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An Empirical Study on Demographic Influences on Consumer Perception of Milk Products in Coimbatore District

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ABSTRACT

Background: Understanding demographic influences on consumer perception is essential for effectively positioning dairy products in competitive markets. This study examines how key demographic variables, particularly age, gender and occupation, shape consumer perceptions of milk products, including taste, healthfulness, accessibility and packaging. The research addresses existing gaps in empirical evidence on demographic-based consumer behavior within the Coimbatore district dairy sector.

Methods: Primary data were collected from 47 consumers in Coimbatore District using a structured questionnaire. The responses were analyzed using cross-tabulation and chi-square tests to determine the presence and strength of associations between demographic factors and selected product attributes. Age, gender and occupation were considered as primary demographic variables.

Result: The analysis revealed a significant association between age and taste preference. This indicates that age plays a critical role in shaping consumers' milk product choices. Younger adults emerged as a dominant consumer segment with distinct taste expectations, highlighting the need for age-focused product strategies. While gender and occupation did not show strong statistical associations with most product characteristics, marginal patterns were observed in perceived availability and health-related attributes, suggesting areas for future research. Overall, the findings reinforce the importance of demographic profiling for developing consumer-driven dairy product formulations and targeted marketing strategies in the Coimbatore district.

Key words: Age-based perception, Consumer behavior, Demographic segmentation, Marketing strategy, Milk products, Product attributes, Taste preference.

INTRODUCTION

Milk is a staple of human nutrition and plays a crucial role in the diets of people around the world. Despite its universal importance, milk consumption is unevenly distributed, with industrialized nations consuming more per capita than developing countries. The complex relationship between milk consumption and nutrition is best illustrated by India, the world's largest milk user. Even if the government has improved nutritional outcomes, problems still exist. For example, stunting in children under five years old is still a serious issue (Giordano, 2020). Compared to 23.1% worldwide, 38.4% of Indian children under five suffered from stunting in 2015 (Iips, 2021). This percentage decreased to 35.5% by 2019-21, but the fall was not uniform, with rural areas making a larger contribution (from 41.2% in 2015-16 to 37.3% in 2019-21) than urban areas (31% to 30.1% in the same period). These data shed light on how food consumption, socioeconomic status and nutrition interventions interact.

Millions of families around the globe depend on milk production for their livelihoods and subsistence, thereby constituting a key component of the international agricultural economy (Choudhury *et al*., 2018). With this, India emerged as a global leader in milk production, contributing significantly to the country's rural economy and national nutritional security. World milk production has been gradually increasing at the rate of 4.2% annually. Countries such as the US, China, Brazil and New Zealand have also made great strides in this context, contributing to the varied landscape of milk production worldwide. Despite these advances, concerns such as resource constraints, environmental sustainability and uneven market access persist, indicating a pressing need for creative solutions and broad-based development approaches. A few key players have significantly driven global dairy development. With a production of 216.5 million tonnes in 2024, India is the worldwide leader in milk production, trailed by the European Union (144 million tonnes), the United States, Pakistan and others, according

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to USDA and FAO statistics. Table 1 depict the global milk production scenario as of 2024.

