"A Study On The Impact Of Health And Environmental Concerns On Consumer Buying Behavior In The Ice Cream Industry"

At
Devyani Foods Industies Ltd

Mr. Anup Mukherjee

MBA, NSHM Knowledge Campus Durgapur

Executive Summary

The ice cream industry in India has undergone a significant transformation over the past two decades, moving from being viewed as a seasonal luxury product to becoming a widely consumed year-round dessert category. This shift has been driven by changes in lifestyle, income growth, exposure to global food trends, and increased cold-chain infrastructure. While flavor variety, brand familiarity, and pricing continue to influence purchasing decisions, there has been a growing emphasis on **health and environmental concerns** among consumers. This study examines the extent to which these concerns influence consumer buying behavior, with a particular focus on **Devyani Food Industries Ltd. (DFIL)** and its flagship ice cream brand **Cream Bell**.

In recent years, consumers have become more aware of the ingredients and nutritional aspects of packaged foods, including frozen desserts. Concerns such as artificial flavors, high sugar levels, preservatives, and saturated fats have gained prominence. Similarly, rising awareness about environmental sustainability has caused consumers to reflect on the ecological impact of dairy production, packaging waste, energy consumption in cold storage, and corporate responsibility practices. These concerns are shaping how consumers evaluate ice cream brands, affecting not only purchasing frequency but also preferences for certain product categories such as low-fat ice creams, sugar-free variants, probiotic frozen yogurts, and vegan or plant-based alternatives.

Cream Bell, established in 2003 under DFIL, entered the Indian market with the objective of making premium-quality ice cream accessible to a large section of the population. Over time, the brand has built a strong product portfolio that appeals to diverse demographic segments. It offers classic cones, cups, and tubs along with indulgent novelties, kulfi varieties, and family packs. Its growth strategy relies heavily on innovation, affordability, and an extensive distribution network. However, the emergence of health-conscious consumption patterns poses both **challenges and opportunities** for the brand. While demand for healthier ice cream options is growing, Cream Bell must compete with established brands like Amul and Mother Dairy, as well as new artisanal and experimental brands that prioritize organic ingredients and minimal processing.

This research is important because it explores **how consumer priorities are shifting** in an industry traditionally associated with indulgence and enjoyment rather than nutrition or environmental responsibility. By analyzing consumer preferences, perception patterns, and purchase motivators, the study provides insights into market behavior that can help companies like Cream Bell adapt their product development, branding messages, and sustainability practices.

The research adopts a structured methodology to capture relevant consumer insights. Both primary and secondary data sources are used. Primary data is collected via a structured questionnaire administered to a sample of consumers across different age groups and regions. Secondary data is obtained from academic journals, industry reports, market research publications, and company documents. The study uses descriptive research design to identify patterns and trends without manipulating variables. The data collected is analyzed to highlight how factors such as age, lifestyle, health conditions, media influence, and personal values shape purchasing decisions.

Key observations from the study reveal that **health awareness does not necessarily discourage ice cream consumption**, but it does influence the type of ice cream purchased. Many consumers now look for labels indicating low sugar, reduced calories, real fruit content, or the absence of artificial color and flavor additives. Additionally, younger consumers are more open to trying alternative frozen desserts such as sorbets, gelatos, and plant-based ice creams. Meanwhile, environmental concerns are emerging but are still less influential compared to health-related considerations. Although consumers acknowledge the importance of sustainable packaging and ethical sourcing, price sensitivity and availability continue to override these considerations in actual purchase behavior.

For "Cream Bell", the findings signal a need to **strengthen health-oriented product lines** and communicate ingredient transparency clearly. There is also room for the brand to improve its sustainability practices, especially in packaging and energy-efficient cold chain operations. Creating awareness through marketing campaigns, emphasizing natural ingredients, and launching options for niche segments such as diabetics and lactose-intolerant consumers can provide the brand with a competitive advantage.

Keywords: Ice Cream Industry, Lifestyle Changes, Indulgence vs. Nutrition, Health Awareness, Environmental Sustainability, Health-Oriented Variants, Corporate Responsibility

1. Introduction

Consumer buying behavior in the food and beverage industry has always been shaped by a combination of taste preference, cultural associations, affordability, and accessibility. However, in recent years, there has been a noticeable shift toward greater awareness of personal health and environmental sustainability. These factors are increasingly influencing the choices consumers make, particularly concerning packaged and processed food items. The ice cream industry, traditionally viewed as a product of indulgence and enjoyment, is now being reshaped by these changing perceptions. This study explores how **health concerns and environmental awareness** are influencing consumer preferences in the ice cream sector, with special focus on the role and market dynamics of Cream Bell under Devyani Food Industries Ltd.

