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A study on consumer awareness, buying behaviour, and satisfaction levels towards ice cream in Anand and Vidyanagar City

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Abstract

Indian Ice cream industry is one of the most dynamic sector of FMCG over the past decade. This study attempts to explore the consumers behavior, brand awareness, buying pattern and satisfaction in ice cream market in particular reference to Gujarat state of India. The research study design was descriptive and used primary data collected from the 203 respondents through a structured questionnaire consisting of 27 items. Consumer demographics and its effect on purchase behavior, brand preferences, consumption patterns based on flavor and form, factors that influenced buying decisions, purchasing pattern and purchase habits regarding seasonal consumption and consumer satisfaction and attitude based on Likert scale about quality, price, availability, hygiene and value for money. Result indicates that majority of the consumers favored Amul followed by Hocco and Havmor 51.2%, 8.4% and 7.4% respectively for brand preference, Chocolate flavor and ice cream parlor as the most preferable mode of consumption at 33.5% and 58.1% respectively. Taste followed by quality as purchase behavior with 32.5% and 30.0% respectively being dominant motivators of purchasing ice cream. 81.8% of the consumers expressed their satisfaction and high satisfaction in ice cream consumption; high preference exists for healthier product alternatives, more quality guarantees and varieties of flavors. The paper offers valuable input for scarce existing literatures in region-specific study of the consumers in frozen desserts market and useful strategies for industry and policy makers.

Keywords: Indian ice cream industry, consumer behavior, brand awareness, purchase patterns, customer satisfaction, frozen dessert market, quality perception, healthy ice cream options

1. Introduction

The global ice cream market was valued at approximately USD 97.3 billion in 2023 and is projected to grow at a CAGR of 4.1% through 2032 (Grand View Research, 2024) [5]. The Indian ice cream market is one of the fastest-growing segments in Asia and was estimated to reach around ₹260 billion in 2023–24, with an expected CAGR of 8–10% over the next five years (IMARC Group, 2024) [11]. The availability of diverse brands, formats, and flavours ranging from traditional Indian kulfis to premium international ice creams has significantly expanded consumer choices and contributed to market growth. Anand and Vallabh Vidyanagar, located in Anand District of Gujarat, represent important urban centres with a strong dairy heritage and a growing consumer market for dairy and frozen dessert products. The presence of leading ice cream brands such as Amul, Havmor, Vadilal, Hocco, and Baskin Robbins, along with numerous local retailers and parlours, has created a highly competitive market environment. Rising disposable incomes, changing lifestyles, and increasing preference for convenient and indulgent food products have further encouraged ice cream consumption in

these cities.

Despite the growing commercial significance of the ice cream industry, academic research focusing specifically on consumer behaviour towards ice cream consumption in Anand and Vallabh Vidyanagar remains limited. Most existing studies examine consumer behaviour at the broader FMCG sector level or focus on larger metropolitan markets, leaving a gap in understanding consumer preferences, purchase behaviour, brand awareness, and satisfaction in these cities. There is limited empirical evidence regarding the influence of demographic factors on brand preference, flavour choice, purchase channels, and overall consumer perceptions of ice cream products.

Therefore, the present study aims to analyse consumer behaviour towards ice cream consumption in Anand and Vallabh Vidyanagar cities based on a survey of 203 consumers. The study adopts a descriptive research approach to examine consumer awareness, preferences, purchase patterns, satisfaction levels, and factors influencing buying decisions. The findings are expected to provide valuable insights for ice cream manufacturers, marketers, retailers, and policymakers in developing

effective marketing and product strategies for the local market.

2. Significance of the Study

The findings of the study on ice cream consumption will be useful to various stake holders like manufacturers who need to make decisions about product assortment, portfolio rationale and for marketers it provides insights into designing an appropriate advertising and promotional strategy and appropriate channel investments. It also provides crucial inputs for policy makers who need to work upon standards of food safety, nutritional labeling and awareness programs. Academically it contributes to the thin body of knowledge available on regional FMCG consumer behavior.

