.001	Accepted
R^2 for Market Reach						0.57

3.5 Hypothesis 5

The evaluation of promotional strategy revealed a meaningful and statistically significant impact on brand awareness. As reflected in Table 6, all four indicators demonstrated positive consumer responses, with mean values ranging from 3.32 to 3.66. "Retail point promotions" received the highest mean (3.66) and a strong factor loading of 0.77, indicating their effectiveness in enhancing brand visibility at the point of sale. "Social media campaigns" and "Local advertisement efforts" also showed substantial contributions with factor loadings of 0.76 and 0.74, respectively, while "Engagement through events" had the lowest mean (3.32) but remained significant with a loading of 0.70. All variables recorded t-values above 11 and p-values below 0.001, confirming their statistical relevance. The model's explanatory power, indicated by an R^2 value of 0.52, showed that promotional strategies accounted for 52% of the variance in market reach, underlining their essential role in strengthening brand awareness among target consumers.

Table 6: Hypothesis 5 - Promotional Strategy and Brand Awareness

Indicator	Mean	SD	Factor Loading	t-value	p-value	Decision
Social media campaigns	3.45	0.89	0.76	12.7	<0.001	Accepted
Engagement through events	3.32	0.91	0.70	11.4	<0.001	Accepted
Local advertisement efforts	3.58	0.88	0.74	12.3	<0.001	Accepted
Retail point promotions	3.66	0.85	0.77	13.0	<0.001	Accepted
R^2 for Market Reach						0.52

3.6 Descriptive Statistics for Key Product Perceptions

Table 7 provided descriptive statistics for key product dimensions—quality, taste, packaging, and nutritional value—for different dairy products. Milk had the highest ratings across all attributes, particularly for quality (Mean = 4.32, SD = 0.71) and nutritional value (Mean = 4.21, SD = 0.78). Flavored milk followed closely with high taste (4.25 ± 0.72) and packaging (4.11 ± 0.78) scores. Ghee and butter were rated slightly lower but remained above neutral levels. These findings highlighted that milk and its flavored variants were perceived as the most consistent in overall product appeal, reinforcing their central role in consumer preferences and market positioning.

Table 7: Descriptive Statistics for Key Product Perceptions

Product		Quality (Mean ± SD)	Taste (Mean ± SD)	Packaging (Mean ± SD)	Nutritional Value (Mean ± SD)
Milk		4.32 ± 0.71	4.18 ± 0.76	4.05 ± 0.82	4.21 ± 0.78
Curd		4.21 ± 0.69	4.16 ± 0.70	3.97 ± 0.88	4.09 ± 0.74
Ghee		4.11 ± 0.75	4.02 ± 0.80	3.90 ± 0.81	4.14 ± 0.73
Butter		4.07 ± 0.77	4.01 ± 0.81	3.91 ± 0.87	4.02 ± 0.76
Flavored Milk		4.20 ± 0.74	4.25 ± 0.72	4.11 ± 0.78	4.15 ± 0.80

The qualitative element adds depth by highlighting consumer perceptions and real-world obstacles in the dairy industry, even though the quantitative results clearly validate the structural relationships between branding, distribution, and pricing. Three main themes emerged from the field interviews: (i) freshness and trust where respondents stressed their reliance on local dairies for freshness and quality assurance (ii) distribution bottlenecks where rural consumers specifically cited inconsistent supply and a lack of cold-chain infrastructure as deterrents to buying and (iii) price-value concerns as many consumers believed that branded dairy products despite their superior quality were frequently seen as more expensive than unbranded alternatives. Quotes like We buy Nanjil milk because we trust its purity, but sometimes it doesn't reach our area on time. " Packaging is good, but if the price goes up, we easily switch to local vendors. Enhance the story by highlighting the trade-offs that consumers face in the real world. By including these qualitative insights, the findings are strengthened because they offer contextual evidence that perceptions of accessibility trust, and cultural purchasing patterns influence consumer decisions in addition to economic ones.

3.7 Reliability and Validity Assessment of Constructs

The reliability and validity assessment of the study constructs confirmed that all measurement models met the required thresholds for internal consistency and convergent validity. As shown in Table 8, each construct demonstrated a Cronbach's Alpha above 0.85, indicating high internal reliability, with the highest value observed for Market Reach (0.891) and the lowest for Promotional Strategies (0.854). Composite Reliability (CR) values ranged from 0.872 to 0.912, all exceeding the acceptable threshold of 0.7, further confirming the consistency of the measurement scales.