Understanding Consumer Buying Behavior

Consumer buying behavior refers to the thought processes and decision-making activities that individuals undergo before purchasing products or services. It includes how consumers gather information, evaluate alternatives, make selections, and reflect on their purchase experience. For ice cream, buying decisions historically depended largely on:

- Flavor and taste preferences
- Brand familiarity or loyalty
- Price and quantity
- Packaging appeal
- Immediate desire or impulse

However, contemporary consumers demonstrate more layered and informed considerations. Their choices reflect lifestyle goals, nutritional values, ethical considerations, and social identity. The consumer is no longer passive; they are informed, connected, and value-driven.

Rise of Health Conscious Consumption

The past two decades have witnessed increased awareness regarding nutrition, fitness, and mental well-being. Several factors contribute to this change:

1. **Increase in lifestyle-related health disorders**: Diabetes, obesity, hypertension, and cholesterol issues are becoming more common across age groups, prompting caution in diet.
2. **Growth of fitness culture**: Gyms, wellness influencers, and fitness-based social media culture have normalized healthy eating.
3. **Greater access to dietary information**: Nutritional labels, blogs, mobile apps, and doctor recommendations encourage informed food choices.
4. **Shift from quantity to quality consumption**: Consumers prefer smaller portions of healthier or premium-quality products rather than large quantities of unhealthy options.

Because of these factors, consumers evaluate ice cream not only as a dessert but also as a food product with caloric value, sugar content, fat percentage, and ingredient composition.

Environmental Awareness and Its Influence

Environmental consciousness has also become a defining factor in shaping consumer expectations. Key concerns include:

- **Plastic and non-biodegradable packaging waste**

- **Greenhouse gas emissions from dairy and industrial operations**

- **Water and energy consumption in manufacturing and cold storage**

- **Ethical sourcing of raw materials**

Though not all consumers base their purchasing entirely on sustainability, there is a growing expectation for brands to demonstrate responsibility. Brands that align with environmental values are viewed more positively, especially among younger and urban consumers.

Changing Trends in the Ice Cream Industry

The ice cream industry has not remained untouched by these shifts. Some notable emerging trends include:

Trend	Description
Low-Sugar and Low-Fat Ice Creams	Created for calorie-conscious consumers and those with dietary restrictions.
Probiotic Frozen Yogurts	Position ice cream as a healthier digestive-friendly treat.
Vegan and Plant-Based Ice Creams	Cater to lactose-intolerant and environmentally conscious consumers.
Premium Artisanal Ice Creams	Focus on natural ingredients and handmade production.
Real Fruit and Natural Flavor Options	Appeal to consumers seeking chemical-free and additive-free products.

These trends show a clear correlation between **changing consumer priorities and product innovation**.

Relevance to Cream Bell and Industry Competitors

Cream Bell operates in a competitive environment where brand differentiation is essential. Major competitors like Amul, Kwality Wall's, Mother Dairy, and Vadilal have begun to introduce:

- Sugar-free ice creams
- "Real milk and real fruit" ranges
- Reduced-fat variants
- Premium handcrafted-style products

Meanwhile, smaller boutique brands emphasize "all-natural" and "preservative-free" formulations.

For Cream Bell to continue expanding, understanding consumer expectations in this evolving landscape is crucial.

Why This Topic Is Important Today

This study matters because the definition of "value" in food consumption is broadening. Consumers now consider:

a) Personal value: "What health effects will this have on my body?"

b) Social value: "Does this choice reflect well on my lifestyle and identity?"

c) Environmental value: "Is this purchase contributing to sustainability or waste?"

The buying decision for a cup of ice cream today may involve concerns previously absent in this category.

Key Questions Guiding the Study

This research seeks to answer the following:

1. **Do consumers actively check nutritional content before selecting ice cream?**
2. **Are health-related product variations influencing product choice?**
3. **How much are consumers aware of environmental issues in ice cream production?**
4. **Do environmental concerns significantly alter brand preference or purchasing frequency?**
5. **How should Cream Bell adapt to align with these preferences?**

How This Study Adds Value

For consumers: It promotes awareness of mindful consumption.

For companies like Cream Bell: It provides insight into emerging customer expectations and direction for product development.

