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Certification and labelling of dairy food products: An assessment of consumer awareness and purchase behaviour in Nagpur city

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Abstract

Dairy products occupy a central place in the daily diet of Indian households, and consumer confidence in these products is increasingly shaped by the certification and labelling information printed on their packaging. The present study was undertaken to examine consumer behaviour towards certification and labelling of dairy food products in Nagpur city, Maharashtra. A sample of 90 dairy product consumers, stratified into three age groups (up to 25 years, 26–50 years and above 50 years, with 30 respondents in each group), was selected through stratified random sampling and interviewed personally using a structured schedule during December 2025 to June 2026. The socio-economic profile revealed that male, educated (graduate/postgraduate) and service-employed consumers dominated the sample, with middle-income groups being most common. Milk was the most regularly purchased dairy product, mostly bought daily, and quality was rated as the foremost purchase-determining attribute ahead of price, taste, brand and certification. Younger consumers preferred branded products while older consumers leaned towards local milkmen; Amul and Dinshaw's emerged as the most preferred brands. FSSAI was by far the most recognised certification (70–77% awareness across age groups) compared with AGMARK and organic certification. A majority of consumers read labels and checked product information while purchasing, chiefly for manufacturing and expiry dates rather than certification marks. Certification was found to positively influence trust, purchase decisions and willingness to pay a premium, particularly among younger and middle-aged consumers, and all respondents (100%) agreed that misleading labels erode their trust in dairy products. The study concludes that although consumer awareness of dairy certification and labelling in Nagpur city is reasonably good, it remains incomplete and skewed towards basic safety cues rather than certification literacy, indicating a clear need for targeted consumer education and simplified, transparent labelling by dairy manufacturers and regulators.

Keywords: Consumer behaviour, certification, labelling, dairy products, FSSAI

Introduction

Food choices in Maharashtra have changed considerably over the last decade as consumers have become more aware of health, food safety and product quality. In urban centres such as Nagpur, Pune, Mumbai and Nashik, dairy products have become an essential part of daily diets, and consumers are increasingly paying attention to the information printed on product packages rather than relying solely on price or brand familiarity. Frequent public discussion of food adulteration, hygiene and quality standards has strengthened consumer preference for products carrying recognised certification marks, particularly for milk, curd, paneer, cheese and other packaged dairy products.

Certification issued by recognised regulatory authorities, principally the Food Safety and Standards Authority of India (FSSAI) and, for select products, AGMARK, has become an important signal of trust for consumers, reducing uncertainty regarding contamination, adulteration and hygiene. Labelling complements certification by communicating the product name, ingredients, nutritional information, manufacturing and expiry dates, storage instructions, batch number, net quantity and FSSAI licence number, thereby enabling consumers to compare products and make informed choices. However, consumer understanding of certification and labelling is not uniform: educated and higher-income consumers generally possess better knowledge of certification symbols and nutritional information, while others continue to face difficulty in interpreting technical terms and logos.

Nagpur, located at the geographical centre of India in the Vidarbha region, is a rapidly urbanising commercial hub with a diverse population and a well-established organised and unorganised dairy retail market, making it a suitable location to study evolving consumer behaviour towards certified and labelled dairy products. Against this background, the present study was designed to examine the socio-economic profile of dairy consumers in Nagpur city, their purchase preferences, their understanding of certification and labelling, and the extent to which these factors influence their purchase decisions. Specifically, the study was undertaken with the following objectives: (i) to study the socio-economic characteristics of consumers; (ii) to study consumers' preference towards purchase of dairy products; (iii) to examine consumers' understanding of certification and labelling; and (iv) to identify the influence of food labels and certification on consumers' purchase decisions.

Methodology

Area and period of study

The study was conducted in Nagpur city, Maharashtra, selected for its diverse population, well-established organised and unorganised dairy retail market, and rising consumer awareness of food safety and certification. Primary data were collected over the period December 2025 to June 2026.

Data collection

A total of 90 dairy product consumers were selected from different parts of Nagpur city using a stratified random sampling technique, with the population divided into three age-based strata — up to 25 years, 26–50 years, and above 50 years — of 30 respondents each. Within each stratum, respondents were further representative of variation in gender, education, income and occupation. Primary data were collected through personal interviews using a structured schedule covering respondents' socio-economic background, dairy purchase preferences, and their knowledge, understanding and use of certification and labelling information.

Analytical tools

The data were analysed using simple tabular and percentage analysis, with findings presented age-group-wise (up to 25, 26–50 and above 50 years) to facilitate comparison of behaviour across life-stage cohorts.