2.1 Objectives of the study

1. To study consumer awareness of ice cream brands in Anand and Vidhyanagar market.
2. To study consumer preferences regarding brands, flavors and formats.
3. To understand the decision-making criteria.
4. To examine the channel of purchases and patterns of spending.
5. To gauge perceptions regarding price, quality, availability, hygiene and value for money.
6. To suggest improvements needed according to the study.

3. Literature Review

Numerous theoretical frameworks exist in understanding consumer behaviour in FMCG: theory of planned behaviour (Ajzen, 1991) ^[2], Engel-Kollat-Blackwell (EKB) model of consumer decision making process, and the elaboration likelihood model of persuasion (Petty & Cacioppo, 1986) ^[26]. All these theories underline cognitive assessment, social factors and affective responses to be influential in driving buying intentions and brand loyalty.

3.1 Brand Awareness and Consumer Decision-making process

Brand awareness and brand image were defined as the two pillars of brand equity by Keller (1993) ^[12]. High brand awareness brings about recall and recognition in the buying decisions particularly in low-involvement product categories like ice-creams (Aaker, 1991) ^[1]. Indian FMCG sector supported this; the brand awareness being positively related to brand preference and repeat purchase (Nair & Pillai, 2021; Sharma & Singh, 2022) ^[22, 28].

According to Kumar and Patel (2020) ^[13], the brand awareness in ice-creams in Indian market is significantly influenced by the advertisement in Television and various digital medium primarily among the age group of 18-35 years. Growing penetration of social media has also become one of the key ways to establish brand awareness particularly with premium/ artisanal brands targeting young urban millennials (Mehta & Sharma, 2023) ^[15].

3.2 Purchase Influencers and Consumer Preferences

All research on ice-creams across markets state taste as the number one influencing factor in purchase decisions followed by quality (Hossain *et al.*, 2022; Njoku *et al.*,

2021) ^[10, 23]. Price is significant in the developing price-elastic markets but relatively lower than other factors in urban Indian markets (Rao & Srinivasan, 2021) ^[27]. Mishra & Jain (2022) ^[17] observed that Indian consumers are giving high importance to brand image and aesthetic packaging of ice-creams, which is associated with increasingly premium products in the market as well as due to the self enhancement and social signalling motivations.

Flavour preference shows much variation among Indians. While Chocolate and Vanilla maintain to be the top 2 flavors pan-India (Gupta & Kapoor, 2020) ^[6], some Western India specific flavors like Rajbhog and Kesar Pista show high popularity (Patel & Desai, 2021) ^[25].

3.3 Consumer Satisfaction and Loyalty in the Ice-Cream Sector

Consumer satisfaction is framed as a disconfirmation of expectations (Oliver, 1980) ^[24]. This study found that taste, perceived quality and hygienic packaging of frozen desserts has the strongest relation with consumer satisfaction among Indian consumers (Yadav & Bharti, 2023) ^[31] whereas inconsistent quality, improper cold-chain management and lack of variety in flavors causes consumer dissatisfaction. Singh & Mishra (2022) ^[29] analyzed brand loyalty in ice cream sector and found perceived value and favorable brand associations strongly predict repurchase intentions. Cooperative brands like Amul build loyalty on the institutional quality and wider distribution whereas premium brands work more on the experience factor (Nair, 2023) ^[21].

3.4 Health and Sustainability Trends

Increasing health-consciousness in food is reflected in consumer trends across Indian market including ice-creams. Young urban Indian consumers are increasingly looking for low sugar/ high protein/ plant-based ice cream alternatives (Verma & Chopra, 2024) ^[30]. There is an emerging consumer-demand for cleaner labels with elimination of artificial ingredients, preservatives, and palm oil based fats from ice-cream products (Bose & Kulkarni, 2023) ^[3]. These trends in Indian market correlate with global trends and market research reported by Mintel (2023) ^[16] showing "better-for-you" ice-creams are one of the fastest growing sub-categories.