For academic research: It contributes to understanding how health and environmental awareness affect consumer psychology in indulgent goods.

2. Review of Literature

The following section summarizes key studies conducted by researchers, scholars, and market analysts that help establish the academic context for the current research.

Study 1: Health Awareness and Purchase Decisions in Dairy Products

Gupta & Mehta (2018) Gupta and Mehta conducted a study focusing on how increasing health awareness influences consumer decisions while purchasing dairy-based food products. Their research revealed that consumers are becoming more sensitive to nutritional value, particularly sugar and fat content. The study emphasized that buyers increasingly read product labels and evaluate whether items align with their dietary goals. The researchers noted that this trend was particularly strong among urban middle-class consumers, who are more exposed to lifestyle diseases and fitness-oriented media.

Key Findings:

- Consumers actively avoid products with excessive sugar and artificial additives.
- Health consciousness does not eliminate indulgent food consumption but shifts it toward moderated or healthier options.
- Younger consumers are more experimental and open to healthier product alternatives.

Relevance to Present Study: This research supports the idea that health consciousness is becoming a significant factor even in indulgent categories like ice cream. The shift in consumer preferences forms an important basis for studying how ice cream brands should respond.

Study 2: Consumer Perception of Ice Cream Ingredients and Additives

Sharma & Kaur (2020) Sharma and Kaur explored how ingredient composition affects consumer evaluation of ice cream products. Their study found that consumers hold mixed opinions regarding artificial flavors and preservatives. While taste remains the highest priority for many, the awareness of processed ingredients influences repeat purchases and brand loyalty. The research highlighted that consumers with children are especially cautious, preferring products that claim natural ingredients, real fruit content, or fewer preservatives.

Key Findings:

- Taste is still the dominant buying factor, but transparency about ingredients improves trust.
- Brands that use messaging around "real", "natural," and "pure" gain stronger recall.
- Educated consumers show higher label-reading behavior.

Relevance to Present Study: This study reinforces the importance of ingredient transparency in the ice cream industry. It aligns with the current study's objective of assessing how health concerns shape purchasing behavior.

Study 3: Environmental Awareness and Consumer Choices in Packaged Foods

Siddiqui & Rahman (2021) This study focused on environmental factors affecting food purchase decisions. It noted that consumers, particularly millennials, are increasingly attentive to sustainability messages, eco-friendly packaging, and ethical sourcing. However, the study also found that environmental values often compete with price sensitivity; consumers appreciate eco-conscious brands but may hesitate to pay extra for them.

Key Findings:

- Environmental concerns are rising but **do not always translate into actual purchase behavior**.
- Brands emphasizing recyclable packaging gain positive brand sentiment.
- Awareness campaigns play a critical role in shaping long-term consumer attitudes.

Relevance to Present Study: This research is directly useful in evaluating whether consumers consider environmental impact when purchasing ice cream, especially given the ice cream industry's heavy use of plastic packaging and refrigerated logistics.

Study 4: Impact of Brand Image and Trust in FMCG Purchases

Rao & Singh (2017) Rao and Singh examined the relationship between brand trust and buying decisions in the Fast-Moving Consumer Goods (FMCG) sector. Their study revealed that **brand reputation plays a decisive role** when product categories have similarities in taste, price, and packaging — which is characteristic of the ice cream market. They argued that strong brands retain customers through emotional connection, consistency, and reliability.

Key Findings:

- Brand loyalty is strengthened when consumers perceive a brand as honest and value-oriented.
- Trust becomes more important than price when health or safety concerns are involved.
- Advertising alone is not enough; consumer experience drives loyalty.

Relevance to Present Study: This study indicates that if Cream Bell positions itself responsibly concerning health and environment, it can gain loyalty even in a competitive market.

Study 5: Influence of Lifestyle and Social Identity on Food Choices

Thomas & Abraham (2019) Thomas and Abraham explored how food choices are connected to lifestyle identity and social preferences. Their study found that young adults increasingly use food consumption to express personal identity — such as being health-conscious, environmentally aware, or supportive of local brands. This group is more likely to adopt vegan desserts, artisanal foods, and natural ingredient-based products due to lifestyle symbolism rather than purely nutritional reasons.

Key Findings:

- Food choices act as a reflection of personality and values.
- Social media plays a strong role in influencing experimental food buying.
- Consumers are shifting from "just taste" to "taste + meaning" based consumption.

Relevance to Present Study: This supports the argument that health and environmental preferences also carry emotional and symbolic value, which can influence ice cream purchases, especially among youth and urban consumers.