Results and Discussion

Socio-economic characteristics of consumers

Table 1: Gender-wise distribution of consumers

Gender	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Male	23 (76.67)	18 (60.00)	19 (63.33)
Female	7 (23.33)	12 (40.00)	11 (36.67)

Male respondents outnumbered female respondents in every age group (Table 1), constituting 76.67, 60.00 and 63.33 per cent of the up to 25, 26–50 and above 50 year strata, respectively, though the gender gap narrowed somewhat in the middle-age group.

Table 2: Education-wise distribution of consumers

Education	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Postgraduate	5 (16.66)	14 (46.66)	9 (30.00)
Graduate	11 (36.66)	16 (53.33)	18 (60.00)
College-going	14 (46.66)	0 (0.00)	0 (0.00)
School level	0 (0.00)	0 (0.00)	3 (10.00)

The sample was generally well educated (Table 2): college-going respondents dominated the youngest stratum (46.66%), while graduates formed the largest share among the 26–50 (53.33%) and above-50 (60.00%) groups, with postgraduates also well represented. Only the oldest group included consumers with school-level education (10.00%).

Table 3: Occupation-wise distribution of consumers

Occupation	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Student	14 (46.66)	0 (0.00)	0 (0.00)
Service	12 (40.00)	20 (66.67)	20 (66.67)
Business	3 (10.00)	6 (20.00)	3 (10.00)
Homemaker	0 (0.00)	4 (13.33)	7 (23.33)

Occupation-wise (Table 3), students dominated the youngest group (46.66%), while service was the leading occupation among the 26–50 (66.67%) and above-50 (66.67%) groups; homemakers were present only among the older two strata.

Table 4: Income-wise distribution of consumers

Monthly income	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Below Rs 20,000 (dependent)	14 (46.66)	4 (13.33)	7 (23.33)
Rs 20,000 - 50,000	11 (36.66)	16 (53.33)	11 (36.66)
Rs 50,001 - 1,00,000	5 (16.66)	7 (23.33)	6 (20.00)
Above Rs 1,00,000	0 (0.00)	3 (10.00)	6 (20.00)

Income distribution (Table 4) shows that the middle-income category of Rs 20,000–50,000 per month was the single largest group in the 26–50 (53.33%) and above-50 (36.66%) strata, while the youngest group was concentrated in the below Rs 20,000 (financially dependent) category (46.66%). Higher-income respondents (above Rs 1,00,000) appeared only among the two older groups.

Overall, the socio-economic profile indicates a predominantly male, educated and service-employed consumer base with a middle-income orientation — characteristics that the literature associates with relatively higher label-reading and certification awareness (Ali and Kapoor, 2009)^[1].

Consumer preference towards purchase of dairy products

Table 5: Dairy products regularly purchased

Product	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Milk	11 (36.66)	15 (50.00)	21 (70.00)
Paneer	6 (20.00)	4 (13.33)	2 (6.66)
Yogurt	5 (16.66)	7 (23.33)	4 (13.33)
Butter	3 (10.00)	1 (3.33)	1 (3.33)
Ghee	0 (0.00)	2 (6.66)	2 (6.66)
Cheese	5 (16.67)	1 (3.33)	0 (0.00)

Milk was the most regularly purchased dairy product across all age groups (Table 5), rising from 36.66 per cent among the youngest consumers to 70.00 per cent among those above 50 years, while paneer, yogurt and cheese were relatively more popular with younger consumers.

Table 6: Frequency of purchase of dairy products

Frequency	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Daily	21 (70.00)	25 (83.33)	27 (90.00)
Weekly	9 (30.00)	5 (16.67)	3 (10.00)

Daily purchase was the dominant frequency in every stratum (Table 6), increasing with age from 70.00 per cent (up to 25 years) to 90.00 per cent (above 50 years), confirming that dairy items are treated as daily household essentials rather than occasional purchases.

Table 7: Preferred type of dairy product (branded / local / both)

Preference	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Branded	19 (63.33)	14 (46.66)	11 (36.66)
Local (milkman)	5 (16.66)	10 (33.33)	14 (46.66)
Both	6 (20.00)	6 (20.00)	5 (16.66)

A clear age-related shift was observed in the type of outlet/source preferred (Table 7): younger consumers favoured branded products (63.33%), whereas the preference progressively shifted towards local milkmen among older consumers (46.66% in the above-50 group), possibly reflecting differences in trust, habit and price sensitivity.