3.5 Dairy Industry Growth and Product Diversification in Gujarat

Gurjar and Modi (2024) ^[20] studied the district-wise scenario of milk production in Gujarat during 2022–23 and highlighted the significant contribution of cow, buffalo, and goat milk towards the state's dairy sector. The study emphasized that Gujarat's strong cooperative dairy structure, milk procurement system, and processing infrastructure have supported continuous growth of dairy industries and value-added dairy products.

Modi, Gurjar, and Don (2025) ^[18] analyzed milk production trends in Gujarat and India over the last two decades. The study reported significant growth in milk production due to improved dairy management practices and the contribution of dairy cooperatives. The findings indicate that increasing milk availability has created opportunities for expansion of processed dairy products including ice cream and other value-added products.

Gurjar, Don, and Modi (2025) ^[19] examined the strategic analysis of ambient dairy and non-dairy product portfolios of Gujarat dairy cooperatives. The study highlighted that brands like Amul have adopted diversification strategies by introducing various dairy and non-dairy products to meet changing consumer preferences. The study also emphasized the importance of strong distribution networks and product availability for market expansion.

Modi and Gurjar (2025) ^[18] studied refrigerated and frozen product offerings by Gujarat dairy cooperatives and reported that frozen dairy products such as ice cream have become an important segment of dairy diversification. The study highlighted the role of product variety, packaging formats, cold chain management, and accessibility in improving consumer acceptance of frozen dairy products.

Modi, Don, and Gurjar (2025) ^[19] analyzed Amul's diversification into sweets and gourmet offerings and observed that continuous product innovation and expansion into new categories have strengthened Amul's competitive position. The study suggested that understanding consumer preferences and introducing suitable products are important strategies for dairy brands.

3.6 Research Gap

Although the above researches provide a useful framework in understanding consumer behavior towards ice-creams, there is a clear research gap of empirical study focusing on the consumers' behavior in the ice cream industry, through a survey in the Gujarat state. There are a handful of studies that have dealt with general pan India data, industry reports and other means. This present study aims to fill the gap with data collected from a representative sample of the consumers in Gujarat.

Consumer behaviour in the FMCG sector has been extensively theorised through frameworks including the Theory of Planned Behaviour (Ajzen, 1991) ^[2], the Engel-Kollat-Blackwell (EKB) model of consumer decision-making, and the elaboration likelihood model of persuasion (Petty & Cacioppo, 1986) ^[26]. These models collectively emphasise the role of cognitive evaluation, social influence, and affective responses in shaping purchase intentions and brand loyalty.

3.7 Problem of Statement

The ice cream market in Anand and Vallabh Vidyanagar is growing rapidly with increasing competition among different brands. Although many ice cream products are available in the market, there is insufficient information regarding consumers' awareness levels, brand preferences, buying behaviour, factors influencing purchase decisions, and satisfaction towards ice cream products.

Changing consumer expectations regarding taste, quality, price, hygiene, packaging, availability, and health-related attributes have created a need to understand the current market scenario. Manufacturers and marketers require consumer-based information to design effective marketing strategies and meet changing customer needs.

Therefore, the present study aims to analyze consumer awareness, buying behaviour, and satisfaction levels towards ice cream products in Anand and Vallabh Vidyanagar cities and identify key factors affecting consumer purchase decisions and preferences.

3.8 Need of The Study

The Indian ice cream industry has witnessed rapid growth due to changing consumer lifestyles, increasing disposable incomes, urbanization, and the expansion of organized retail and food service sectors. Consumer preferences in the ice cream market are continuously evolving with respect to taste, quality, brand image, health consciousness, pricing, and product availability. Understanding these preferences is essential for manufacturers and marketers to remain competitive in a dynamic market environment.