Over the past three decades, the dairy industry in India has grown at an annual rate of 5%. Dairy farming plays a crucial role in rural demographics in India, providing supplemental income, improving nutritional standards and supplying organic fertilizers and draft power (Lakshmipriya *et al*., 2023). Specific to Coimbatore, a few milk brands are popular and highly preferred by children as part of their everyday diet. In Tamil Nadu, Aavin is a well-known brand that is run by the Tamil Nadu Cooperative Milk Producers' Federation Limited. Full cream, standardized, toned and double-toned milk are among the many varieties of milk it offers. Aavin effectively serves both urban and rural areas and is well-known for its accessibility and affordability (Boopathi, 2015). Sakthi Dairy is well known for its high-quality dairy products, which include butter, paneer, ghee and milk. Supreme Milk, their main product, is high in dairy fat, calcium, vitamin D and potassium. Sakthi Dairy is a favorite among Coimbatore locals for its emphasis on flavor and quality. In Coimbatore, Aroma Milk is a well-known brand that sells premium dairy products, including butter, paneer, ghee, curd and milk. The brand is renowned in the area and is dedicated to providing wholesome and sanitary goods. In Coimbatore, Paal is an exclusive milk brand retailing raw cow milk in glass containers. It comes fresh from farms to customers' doorsteps. Freshness and purity are its marketing gimmicks to lure the health-conscious market. A1 and A2 cow and buffalo milk delivery is the forte of Gramathupaal. The quality of milk from cows raised at home is replicated in their products. Customers searching for unprocessed and wholesome milk options like this brand (Jeong *et al*., 2024). The Hatsun Group owns the Arokya brand, which is well-known for its premium and sanitary milk. It provides full-cream, toned and standardized milk choices. Arokya is extensively accessible and well-established in Tamil Nadu. Country Delight is a high-end milk brand that supplies fresh milk straight from the farm. It offers pure cow and buffalo milk and guarantees that there is no adulteration. To meet the needs of health-conscious consumers seeking dairy products free of chemicals, the company also sells A2 milk. Table 2 illustrate the comparison of different milk brands in Coimbatore city.

Table 1: Country-wise world milk production details (2024).

Country	Production (Million tonnes)
India	216.5
European union	144
United states	104
Pakistan	47.3
China	42
Brazil	35
Russia	31
Germany	30.7
France	24
New Zealand	18.5

A complex interplay of demographic, psychological and marketing factors influences consumers' milk selection behavior. Raheem *et al*. (2014) pinpointed that packaging plays a pivotal role in purchasing decisions. Elements such as color, material, design and innovation significantly influenced consumer preferences. Mary (2013) found that quality service, regularity and brand image significantly affect consumer satisfaction with Aavin milk in Tamil Nadu. Rangasamy *et al*. (2008) compared the cooperative and private dairy plants in Tamil Nadu. They observed that while the marketing costs for toned milk were similar across sectors, private dairies earned higher margins for other products. Velèovská (2021) suggested that social media platforms and online reviews have become key sources of information for parents. Consumer buying behavior refers to the decision-making process involved in purchasing goods and services (Can *et al*., 2022). Clarke *et al*. (2022) reported that many milk brands are adopting sustainable practices such as sourcing milk from grass-fed cows, reducing carbon footprints and using recyclable packaging. Consumers in Coimbatore are becoming increasingly aware of these practices and prefer brands that align with their values (Naspetti *et al*., 2021). Given the increasing demand for milk and the competition among various brands in the market, it is essential to evaluate the product positioning within the market (Borah *et al*., 2025). Chaturvedi *et al*. (2024) suggested a substantial correlation between the direct and indirect influence of consumer purchasing behavior features regarding milk and dairy products and their level of pleasure.

Table 2: Comparison of different milk brands in Coimbatore city.

Brand	Types of milk offered	Notable features
Aavin	Full cream, standardized, toned, double toned	Cooperative network; affordability and wide distribution.
Sakthi dairy	High-fat content milk, ghee, paneer, butter, curd	Emphasizes quality and taste; offers multiple dairy products.
Aroma milk	Standard milk, ghee, paneer, butter, curd	Hygienic and nutritious local dairy brand.
Paal	Raw cow's milk	Fresh, glass-bottled milk sourced directly from farms; Ideal for health-conscious consumers.
Gramathupaal	A1 milk, A2 milk, buffalo milk	Unprocessed milk; mimics quality of home-reared cows.
Arokya	Standardized, toned, full cream	Hygienic milk production; strong market presence in Tamil Nadu.
Country delight	Cow milk, buffalo milk, A2 milk	Farm-to-home delivery; chemical-free milk ensuring purity and freshness.