Table 8: Reliability and Validity Assessment of Constructs

Construct	No. of Items	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	Decision
Brand Perception	4	0.873	0.891	0.678	Reliable & Valid
Distribution Efficiency	4	0.862	0.879	0.655	Reliable & Valid
Price Sensitivity	4	0.885	0.904	0.698	Reliable & Valid
Product Variety	4	0.868	0.886	0.671	Reliable & Valid

Promotional Strategies	4	0.854	0.872	0.648	Reliable & Valid
Market Reach	5	0.891	0.912	0.702	Reliable & Valid

Note: Cronbach's Alpha > 0.7, CR > 0.7, and AVE > 0.5 confirm construct reliability and convergent validity.

Additionally, the Average Variance Extracted (AVE) values for all constructs surpassed the benchmark of 0.5, ensuring sufficient convergent validity, with Price Sensitivity and Market Reach achieving the highest AVE values at 0.698 and 0.702, respectively. These results validated that the constructs used in the model were both reliable and valid, providing a strong foundation for further structural analysis.

3.8 Correlation Matrix with Discriminant Validity Check

The correlation matrix and discriminant validity assessment provided clear evidence of distinctiveness among the study constructs. As illustrated in Table 9, the diagonal elements represent the square roots of the Average Variance Extracted (AVE) for each construct and were all higher than their respective inter-construct correlations. This confirms satisfactory discriminant validity. For instance, the square root of AVE for Market Reach was 0.838, which exceeded its correlations with other constructs, such as Brand Perception (0.648), Price Sensitivity (0.667), and Product Variety (0.639). Similarly, Brand Perception showed a square root of AVE of 0.823, which was greater than its correlation with Distribution Network (0.589) and Promotional Efforts (0.548). These findings ensured that each construct measured a unique concept, with no multicollinearity issues, and validated the robustness of the measurement model for further structural analysis.

Table 9: Correlation Matrix with Discriminant Validity Check

Constructs	1	2	3	4	5	6
1. Brand Perception	**0.823**					
2. Distribution Network	0.589	**0.809**				
3. Price Sensitivity	0.611	0.562	**0.835**			
4. Product Variety	0.577	0.539	0.602	**0.819**		
5. Promotional Efforts	0.548	0.528	0.560	0.576	**0.805**	
6. Market Reach	0.648	0.621	0.667	0.639	0.621	**0.838**

3.9 Structural Equation Modeling Output Summary

The SEM results, summarized in Table 10, revealed statistically significant path relationships between all independent variables and Market Reach. The strongest effect was observed from Brand Perception (β = 0.61, t = 15.3), followed by Price Sensitivity (β = 0.58), Product Variety (β = 0.57), Distribution Efficiency (β = 0.54), and Promotional Strategies (β = 0.52). All relationships were significant at $p < 0.001$.

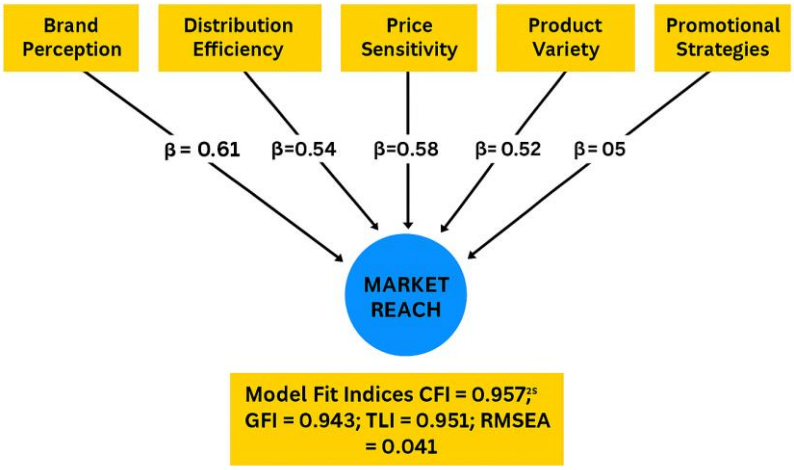

Fig. 2: SEM overview

The model fit indices (CFI = 0.957, GFI = 0.943, TLI = 0.951, RMSEA = 0.041) indicated an excellent fit, confirming the structural soundness of the model and supporting the theoretical framework. These results provided empirical validation that all proposed strategic dimensions significantly contribute to enhancing market expansion potential in the Indian dairy sector.