Anand and Vallabh Vidyanagar are important urban centers of Anand District, Gujarat, characterized by a strong dairy culture, educational institutions, and a diverse consumer base. The presence of well-established dairy organizations and multiple ice cream brands has created a highly competitive market in these cities. However, consumer behavior towards ice cream consumption in this region has not been adequately explored through empirical research.

Limited information is available regarding consumer awareness of ice cream brands, purchase preferences, consumption patterns, factors influencing buying decisions, and satisfaction levels among consumers in Anand and Vallabh Vidyanagar. Therefore, a systematic study is required to analyze consumer behavior towards ice cream consumption and to identify the factors affecting consumer preferences and purchasing decisions. The findings of such a study will help industry stakeholders formulate effective marketing and product development strategies while addressing the changing needs of consumers.

4. Research Methodology

4.1 Research Design

The descriptive research design has been adopted since it helps us to investigate and understand the characteristics of a specified group of subjects and to provide a picture of what currently exists, but without manipulating variables or trying to test cause-and-effect hypotheses (Creswell & Creswell, 2018) ^[4]. Data is presented using a quantitative approach based on data collected from structured surveys such as frequency distribution, percentage calculation and Likert Scale aggregation.

4.2 Data Collection Instrument

A structured questionnaire has been designed after an extensive review of related literature and discussions with experts. The questionnaire consists of 27 items in five thematic areas:

1. Demographic profile;
2. Brand awareness and sources of awareness;
3. Consumption behaviour and shopping patterns;
4. Consumer perception (consists of 8 items measured on an 8-item Likert scale where 1 indicates 'Strongly Disagree' and 5 indicates 'Strongly Agree')
5. Consumer suggestions.

The survey is implemented in English and in its translated version to enhance ease of participation. A pre-test on 20 subjects was conducted to gauge face validity and comprehension and minor wording modifications were made.

4.3 Sample and Sampling Procedure

A total number of 203 valid survey responses were gathered utilizing a combination of purposive and snowball sampling through a Google Forms based online survey. This sample size is appropriate given the recommendations for descriptive consumer behavior research (Malhotra, 2020) [14] and above the minimum sample size of 200 proposed by Hair *et al.* (2019) [9] for conducting frequency analysis. The participants are students, employed individuals, and business owners from a variety of age groups and varying educational backgrounds spread across Gujarat.

4.4 Scope and Limitations

The geographic boundaries of this study is confined to the State of Gujarat; hence, the findings may not be directly generalizable to states in other regions which might have diverse cultures and climatic patterns. Being an online survey, older or less technology-aware consumer segments are likely to be under-represented. As a cross-sectional study, it does not capture any longitudinal changes in consumer behavior over time. Self-reporting might subject the respondents to social desirability bias.

4.5 Ethical Considerations

The survey was entirely voluntary and all the responses were treated with utmost confidentiality. No individually identifiable information, except voluntary submission of e-mail address for follow-up if so wished by the respondent was collected; hence, it did not compromise respondent privacy. All data collected was purely for research purposes. The study adopts a descriptive research design, which is appropriate for examining the characteristics of a defined population and describing the distribution of variables without testing causal relationships (Creswell & Creswell, 2018) [4]. The approach is quantitative, drawing on structured survey data to generate frequency distributions, percentages, and Likert-scale aggregations.

5. Results and Discussion

5.1 Demographic Profile of Respondents

Table 1: Demographic profile of respondents (n = 203). *Income data reported for 135 respondents who disclosed this information.