Currently, the rising demand for plant-based milk, *e.g.*, almond, soy and oat milk, changes consumer behavior (Reyes-Jurado *et al*., 2023). Though these options accommodate lactose-intolerant children, their nutritional accuracy relative to dairy milk remains debatable (Astolfi *et al*., 2020). Schiano *et al*. (2022) suggest that parents of lactose-intolerant children might consider fortified almond or soy milk alternatives, but should avoid options with added sugars. Apart from customer preferences towards dairy and milk products, in India, Government subsidies on dairy production play a pivotal role in stabilizing milk prices and ensuring accessibility (Kondaridze *et al*., 2023). Policies for cooperatives, such as Aavin's model in Tamil Nadu, have greatly influenced consumer choice in Coimbatore. The Indian government enforces strict regulations to ensure milk safety, including mandatory pasteurization and regular quality checks (Sathian *et al*., 2021). Initiatives such as the Food Safety and Standards Authority of India (FSSAI) guidelines help maintain the nutritional integrity of milk (Yang, 2019). Despite familiarity with multiple brands, consumers tend to choose products based on brand reputation, availability, taste, quality and price (Suresh, 2022). Table 3 summarizes the research work conducted in this area.

There is a notable gap in understanding consumer behavior regarding dairy products. Not enough regional contexts, such as Coimbatore, where cooperative models like Aavin are major players, have been studied. The combined impact of demographic variables, namely age, gender and occupation, influencing taste preference, perception and brand switching, has been underexplored. The empirical link between consumer satisfaction and brand and policy factors is missing. The present study attempts to overcome these shortcomings by examining the multidimensional influence of consumer choice. The objective of the present study was to investigate and analyze the impact of consumers' age, gender and occupation on their preferences for various milk product attributes.

MATERIALS AND METHODS

The study was conducted at Karunya Institute of Technology and Sciences from August 2024 to June 2025. Various attributes of milk products, such as Good for Health, Brand Name, Door Delivery, promotional activities, *etc*., have been identified as variables for this study. This conceptual model is given in Fig 1. The following hypothesis was framed in this study.

H1: Gender of consumers has a strong association with the attributes of milk products.

H2: Age of the consumers has a strong association with the attributes of milk products.

H3: Nature of job has a strong association with the attributes of milk products.

Dataset descriptions

Type of research

This research follows a user-oriented quantitative and descriptive research design to test the link between demographic factors, specifically age, gender and occupation and consumer attitudes towards product and service features.

Primary data

The primary data were gathered from direct consumers of milk products living in the Coimbatore District using a questionnaire.

Secondary data

Secondary data were obtained from published research papers, academic journals and online databases.

Sampling design

A simple random sampling method was followed.

Sampling universe

The sampling universe consisted of unbiased respondents across income and occupational classes of direct consumers of milk products living in the Coimbatore District.

Sample size

In total, 60 questionnaires were distributed, from which 47 valid answers were received, after removing incomplete or invalid entries.

Demographics

The male respondents represent 24 (51.06%) and the female respondents represent 23 (48.94%). As far as age is concerned, 3 (6.3%) were between 10-20 years, 21 (44.6%) were between 21-30 years, 4 (8.5%) were between 31-40 years, 13 (27.6%) were between 41-50 years and 6 (13%) were above 50 years. Regarding the nature of thejob, 24 (51.06) were working in the private sector, 4 (8.51) in

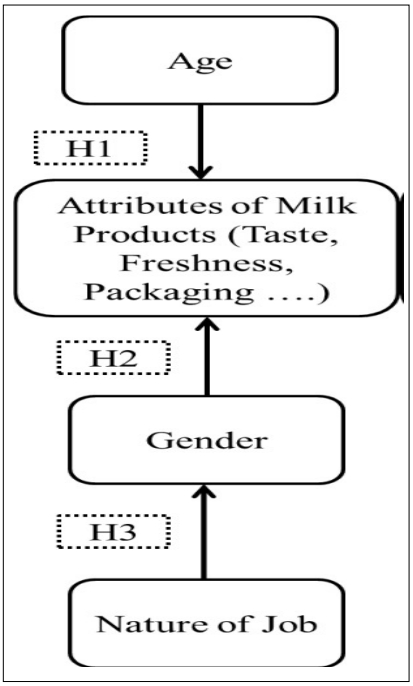


Fig 1: Conceptual model.

the service sector, 12 (25.53) as entrepreneurs or running a business and 7 (14.89) in the government sector.