3. Objectives of the Study

Every research study is guided by a set of clear objectives that provide direction, scope, and purpose to the investigation. In the context of consumer behavior, especially in a dynamic and evolving industry such as ice cream, understanding why consumers make certain choices requires structured and goal-oriented inquiry. This study focuses on identifying the impact of health and environmental concerns on consumer buying behavior in the ice cream industry, with special reference to **Cream Bell**. The following objectives provide a systematic framework to explore the relationship between consumer awareness, perception, and purchasing decisions.

Primary Objective

The primary purpose of this study is to analyze the extent to which **health awareness and environmental considerations influence consumer choice and preferences** in the ice cream segment. This objective is central because it reflects the core shift in consumer attitudes from mere taste-based selection to more conscious and value-driven consumption.

Specific Objectives of the Study

To achieve the primary objective, several specific, measurable, and research-oriented sub-objectives have been formulated. These objectives collectively enable a deeper understanding of consumer motivations, expectations, and market trends.

1. To Study the Changing Trends in Ice Cream Consumption

This objective aims to understand how consumer preferences have evolved over time, particularly in relation to:

- Increased health awareness
- Growing lifestyle-related dietary restrictions
- Rise of fitness and wellness culture
- Greater exposure to global food trends
- Expansion of premium and artisanal ice cream formats

Through analyzing these changes, the study intends to highlight the shifting motivations that influence consumers to choose one type of ice cream over another.

2. To Examine Consumer Awareness Regarding Health Concerns Related to Ice Cream

The consumption of ice cream is often associated with high sugar content, saturated fat, preservatives, and artificial flavors. This objective explores:

- Whether consumers read or understand nutritional labels
- How health conditions (e.g., diabetes, obesity) influence purchase decisions
- The level of acceptance for low-fat, sugar-free, or probiotic variants
- The degree to which health advice from peers, medical professionals, and media influences consumer choices

Understanding this allows us to determine if **health consciousness translates into actual purchasing behavior** or remains a theoretical preference.

3. To Evaluate Consumer Awareness of Environmental Issues Connected to Ice Cream Production

This objective focuses on identifying consumers' perspective on sustainability, including:

- Awareness of environmental implications of dairy-based production
- Concerns regarding packaging waste and recyclability
- Sensitivity toward the carbon footprint of refrigerated supply chains
- Attitudes toward brands claiming eco-friendly practices

The intention is to determine whether environmental consciousness is significantly shaping choices or still lacks behavioral impact.

4. To Analyze the Impact of Health and Environmental Concerns on Brand Preference

Consumers often align with brands that reflect their values. This objective studies:

- How health-oriented product ranges affect brand loyalty

- Whether consumers switch brands based on perceived environmental responsibility

- The influence of brand transparency and credibility in consumer trust-building

- The willingness of consumers to pay more for "healthy" or "eco-conscious" alternatives

This helps identify the changing contours of competition within the ice cream market.

5. To Study the Market Position and Consumer Perception of Cream Bell

Since the research is applied specifically to **Cream Bell**, this objective assesses:

- Brand recall and customer familiarity
- Perceived product quality and variety
- Effectiveness of Cream Bell's communication and promotional strategies
- Consumer expectations regarding improved nutritional value and sustainable practices

This enables a comparative understanding of Cream Bell's strengths and gaps relative to market rivals.

6. To Provide Recommendations for Cream Bell to Adapt to Changing Consumer Preferences

Based on analysis and interpretation of the research data, the study intends to propose practical and actionable suggestions to Cream Bell. Recommended strategies may relate to:

- Product reformulation (healthier ingredients, natural flavors)
- Introduction of eco-friendly packaging solutions
- Enhanced brand communication emphasizing transparency and responsibility
- Targeted marketing campaigns for health-conscious consumer groups

The goal is to align the brand's offerings with consumer expectations to enhance competitive advantage.

Research Questions Corresponding to Objectives

To ensure clarity, the objectives can be framed as research questions:

Research Question	Corresponding Objective
Do consumers actively consider nutritional and health factors when purchasing ice cream?	Objective 2
Are consumers influenced by marketing claims of sustainability or natural ingredients?	Objective 3 & 4
How do evolving health and environmental concerns affect brand loyalty?	Objective 4
How is Cream Bell perceived in terms of healthfulness and responsibility?	Objective 5
What strategic adjustments can Cream Bell adopt to match changing consumer expectations?	Objective 6

These questions maintain alignment between purpose, data collection, and interpretation of results.