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	139	68.5
	Female	64	31.5
Age Group	Below 18 years	14	6.9
	18–25 years	160	78.8
	26–35 years	16	7.9
	36–45 years	12	5.9
	Above 45 years	1	0.5
Occupation	Student	147	72.4
	Service/Job	41	20.2
	Business	15	7.4
Monthly Income*	Below ₹20,000	60	44.4
	₹20,001–₹40,000	32	23.7
	₹40,001–₹60,000	24	17.8
	Above ₹60,000	19	14.1

The sample characteristics of 203 respondents to the survey questionnaire are presented in Table 1 below. It indicates a female dominated sample (68.5%), possibly due to the online mode of the survey which is targeted to professional circles and students. Regarding age, a highly polarized distribution of 78.8% aged 18-25 followed by 26-35 year-old respondents (7.9%). Young age is indicative of the web survey as it reaches many young people and it also indicates a heavy user of ice cream as revealed by various research previously. In the classification of occupation, it indicates a higher percentage of students (72.4%), followed by employees (20.2%) and business owner (7.4%). In the case of income information where people decided to share, the largest majority of respondents had monthly income less than 20,000 (44.4%).

5.2 Brand Awareness

Table 2: Brand Awareness among Consumers and Factors Influencing Brand Awareness (n = 203)

Sr. No.	Particulars	Category	Frequency (n)	Percentage (%)
1	Awareness of Ice Cream Brands	Aware	197	97.0
		Not Aware	6	3.0
		Total	203	100.0
2	Major Factors Influencing Brand Awareness	Advertisement	52	25.6
		Brand Reputation	39	19.2
		Word of Mouth (Friends/Family Recommendation)	37	18.2
		Availability in Store	35	17.2
		Social Media Promotion	26	12.8
		Online Medium/Others	14	7.0
		Total	203	100.0

A substantial majority, 97.0% of the consumers surveyed (n=197), were aware of different brands of ice cream in the market. Only 3.0% (n=6) of the respondents claimed they are not aware of various ice cream brands available in the market. This has been attributed to extensive promotion by the market leaders, and widespread availability of branded ice cream in the organized retail network in Anand and Vidhyanagar.

Of all the media considered, television and social media promotion were most widely indicated as drivers, often with other factors like friend/family recommendation, visibility

in retail stores, and online medium included. Advertisement (25.6%, n=52) emerged as the highest influence among the respondents when asked to specify one significant factor that contributes to brand awareness, followed by brand reputation (19.2%, n=39), word-of-mouth (18.2%, n=37) and availability in store (17.2%, n=35). Social media promotion was cited by 12.8% (n=26) respondents, proving the growing significance of digital medium in generating brand awareness, which is also highlighted in the work by Mehta and Sharma (2023) [15] where the social media platform is indicated as one of the highest influences among

the urban Indian millennial for creating awareness.

5.3 Frequency of Consumption and Seasonality

Table 3: Consumption frequency and seasonal patterns (n = 203)

Variable	Category	Frequency (n)	Percentage (%)
Consumption Frequency	Daily	34	16.7
	Weekly	90	44.3
	Monthly	33	16.3
	Occasionally	32	15.8
	Rarely	14	6.9
Season of Consumption	Summer	111	54.7
	Throughout the Year	59	29.1
	Winter	22	10.8
	Monsoon	11	5.4

Frequency of consumption of ice cream and seasonality is described in table 3. It appears that majority of consumers, 44.3% (n=90), consume ice cream weekly, 16.7% (n=34) consumed daily, 16.3% (n=33) on a monthly basis, while 15.8% (n=32) consumed it occasionally. Only 6.9% (n=14) consumers were rarely found consuming ice cream. The result indicates that ice cream is consumed at least once a week for a majority of the respondents and are high category consumers, implying that ice cream has found its place in regular consumption patterns rather than being limited to occasion based usage.

The season of peak ice cream consumption by majority of respondents (54.7%, n=111) is the summer season. It also appears that 29.1% (n=59) consumers eat ice cream year-round, indicating a "de-seasonalization" trend, similar to those noticed in the urban Indian market (IMARC Group, 2024)^[11]. Winter (10.8%, n=22) and monsoon (5.4%, n=11) have considerably lower contributions towards consumption frequency.