Table 8: Brand preference of consumers

Brand	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Amul	12 (40.00)	10 (33.33)	12 (40.00)
Dinshaw's	9 (30.00)	12 (40.00)	11 (36.66)
Mother Dairy	7 (23.33)	5 (16.66)	5 (16.66)
Gowardhan (Parag Milk Foods)	2 (6.66)	3 (10.00)	2 (6.66)

Among branded options (Table 8), Amul and Dinshaw's were the two leading brands in every age group, together accounting for 60–73 per cent of brand preference, while Mother Dairy and Gowardhan (Parag Milk Foods) trailed behind.

Table 9: Attributes of dairy products influencing consumer purchase

Attribute	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Price	2 (6.66)	4 (13.33)	4 (13.33)
Quality	12 (40.00)	10 (33.33)	11 (36.66)
Taste	3 (10.00)	3 (10.00)	5 (16.66)
Brand	4 (13.33)	3 (10.00)	3 (10.00)
Packaging	1 (3.33)	2 (6.66)	0 (0.00)
Certifications	2 (6.66)	1 (3.33)	1 (3.33)
Expiry date	5 (16.66)	4 (13.33)	3 (10.00)
Availability	1 (3.33)	2 (6.66)	1 (3.33)
Health claims	0 (0.00)	1 (3.33)	2 (6.66)

Quality was rated the single most important purchase attribute in every age group (Table 9), chosen by 33–40 per cent of respondents, well ahead of price, taste, brand and expiry date; notably, certifications and health claims were cited by only 3–7 per cent of consumers as the primary purchase driver, indicating that certification does not yet function as a first-order purchase attribute for most consumers.

Table 10: Preferred place of purchase of dairy products

Place of purchase	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Local shop	13 (43.33)	16 (53.33)	18 (60.00)
Dairy booth	11 (36.66)	10 (33.33)	10 (33.33)
Supermarket	6 (20.00)	4 (13.33)	2 (6.66)

Local shops were the most preferred point of purchase overall (Table 10), and this preference strengthened with age (43.33% to 60.00%), consistent with convenience and accessibility outweighing the assortment advantages of supermarkets, which were preferred by only 6.66–20.00 per cent of respondents.

Table 11: Frequency of checking product information while purchasing

Checking behaviour	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Always	23 (76.66)	21 (70.00)	19 (63.33)
Sometimes	7 (23.33)	9 (30.00)	11 (36.66)

A large majority of consumers reported always checking product information before purchase (Table 11), though this vigilance declined slightly with age, from 76.66 per cent (up to 25 years) to 63.33 per cent (above 50 years).

Consumers' understanding of certification and labelling

Table 12: Awareness of specific certifications among consumers

Certification	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
FSSAI	22 (73.33)	23 (76.66)	21 (70.00)
AGMARK	5 (16.66)	4 (13.33)	5 (16.66)
Organic certification	3 (10.00)	2 (6.66)	4 (13.33)

FSSAI was overwhelmingly the most recognised certification across all age groups (Table 12), with 70–77 per cent awareness, far exceeding recognition of AGMARK (13–17%) and organic certification (7–13%). This confirms the dominant public visibility of FSSAI relative to other quality marks in the Indian dairy market.

Table 13: Level of understanding of the meaning of certification

Understanding	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Fully understood	19 (63.33)	17 (56.66)	14 (46.66)
Partially understood	11 (36.66)	13 (43.33)	16 (53.33)

Awareness of a certification mark did not always translate into full comprehension of its meaning (Table 13). "Full" understanding declined steadily with age, from 63.33 per cent (up to 25 years) to 46.66 per cent (above 50 years), while partial understanding correspondingly increased, suggesting a generational gradient in certification literacy.

Table 14: Reading of food labels on dairy products at the time of purchase

Label reading	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Always	22 (73.33)	20 (66.67)	19 (63.33)
Sometimes	8 (26.66)	10 (33.33)	11 (36.66)

Most consumers reported reading food labels while purchasing dairy products (Table 14), with 63–73 per cent doing so “always”; again, this proportion was marginally highest among younger consumers and lowest among the above-50 group.

Table 15: Label information most frequently checked by consumers

Information checked	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Manufacturing & expiry date	21 (70.00)	20 (66.66)	22 (73.33)
Nutritional information & ingredients	6 (20.00)	7 (23.33)	4 (13.33)
Certification marks	3 (10.00)	3 (10.00)	4 (13.33)

Importantly, when consumers did read labels, they primarily checked manufacturing and expiry dates (67–73%) rather than nutritional information (13–23%) or certification marks (10–13%) (Table 15). This indicates that label-reading behaviour in the study area is driven chiefly by basic freshness/safety concerns rather than by certification or nutritional literacy.