Measures

Percentage analysis is used to present data as proportions for easier understanding and to compare categories within a dataset. To analyze the effects of demographic variables on consumer attitudes towards milk product attributes, cross-tabulation analysis was used. The respondents were asked to complete the structured questionnaire on five levels of health perception, from “Strongly Agree” (1) to “Strongly Disagree”(5), across different demographic groups. This systematic breakdown allows for easy interpretation of how different income

Table 3: Summary of different research works.

Key focus	Findings/insights	References
Role of packaging in milk selection	Packaging (color, material, design, innovation) significantly influences preferences	(Raheem *et al*., 2014)
Consumer satisfaction with aavin milk in Tamil Nadu	Quality, service regularity and brand image are key satisfaction factors	(Mary, 2013)
Comparison of cooperative vs. private dairy plants in Tamil Nadu	Similar marketing costs for toned milk; Private dairies earn higher margins than others	(Rangasamy *et al*., 2008)
Influence of social media on milk selection among parents	Online reviews and influencer endorsements sway parental preferences	(Velčovská, 2021) (Can *et al*., 2022)
Definition of consumer buying behavior	Focuses on the decision-making process in purchasing	
Sustainable practices in milk production	Grass-fed sourcing, recyclable packaging and carbon reduction are gaining favor	(Clarke *et al*., 2022)
Consumer awareness in Coimbatore	Consumers prefer brands that match their environmental values	(Naspetti *et al*., 2021)
Rise in plant-based milk consumption	Demand is increasing due to dietary preferences like lactose intolerance	(Reyes-Jurado *et al*., 2023)
Nutritional debate of plant-based vs. dairy milk	Nutritional parity is still debated	(Astolfi *et al*., 2020)
Milk choices for lactose-intolerant children	Fortified almond/soy milk is suitable; Avoid added sugars	(Schiano *et al*., 2022)
Comparison of packaged vs. fresh milk	Packaged milk is safer; Fresh milk is riskier without proper handling	(Ibrahim *et al*., 2023)
Promotional activity effectiveness	Major brands benefit directly; Smaller brands may help competitors unintentionally	(Palanichamy *et al*., 2024)
School programs and children’s nutrition	Subsidized milk/low-cost lunches support healthy eating patterns	(Amini *et al*., 2022)
Consumer perspectives toward packaged milk	Demographic factors such as age, gender, education, occupation and income significantly influence brand preference and awareness. Despite familiarity with multiple brands, consumers prefer products based on brand reputation, availability, taste, quality and price.	(Suresh, 2022)
India’s dairy consumption and production trends	India contributes about 17% of global milk production, with nearly half consumed by rural households. Remaining milk is processed and sold domestically as liquid milk, cheese, yogurt, ghee and milk powder, highlighting its nutritional and economic significance.	(Pallathadka *et al*., 2022)
Consumer behavior and brand-switching in dairy products	Product quality, consumer preferences and purchasing behavior strongly influence brand-switching tendencies. As the world’s largest producer and consumer of milk, India’s dairy sector plays a key role in socioeconomic development and market expansion.	(Infanta, 2022)

and occupation groups respond to given statements about health and milk products. In addition, to confirm the statistical significance of these correlations, a chi-square test of independence was performed. This test determines whether any such variations in the cross-tabulated values are statistically significant or merely due to random chance. The results are displayed as the chi-square value, degrees of freedom and the corresponding p-value; these indicators collectively provide evidence of an apparent relationship between demographic factors and consumer attitudes towards milk products. This two-pronged strategy guarantees both descriptive and inferential understanding of consumer behavior within socioeconomic groups.