5.4 Purchase Behaviour

5.4.1 Purchase Channel

Ice cream parlors was the most preferred purchase location (58.1%; n=118). Supermarkets, grocer/kirana store and online delivery application took second place respectively (13.3%; n=27, 10.8%; n=22, 9.9%; n=20). The least preferred purchase location was the dairy booth (7.9%; n=16). Parlor buying shows that consumers want immediate and experience-oriented purchase environment. This may be due to the availability of local and artisanal brands in parlors.

5.4.2 Amount Spent per Purchase

The range 51-100 were the most preferred purchase range followed closely by below 50, at 39.9% (n=81) and 36.5% (n=74) respectively. 101-200 followed at 15.8% (n=32). The spending was above 200 for 7.9% of consumers (n=16). This implies a higher number of lower mass-market segment consumers but a considerable premium market which is an alignment with the premiumization trend observed in the urban FMCG markets in India.

5.4.3 Preferred Ice cream format

Cup and cone are the two most preferred format types (32.0%; n=65, 29.6%; n=60). Other format types follow with a similar preference for individually packaged units, family packs, sticks/bar, kulfi, sundae (17.2%; n=35, 7.9%; n=16, 7.4%; n=15, 5.9%; n=12)

5.5 Brand and Flavour Preferences

Table 4: Brand preference, flavour preference, and purchase rationale (n = 203)

Variable	Category	Frequency (n)	Percentage (%)
Brand Preference	Amul	104	51.2
	Hocco	17	8.4
	Havmor	15	7.4
	Baskin Robbins	13	6.4
	No Specific Preference	12	5.9
	Mother Dairy	10	4.9
	Kwality Wall's	11	5.4
	Others	21	10.3
Flavour Preference	Chocolate	68	33.5
	Vanilla	32	15.8
	Butterscotch	31	15.3
	Rajbhog/Kesar Pista	28	13.8
	Mango	10	4.9
	Others	34	16.7
Purchase Reason	Taste	66	32.5
	Quality	61	30.0
	Brand Image	24	11.8
	Price	19	9.4
	Availability	16	7.9
	Others	17	8.4

Table 4 outlines the results of the brand preference and flavour preference study. Amul was by far the most preferred brand among all respondents (51.2%, n=104), with second best being the locally sourced artisanal brand Hocco from Ahmedabad (8.4%, n=17), then Havmor (7.4%, n=15), and Baskin Robbins (6.4%, n=13). These results indicate strong brand equity of Amul which is explained by its all pervasive distribution network, consistently perceived quality and its comparatively affordable price, which align with the dimensions of brand equity identified by Aaker (1991)^[11].

The taste of the product was the most cited factor for brand choice (32.5%, n=66), with quality closely behind (30.0%, n=61). These were followed by brand image (11.8%, n=24), price (9.4%, n=19), and availability (7.9%, n=16). These findings are in line with the research done by Hossain *et al.* (2022)^[10] and clearly illustrate that sensory factors are a very important aspect of a purchase decision.

Chocolate was the favorite flavor amongst the survey takers (33.5%, n=68), followed by vanilla (15.8%, n=32), butterscotch (15.3%, n=31) and Rajbhog/ Kesar Pista (13.8%, n=28). A significant observation is the comparatively high preference for Rajbhog/ Kesar Pista, an Indian delicacy; this highlights that in the case of Gujarat the markets may differ nationally, as explained by Patel and Desai (2021)^[25] that the local taste heritage plays a significant role.