Influence of food labels and certification on purchase decisions

Table 16: Influence of certification on purchase decision

Response	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Yes	16 (53.33)	18 (60.00)	12 (40.00)
No	8 (26.67)	5 (16.67)	9 (30.00)
Sometimes	6 (20.00)	7 (23.33)	9 (30.00)

Certification exerted a positive but uneven influence on purchase decisions (Table 16): 53–60 per cent of consumers up to 50 years reported that certification influenced their purchase, compared with only 40 per cent among those above 50 years, who were also more likely to say certification had no or only occasional influence.

Table 17: Consumer trust in certified dairy products

Response	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Agree	20 (66.67)	21 (70.00)	14 (46.67)
Disagree	5 (16.67)	5 (16.67)	8 (26.67)
Neutral	5 (16.67)	6 (20.00)	8 (26.67)

A majority of consumers agreed that they trusted certified dairy products more than uncertified ones (Table 17), with agreement highest among the 26–50 year group (70.00%) and comparatively lower, though still the leading response, among consumers above 50 years (46.67%).

Table 18: Willingness to pay more for certified dairy products

Response	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Yes	19 (63.33)	16 (53.33)	14 (46.67)
No	4 (13.33)	4 (13.33)	8 (26.67)
May be	7 (23.33)	10 (33.33)	8 (26.67)

Willingness to pay a premium for certified dairy products was also strongest among younger consumers (63.33%) and declined with age (46.67% among those above 50 years), while the proportion unwilling to pay extra rose correspondingly among older respondents (Table 18).

Table 19: Perceived usefulness of labelling in choosing better products

Response	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Agree	22 (73.33)	19 (63.33)	20 (66.67)
Disagree	2 (6.67)	3 (10.00)	7 (23.33)
Neutral	6 (20.00)	8 (26.67)	3 (10.00)

A majority of consumers in every age group agreed that labelling helps them choose better dairy products (63–73%), reaffirming the perceived practical value of label information even where certification literacy is limited (Table 19).

Table 20: Effect of misleading labels on consumer trust

Response	Up to 25 yrs (n = 30)	26 - 50 yrs (n = 30)	Above 50 yrs (n = 30)
Yes	30 (100.00)	30 (100.00)	30 (100.00)
No	0 (0.00)	0 (0.00)	0 (0.00)

Most strikingly, all 90 respondents (100%), without exception across all three age groups, agreed that misleading labels damage their trust in dairy products (Table 20), underscoring the critical importance consumers place on the truthfulness and transparency of label claims, irrespective of their level of certification literacy.

Conclusion

The study examined the behaviour, preferences, awareness and understanding of 90 dairy product consumers in Nagpur city towards certification and labelling. The socio-economic profile was dominated by male, educated, service-employed and middle-income consumers. Dairy products, particularly milk, were purchased daily by the large majority of respondents, with quality rated as the foremost purchase attribute ahead of price, brand and certification. Younger consumers showed a stronger preference for branded products, while older consumers leaned towards local milkmen, and Amul and Dinshaw's emerged as the leading brands overall.

FSSAI was by far the most recognised certification, though full understanding of certification meaning declined with age, and label-checking behaviour was oriented mainly towards manufacturing/expiry dates rather than certification marks or nutritional details. Certification nonetheless had a positive influence on trust, purchase decisions and willingness to pay a premium, particularly among younger and middle-aged consumers, and the finding that all respondents associated misleading labels with a loss of trust underlines the central importance of truthful, transparent labelling for the dairy sector.

References

1. Ali J, Kapoor S. Consumers' perception towards food labelling in India. *International Journal of Consumer Studies*. 2009;33(6):724–730.
2. Aprile MC, Caputo V, Nayga RM Jr. Consumers' valuation of food quality labels: the case of the European geographic indication and organic farming labels. *International Journal of Consumer Studies*. 2012;36(2):158–165.
3. Aswini S, et al. Consumer preference towards milk products in Tamil Nadu. *Asian Journal of Agricultural Extension, Economics and Sociology*. 2020.
4. Bahety R, et al. Factors influencing consumer preference towards dairy products among Indian consumers. *Research Paper in Economics*. 2022.
5. Caswell JA, Padberg DI. Toward a more comprehensive theory of food labels. *American Journal of Agricultural Economics*. 1992;74(2):460–468.
6. Chaturvedi A, et al. Consumer behavioural patterns towards milk and dairy products in India. *Asian Journal of Dairy and Food Research*. 2024.
7. Drichoutis AC, Lazaridis P, Nayga RM Jr. Consumers' use of nutritional labels: a review of research studies and issues. *Academy of Marketing Science Review*. 2006;10(9):1–22.
8. Govindasamy R, Italia J. Predicting willingness-to-pay a premium for organically grown fresh produce. *Journal of Food Distribution Research*. 1999;30(2):44–53.