RESULTS AND DISCUSSION

Percentage analysis

From Table 4, the gender composition of the respondents is practically equal, with 51.06% male and 48.94% female respondents. This balanced representation guarantees that the views of both genders are given fairly equal consideration in the research, reducing gender bias in the analysis. As shown in Table 5, most respondents (44.6%) are aged 21-30, indicating that young adults are the dominant group in the study. The second major group is 41-50 years old, at 27.6% of the sample. Respondents older than 50 years account for 13%, with those aged 31-40 and 10-20 taking up small percentages at 8.5% and 6.3%, respectively. This indicates that the sights of young and middle-aged participants influence the research. Table 6 show that most of the respondents (51.06%) work in the private sector. This is followed by business/entrepreneurial (25.53%); government and service sector employees stand at 14.89% and 8.51%, respectively. The distribution indicates a greater number of respondents from the private and business sectors.

Crosstab analysis

The results from Table 7 reveal that female respondents were generally consistent in their perceptions of milk product availability, with around 83% selecting the top two levels of agreement. Male responses, however, were more mixed, with some disagreement. This indicates that females perceive greater availability, while males have less stable or ambiguous expectations. The findings point toward a gender difference in access or expectation. The results in Table 8 show that a majority of respondents across all age groups rated the milk product's taste unfavorably, with a rating of 1.00 being most common. In particular, older age groups (41-50 and 51+) exhibited nearly complete dissatisfaction. While younger adults (21-30) showed some variation in their ratings, the overall sentiment remained negative. Only a few ratings diverged in a positive direction, showing isolated satisfaction. These highlights indicate that taste is a critical area that requires attention and improvement across age groups. Scores from Table 9 suggest that private-sector respondents overwhelmingly selected "1," indicating high scepticism about the product's health benefits. Government officials also responded with low scores, though not as overwhelmingly. Service sector responses aggregated around "2" and "3," signifying mild scepticism. Entrepreneurs, in contrast, had the greatest range, with some scoring "4," which denotes greater openness and varied personal experiences shaping attitudes.

Table 4: Distribution of respondents based on gender.

Gender	Number of respondents	Percentage
Male	24	51.06
Female	23	48.94
Total	47	100

Table 5: Distribution of respondents based on the age group.

Age	Number of respondents	Percentage
10-20 years	3	6.3
21-30 years	21	44.6
31-40 years	4	8.5
41-50 years	13	27.6
Above 50 years	6	13
Total	47	100

Table 6: Distribution of respondents based on nature of job.

Nature of job	Number of respondents	Percentage
Private sector	24	51.06
Service sector	4	8.51
Business/entrepreneur	12	25.53
Government sector	7	14.89
Total	47	100

Table 7: Relationship between gender and availability.

		Availability					Total
		1.00	2.00	3.00	4.00	5.00	
Gender	Male	9	3	6	3	3	24
	Female	10	9	4	0	0	23
Total		19	12	10	3	3	47

Chi-square tests

H1: Gender of consumers has a strong association with the attributes of milk products

Table 10 shows that almost all p-values are well above 0.05, indicating no statistical significance between gender and the measured variables. Availability (p = 0.051) is only slightly over the cut-off, but this reflects a borderline potential that availability perceptions might ever so slightly differ by gender-something that, perhaps with a bigger sample or more sophisticated statistical analysis, should be explored further. In contrast, variables such as Doctor Recommendation (p = 0.860), taste (p = 0.750) and Promotional Activity (p = 0.814) have extremely high p-values, indicating that gender differences do not significantly influence these variables.

H2: Age of the consumers has a strong association with the attributes of milk products

Table 11 illustrates the age-based Chi-square tests. Of all the variables investigated, taste is the only one that is statistically associated with age (p = 0.049), suggesting that taste perceptions vary significantly with age. In contrast, other variables, such as reasonable price, doctor recommendation, promotional activity, package size and Fat Control, do not show a significant correlation with age in this sample (n = 47). Notably, Fat Control (p = 0.053) is only slightly above the traditional significance level and hence may deserve careful consideration in more detailed analysis. In general, the results indicate that aside from taste, nearly all product or service characteristics are viewed similarly across age groups.

Table 8: Relationship between age and taste.

		Taste				Total
		1.00	2.00	3.00	4.00	
Age	10-20	2	0	1	0	3
	21-30	9	7	3	2	21
	31-40	2	0	0	2	4
	41-50	9	4	0	0	13
	51 and above	6	0	0	0	6
	Total	28	11	4	4	47

Table 9: Relation between occupation and good for health.