5.6 Consumer Perceptions: Likert Scale Analysis

Table 5: Likert scale perceptions of ice cream products (n = 203). SA = Strongly Agree; A = Agree; N = Neutral; D = Disagree; SD = Strongly Disagree

Statement	SA (%)	A (%)	N (%)	D (%)	SD (%)	Agreement (%)
Ice cream products are easily available in my area	56.2	28.6	8.9	3.9	2.5	84.7
I am satisfied with the taste of ice cream products	37.9	46.3	8.4	3.4	3.9	84.2
Ice cream prices are reasonable	30.5	37.4	21.2	7.9	3.0	67.9
There is sufficient variety in flavours and packaging	32.0	40.9	13.8	10.8	2.5	72.9
Ice cream quality meets my expectations	31.0	42.4	15.3	4.9	6.4	73.4
I am satisfied with hygiene and storage conditions	34.0	36.5	18.2	8.4	3.0	70.4
Ice cream products provide good value for money	33.0	35.9	22.2	6.4	2.5	69.0
I would recommend my preferred brand to others	33.5	41.4	16.3	5.9	3.0	74.9

The subjects were then asked to state their level of agreement or disagreement with eight statements on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The frequency distribution for each item, as well as the proportion of respondents who agreed with the statement (Agree + Strongly Agree) can be found in Table 5.

Both product availability and taste satisfaction achieved high percentages of agreement (84.7% and 84.2%, respectively), reflecting a high market serviceability with respect to these aspects. Product price reasonableness (67.9%) and value for money (69.0%) had notably lower percentages of agreement, showing a high degree of price sensitivity on the part of many consumers and some belief that the quality of products does not fully justify the cost. Hygiene and product storage satisfaction was high overall at 70.4% but many qualitative responses referred to "melted-and-refrozen" product and poor cold-chain conditions, which is similar to what Yadav and Bharti (2023) ^[31] observed. Brand recommendation intention, as a measure of loyalty, has a high percentage of agreement at 74.9%, indicating the strong advocacy for preferred brands.

5.7 Overall Satisfaction

Table 6: Overall consumer satisfaction with ice cream products (n = 203)

Satisfaction Level	Frequency (n)	Percentage (%)
Highly Satisfied	58	28.6
Satisfied	108	53.2
Neutral	22	10.8
Dissatisfied	7	3.4
Highly Dissatisfied	8	3.9

Overall consumer satisfaction levels are indicated by the data presented in Table 6. Over 81.8% of all respondents were satisfied or highly satisfied with their experience (53.2%, n=108 and 28.6%, n=58). 10.8% of consumers (n=22) chose to express a neutral opinion, while only 3.4% (n=7) and 3.9% (n=8) were dissatisfied or highly dissatisfied. Similar to the Likert survey on the satisfaction variables, these results show that consumers are overall satisfied with ice cream and also confirm the general positive consumer feedback with regard to known ice cream brands observed by Singh and Mishra (2022) ^[29].

5.8 Desired Improvements

Table 7: Consumer-desired improvements in ice cream products (n = 203; multiple responses permitted)

Desired Improvement	Frequency (n)	Percentage (%)
Better quality	96	47.3
Healthier options (low sugar/high protein)	83	40.9
Lower prices	79	38.9
More flavours	78	38.4
Better availability	66	32.5
Better packaging	45	22.2

Respondents were asked to choose the types of improvements to the products they wanted to see (multi-select) (Figure 1, Table 7 for rank order). By far the top product improvement desired was improved quality (47.3% of respondents, n=96), with the next highest response being healthy alternatives such as low-sugar or high protein products (40.9% of respondents, n=83). Following these top product improvement choices were a lower price (38.9% of respondents, n=79) and additional flavor options (38.4% of respondents, n=78). The top six highest ranked product improvements desired by the respondents were better availability (32.5% of respondents, n=66) and improved packaging (22.2% of respondents, n=45).

Healthy options (40.9%) being the leading response is a striking finding and supports the growing international health and wellness trend noted by Verma and Chopra (2024) ^[30] and Mintel (2023) ^[16]. Responses to the qualitative open ended question supports this, with consumers citing the need for natural colors and flavors, and less palm oil and artificial stabilizers as well as a higher protein content in the product. Respondents also brought up concerns over cold chain storage with one remarking: 'Sometimes I get melted and re-frozen ice cream that indicates mishandling by the store'. Another cited that 'coating of candy and topping in cone with chocolate should be palm oil fat free' revealing consumers' desire for change even on an ingredient level in a mass market product.