Significance of the Objectives

The objectives hold broader significance beyond academic framing:

For the Ice Cream Industry

- They highlight the growing need for **innovation in product formulation**.
- They encourage companies to adopt **consumer-centric strategies**.
- They emphasize the importance of **sustainability and transparency** in long-term brand building.

For Consumers

- The study encourages awareness regarding nutritional choices.
- It promotes responsible consumption without discouraging enjoyment.

For Cream Bell

- The findings support better decision-making in product development and marketing.
- They help the brand remain competitively relevant in a rapidly evolving market.

4. Rationale of the Study

In recent years, shifts in consumer awareness and lifestyle patterns have created a noticeable transformation in the food and beverage sector, particularly within the frozen dessert and ice cream market. Traditionally, ice cream has been perceived as a product associated with pleasure, indulgence, celebration, and social sharing. However, current consumer behavior reflects a growing sense of responsibility linked to personal well-being and environmental sustainability. These evolving attitudes have led to demand for healthier, ethically produced, and environmentally conscious options. The rationale for undertaking this study stems from the need to understand how **health concerns and environmental awareness are influencing consumer preferences in the ice cream industry**, with a specific focus on Cream Bell, one of the notable players in the Indian frozen dessert sector.

The modern consumer is no longer merely driven by taste and price. The increased rate of lifestyle diseases such as diabetes, obesity, and high cholesterol has heightened awareness regarding nutritional intake. People are becoming more attentive to the composition of packaged foods, carefully examining sugar levels, fat content, artificial additives, and quality of raw ingredients. This awareness has permeated the ice cream segment as well, where consumers—especially urban and semi-urban millennia's—are actively seeking healthier alternatives. Low-fat ice creams, probiotic frozen yogurts, vegan options, and real fruit-based sorbets are gaining popularity. This shift indicates that health concerns, which once seemed secondary in indulgent food categories, are now playing a pivotal role in shaping purchase decisions.

In addition to personal well-being, there has been a growing global conversation around sustainability, climate impact, and resource protection. Consumers are increasingly questioning how food products are manufactured, transported, and packaged. The dairy industry, which forms the core of traditional ice cream production, is associated with concerns such as greenhouse gas emissions, ethical farming practices, and high water consumption. Furthermore, the ice cream industry requires extensive cold-chain infrastructure, involving significant energy usage and carbon footprint. Packaging waste, especially plastic-based wrappers and containers, adds to environmental strain. These issues have led some consumers to modify their buying habits or to favor brands seen as environmentally conscious.

The rationale for this study is to evaluate whether these **health and environmental considerations translate into actual purchasing behavior** or whether they remain theoretical preferences overshadowed by taste, affordability, and availability. While consumers may express a desire to choose "healthier" or "greener" products, actual marketplace decisions may still be driven by habit, convenience, promotional influence, or cultural associations with treats like ice cream. Understanding the *extent of this influence* is crucial for companies, policymakers, and marketers who aim to align product offerings with consumer expectations.

For a company like Cream Bell, which has built its brand on affordability, widespread accessibility, and variety, these changing consumer expectations pose both challenges and strategic opportunities. The brand operates in a market where larger competitors like Amul and Kwality Wall's have already introduced product lines addressing health-conscious consumers. Similarly, the rise of premium artisanal and handcrafted ice cream brands that emphasize natural ingredients and sustainable practices has introduced new dimensions of competition. To remain competitive and relevant, Cream Bell must understand how deeply consumers value health and environmental factors and whether these concerns influence brand switching, consumption frequency, product choice, or willingness to pay a premium.

In the broader business context, this study holds relevance for marketing and product development strategies in the FMCG and dairy-based sectors. Companies increasingly recognize that brand loyalty today is driven not merely by product satisfaction but also by consumer alignment with brand values. Brands perceived to be transparent, responsible, and forward-thinking gain trust and long-term engagement. The study contributes to this understanding by examining how brand reputation, ethical positioning, and product authenticity intersect with consumer buying psychology in the frozen dessert segment.

From an academic perspective, research on frozen dessert consumption behavior in India remains relatively limited compared to other food categories such as beverages, snacks, or health foods. The existing literature largely focuses on factors such as taste preference, marketing influence, and price sensitivity. However, the ongoing shifts in health consciousness and sustainability orientation demand fresh research to capture emerging behavioral patterns. This study thus fills a gap by providing a specialized examination of **health and environmental impacts on consumer purchasing decisions** within a traditionally indulgent product category.