		Good for health					Total
		1	2	3	4	5	
Age	Private sector	17	3	3	0	1	24
	Service sector	1	1	2	0	0	4
	Business/entrepreneur	4	3	1	4	0	12
	Government sector	4	2	0	0	1	7
	Total	26	9	6	4	2	47

Table 10: Gender-based chi-square tests.

Variable	Pearson chi-square	Likelihood ratio	Linear-by-linear association	df	Asymp. sig. (2- 2-sided)	Valid cases
Good for health	3.801	4.604	0.053	4	0.434	47
Brand name	4.370	4.510	0.128	4	0.358	47
Door delivery	2.580	2.676	0.462	4	0.630	47
Promotional activity	1.572	1.591	1.009	4	0.814	47
Friends/relatives	2.289	3.061	0.473	4	0.683	47
Doctor recommendation	1.306	1.321	0.002	4	0.860	47
Availability	9.436	11.891	4.652	4	0.051	47
Reasonable price	3.951	4.066	0.853	4	0.413	47
Freshers	4.134	5.306	1.310	4	0.388	47
Taste	1.213	1.259	0.925	3	0.750	47
Package size	5.049	6.603	0.156	4	0.282	47
Prompt supply	5.732	7.668	0.276	4	0.220	47
Fat control	2.071	2.842	0.154	4	0.723	47

H3: Nature of job has a strong association with the attributes of milk products

The "Good for Health" variable shows the highest correlation with occupation, with a p-value of 0.055, just slightly more than the conventional significance level, as shown in Table 12. This may indicate a trend that would be significant with a larger sample size. Similarly, "Prompt Supply" is on the borderline, indicating a borderline relationship. However, most other variables, such as Brand Name, Taste and Doctor Recommendation, do not show any significant link with occupation. Interestingly, "Reasonable Price" shows the highest p-value (0.951) with the most consistent ratings across all occupational groups. In general, these results suggest that occupation is not statistically significant in shaping respondents' views of the different product features.

Contributions of the study

The current research has significant contributions to academic scholarship and real-world marketing practices in the dairy industry. At a theoretical level, the study addresses a critical gap in knowledge since it empirically investigates the effect of demographic variables, *i.e*., age, gender and occupation, on beliefs regarding milk product attributes among consumers. One important finding is the strong association between age and taste preference, with profound implications for the development of age-specific product forms. This information adds to the knowledge of consumer behavior in the Indian dairy industry, especially when product segmentation is considered.

Practically speaking, the study offers actionable recommendations to dairy marketers and producers. The predominance of young adults in the consumer sample underscores the need to develop targeted marketing initiatives for this demographic. While variations in occupation and gender were not statistically significant, marginal trends in attributes such as "Availability" and "Health Perception" suggest potential opportunities for market segmentation. Therefore, dairy companies can

Table 11: Age-based chi-square tests.

Variable	Pearson chi-square	Likelihood ratio	Linear-by-linear association	df	Asymp. sig. (2-sided)	Valid cases
Good for health	12.174	12.489	0.001	16	0.732	47
Brand name	16.693	19.520	0.423	16	0.406	47
Door delivery	9.401	11.567	0.597	16	0.896	47
Promotional activity	18.469	23.729	0.021	16	0.297	47
Friends/relatives	15.325	15.887	0.100	16	0.501	47
Doctor recommendation	16.001	15.190	0.082	16	0.453	47
Availability	12.777	15.295	1.589	16	0.689	47
Reasonable price	16.414	21.344	2.839	16	0.424	47
Freshers	19.050	15.665	0.729	16	0.266	47
Taste	22.090	23.251	4.834	12	0.049	47
Package size	23.127	21.035	5.419	16	0.110	47
Prompt supply	20.299	20.995	0.093	16	0.207	47
Fat control	26.104	27.399	0.316	16	0.53	47

Table 12: Occupation-based chi-square tests.