6. Conclusion

This is an in-depth, empirically-supported analysis of consumer behavior in the Indian ice cream market of Anand

and Vidhyanagar. The conclusions from this study revolve around: first, near universal brand awareness (via advertising, brand name, word-of-mouth, in-store availability); second, the overwhelming prevalence of the Amul brand for preference (attributable to superior brand equity, competitive pricing and distribution, as well as availability); third, taste and quality as primary drivers of purchase (consistent with the prominence of the sensory aspects of consumption in international consumer studies); fourth, dominant favorite flavors (chocolate, vanilla, butterscotch); but also a culturally prominent Rajbhog/Kesar Pista flavor indicating the relevance of heritage for product assortments; fifth, ice cream parlors as the most frequent place of purchase (underscoring the importance of the experiential and freshness components of on-premise consumption); and finally, overall high levels of customer satisfaction (81.8%), but with particular concerns regarding product affordability, consistency in sanitation and product quality issues.

The growing priority consumers place on health as evidenced by 40.9% expressing the need for healthier products is a market inflection for smart brands to address. Further, the rich quality data illustrate savvy consumer understanding of ingredients, cold chain management and environmental issues, prompting a industry-wide raise in product standards.

7. Recommendations & Suggestions

Based on the findings, the following recommendations are offered to industry stakeholders and policymakers:

7.1 For Ice Cream Manufacturers

- 1. Health-oriented segment product innovation:** Manufacturers should focus on development and commercialization of low-sugar, high protein, plant based and natural ingredient ice creams. The market signal in terms of health conscious segment of 40.9% is very strong and aligns with global market trends.
- 2. Diverse flavor portfolio:** The range of brands should be extended by including global new flavor developments and locally-oriented flavors. The strong preference for Rajbhog/Kesar Pista for this particular sample shows the effectiveness of region specific product development as a market differentiation strategy.
- 3. Product quality and ingredient transparency:** Manufacturers must develop clean label recipes by phasing out/reducing palm oil, artificial colors and synthetic stabilizers and clearly communicate the clean labels via packaging and marketing. The consumers expressed concern on product quality (47.3%) and clean ingredients.
- 4. Packaging:** Further research in to packaging solutions is recommended which should be sustainable, tamper evident and consumer friendly. 22.2% respondents suggested it to be improved.

7.2 For Distributors and Retailers

- 1. Cold chain integrity:** Distributors and especially kirana and dairy booths should make investment in maintaining continuous cold chain standard. Consumers raised the concern of melting and refrozen products

multiple times in responses and this has to be taken as an offense to the brand and the consumer.

- 2. Diversification in channels:** Increase in the proportion of transactions using online delivery (9.9% of transactions in this sample) calls for continued investment in last-mile refrigerated delivery solutions.

7.3 For Marketers

- 1. Digital and social media focus:** High level of social media consumption across all demographics of consumers with most prevalent being the 18-25 years cohort suggests a systematic investment in social media marketing and influencer activities. It should include a lot of user-generated content campaigns.
- 2. Communicating value proposition:** Lower score for agreement in reasonableness of price (67.9%) and value for money (69.0%) suggests a need to have clear and compelling value propositions, such as premium ingredient quality or artisanal manufacturing or nutritional value proposition to justify the price.

7.4 For Policymakers

Food safety standards: Food safety regulators must implement stronger regulations and penalties for cold chain non-adherence for frozen desserts across all retail formats and also enforce them in unorganized sectors of the market like kirana stores and dairy booths. Mandatory front of the pack nutritional labeling will encourage health-conscious consumers and drive product reformulation by manufacturers.

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