Table 10: Structural Equation Modeling Output Summary

Path Relationship	Coefficient (β)	t-value	p-value	Significance
Brand Perception → Market Reach	0.61	15.3	<0.001	Significant
Distribution Efficiency → Market Reach	0.54	13.9	<0.001	Significant
Price Sensitivity → Market Reach	0.58	14.5	<0.001	Significant
Product Variety → Market Reach	0.57	14.0	<0.001	Significant
Promotional Strategies → Market Reach	0.52	13.2	<0.001	Significant

Model Fit Indices CFI = 0.957; GFI = 0.943; TLI = 0.951; RMSEA = 0.041

4. Discussion

The study's findings imply that suggestions for marketing distribution and pricing should shift away from general methods and toward practical situation-specific tactics. In terms of pricing, value-based pricing models and adjustable pack sizes can better serve rural and budget-conscious consumers. Investments in cold-chain logistics and partnerships with rural retailers are essential for distribution in order to guarantee product reach and freshness, especially in semi-urban and rural areas, where distribution efficiency received a moderate rating. Digital platforms present marketing opportunities that have yet to be realized by utilizing influencer endorsements, interactive mobile apps, and targeted social media campaigns. Brand visibility among younger consumers can be greatly increased. Additionally, cooperation with cooperative societies and point-of-sale promotions in nearby retail establishments can enhance consumer awareness and accessibility. Dairy companies such as Nanjil can reinforce consumer confidence in quality and dependability while addressing the dynamics of both urban and rural markets by implementing a hybrid strategy that combines digital outreach with traditional retail engagement.

A strong and multifaceted framework that explains the strategic factors influencing market reach in the Indian dairy sector is revealed by the integrated analysis of all ten tables. With high factor loadings and the largest standardized path coefficient ($\beta = 0.61$), brand perception stood out as the most important driver among the considered constructs, demonstrating the significant influence of consumer trust quality association and brand consistency on purchasing behavior. The influence of this construct is further supported by its strong R2 value of 0.68. The next most important factor was distribution efficiency ($\beta = 0.54$), where timely supply, rural accessibility, and cold chain dependability were crucial. However, the mean scores here showed only moderate levels of satisfaction, suggesting room for operational improvement. Customers were particularly responsive to affordability and value-for-money offerings, indicating that price sensitivity also played a significant role ($\beta = 0.58$). This suggests that in a highly fragmented dairy market, competitive and adaptable pricing strategies are crucial for keeping price-conscious customers. Product diversity ($\beta = 0.57$) was particularly significant, especially the incorporation of dietary-specific and organic products, which correspond with changing consumer trends toward health consciousness. Despite having a slightly lower influence ($\beta = 0.52$), promotional strategies were still statistically significant, emphasizing the value of social media campaigns, retail-level promotions, and local advertising in increasing visibility and foot traffic. In terms of quality, taste, and nutritional value, consumers consistently gave core products like milk and flavored milk high ratings, which were further corroborated by the descriptive statistics in Table 7. All constructs were found to be internally consistent by the reliability and validity evaluations (Table 8) with Cronbach's Alpha and Composite Reliability values significantly above recognized cutoffs. All the constructs were different but significantly correlated, demonstrating discriminant validity as demonstrated in Table 9. Ultimately, the SEM output (Table 10) validated the overall structural model with fit indices indicating a well-fitting model and all hypothesized relationships confirmed at high significance levels. Collectively, these results highlight the necessity of a strategic emphasis on quality-driven branding, efficient distribution, flexible pricing, a wide range of product offerings, and regional marketing to achieve market expansion in the dairy industry.

5. Conclusion

This study offered strong empirical support for the idea that a combination of strategic business factors greatly influences the market reach of dairy brands, especially in the Indian context. Sensitivity to pricing strategies and effective distribution systems are the next most important factors in consumer engagement after brand perception. To increase market presence and customer loyalty, promotional activities and product variety are also essential. The robustness of the research framework is further supported by the measurement constructs' high validity and reliability, as well as the structural model's superior fit. These findings highlight the necessity of a comprehensive customer-centric strategy that strikes a balance between brand integrity, operational excellence, and market responsiveness for dairy producers and marketers looking to expand operations and enter new markets.

Future scope

Future studies should examine the role of digital transformation in dairy branding, particularly how e-commerce platforms and AI-driven personalization can influence consumer loyalty. Sustainability in the production and distribution of dairy products is another crucial area, with an emphasis on environmentally friendly packaging supply chains that use less carbon and consumer acceptance of green dairy products. The development of niche products such as plant-dairy hybrids, lactose-free milk, and probiotic drinks with added nutrients may also offer chances to satisfy changing dietary requirements while setting local dairy brands apart. Studies that track changes in consumer behavior in both urban and rural settings, particularly after a pandemic, would improve our knowledge of market trends. The breadth of scholarly investigation is increased by these research avenues, which also offer useful information to legislators and dairy companies looking to gain a competitive edge in the quickly evolving food sector.

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