Variable	Pearson chi-square	Likelihood ratio	Linear-by-linear association	Df	Asymp. sig. (2-sided)	Valid cases
Good for health	23.353	21.982	2.242	12	0.055	47
Brand name	9.339	10.118	0.016	12	0.674	47
Door delivery	7.376	9.047	0.287	12	0.832	47
Promotional activity	13.423	17.619	0.088	12	0.339	47
Friends/relatives	9.091	10.990	0.020	12	0.695	47
Doctor recommendation	11.412	11.906	1.234	12	0.494	47
Availability	9.412	11.645	0.054	12	0.667	47
Reasonable price	5.193	6.878	0.087	12	0.951	47
Freshers	16.296	18.316	0.429	12	0.178	47
Taste	14.630	17.487	0.675	9	0.102	47
Package size	10.211	12.632	0.020	12	0.597	47
Prompt supply	20.337	17.116	0.021	12	0.061	47
Fat control	7.682	8.676	0.059	12	0.809	47

benefit from incorporating real-time demographic analysis into their product development and marketing campaigns to better meet changing consumer needs.

Limitations and directions for future research

Despite the study's validity, it recognizes some limitations. First, the fairly modest sample size (n = 47) limits the generalizability of the results, especially in rural or less urban areas where consumer behavior might vary considerably. Second, even though conventional methodological controls, *e.g*., anonymity of responses and recommended procedures, were used to reduce survey bias and social desirability effects, such biases cannot be eliminated. Additionally, the study was conducted within a geographically confined scope of urban locations within the Coimbatore District, limiting its generalizability to larger regional populations in India. This opens the door for future researchers to extend the study to cover different geographic and socioeconomic segments. To explore further, future research can investigate how a person's personality attributes shape consumer attitudes toward milk product attributes. More emphasis can also be placed on other variables, such as trust, corporate reputation and brand loyalty, which can significantly shape purchasing decisions. Research on gender differences with larger, more representative samples may reveal nuanced patterns that were not apparent in the present analysis. In addition, cross-country comparative studies, particularly of other developing economies, can be carried out to examine the generalizability and stability of findings across diverse cultural and market environments.

CONCLUSION

This research offers useful findings on the impact of demographic factors on consumer attitudes toward milk product qualities, with special reference to age. The analysis identifies that age is an essential factor influencing taste preferences, thereby being crucial to consumer choice. This observation underscores the importance of developing age-specific offerings for dairy farmers and marketers, especially for younger adults, who are a leading consumer group in this research. While gender and occupation were not statistically associated with most product characteristics, marginal trends, particularly regarding perceived availability and health-related attributes, suggest dimensions that merit further investigation. These trends continue to underpin demographic segmentation as an essential method for tailoring marketing and aligning product characteristics with the changing needs of different consumer segments.

Apart from its contributions on the empirical front, the research has implications for practice by highlighting the applicability of data-driven marketing strategies in the dairy industry. In a rapidly competitive, health-focused market, identifying nuanced consumer preferences through demographic segmentation can inform product innovation, promotional strategy and distributional strategies. Even though the study is limited to the urban setting of Coimbatore, its implications open the door to larger-scale research in rural and cross-cultural settings. The research could be supplemented with larger-scale studies that incorporate psychological factors, brand trust measures and loyalty to gain a more holistic understanding of the consumer. Ultimately, the research points to the growing need for tailored marketing and innovation in dairy products, paving the way for consumer-led growth in one of the world's largest dairy-consuming nations.

Disclaimers

The views and conclusions expressed in this article are solely those of the authors and do not necessarily represent the views of their affiliated institutions. The authors are responsible for the accuracy and completeness of the information provided, but do not accept any liability for any direct or indirect losses resulting from the use of this content.

Informed consent

All animal procedures for experiments were approved by the Committee on Experimental Animal Care and handling techniques were approved by the University of Animal Care Committee.

Conflict of interest

The authors declare that there are no conflicts of interest regarding the publication of this article. No funding or sponsorship influenced the design of the study, data collection, analysis, decision to publish, or preparation of the manuscript.

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