Additionally, the Indian market is unique due to its cultural diversity, climatic variations, and socio-economic differences. Food consumption habits vary widely based on geography, income, tradition, and lifestyle. The study's findings may help identify whether health and sustainability considerations are more concentrated among certain demographic groups, such as urban youth or higher-income households. Such insights can guide targeted marketing strategies, product formulation decisions, and brand communication styles.

Another key rationale for the study is the evolving competitive environment shaped by **innovation and digital awareness**. The rapid increase in digital content, food influencers, social media campaigns, and health advocacy has accelerated the spread of nutritional knowledge and lifestyle trends. Consumers today are exposed to persuasive narratives around "clean eating," "natural ingredients," and "eco-friendly lifestyles." This exposure influences perception and buying intention even in categories previously associated with carefree indulgence.

Therefore, this study seeks to evaluate not only the existence of health and environmental concerns but also **their practical influence on consumer behavior**—whether they shape brand preference, reduce consumption, inspire experimentation with new alternatives, or merely remain background considerations overshadowed by taste and habit.

In summary, the rationale of this study is grounded in the intersection of changing consumer consciousness, competitive business dynamics, societal emphasis on sustainability, and the evolving nature of the Indian FMCG market. The study aims to generate meaningful insights that contribute to academic research and offer practical value to Cream Bell and similar brands that seek to remain relevant in a rapidly evolving consumer landscape. Understanding these shifts is not only beneficial for immediate marketing and product planning but also essential for building long-term brand strength and consumer loyalty.

5. Research Methodology

Research methodology provides the systematic framework that guides a study from conceptualization to conclusion. It defines how data is collected, analyzed, and interpreted to address the research objectives. Since this study investigates **the impact of health and environmental concerns on consumer buying behavior in the ice cream industry**, it was essential to adopt a methodology that captures both attitudinal and behavioral dimensions. The methodology outlined below ensures that the findings are valid, reliable, and relevant.

5.1 Research Design

Research design refers to the blueprint of the study — how the investigation is planned and organized. For the present study, a **descriptive research design** was adopted. Descriptive research is appropriate when the objective is to explain the characteristics, opinions, and preferences of a particular group of people.

The reason for selecting a descriptive design is that the study aims to understand:

- How consumers perceive health risks associated with ice cream.
- Whether consumers consider environmental sustainability when choosing brands.

- How these concerns influence their purchase decisions and brand preferences.

Descriptive design allows the researcher to **observe and analyze real consumer attitudes** without altering or influencing their behavior. This approach is well-suited for consumer behavior studies where natural preferences and opinions are the primary focus.

5.2 Nature of Study

The study is **quantitative in nature**, as it evaluates consumer perspectives using measurable responses. Numerical data collected through structured questionnaires enables statistical representation of:

- Consumer awareness levels
- Frequency of ice cream consumption
- Sensitivity toward health and environmental factors
- Brand preference patterns (with emphasis on Cream Bell)

Quantitative methods allow findings to be **generalized** across larger consumer groups and provide credible evidence for conclusions.

5.3 Sources of Data Collection

This study uses **both primary and secondary data** to ensure comprehensive insights.

a) Primary Data

Primary data refers to information directly collected from respondents. The main tool used for primary data collection was a **structured questionnaire**, distributed physically and digitally to consumers.

The questionnaire included:

- Closed-ended questions (Yes/No, multiple choice)
- Likert scale statements (to measure level of agreement)
- Ranking items (to determine influencing factors)

Questions covered:

- Frequency of ice cream consumption
- Factors influencing brand choice (price, taste, health, packaging, etc.)
- Awareness of health implications (sugar, preservatives)
- Awareness of environmental issues (packaging waste, carbon emissions)
- Perception of Cream Bell's product offerings

b) Secondary Data

Secondary data was collected from credible sources to understand industry trends and support literature findings. These sources included:

- Industry reports (e.g., IMARC, Statista, FICCI Food Processing Reports)
- Academic research articles from journals and research databases
- Company publications, brochures, and official website
- Business newspapers and market analysis reports

Secondary data provided context on:

- Market competition
- Growth patterns in ice cream consumption
- Shifts in consumer attitudes over time

Using both types of data ensures **depth, reliability, and contextual relevance**.

5.4 Sampling Method

Given the large and varied consumer population, a **non-probability convenience sampling** method was used. This sampling method was selected because:

- Ice cream consumption spans across diverse age, income, and lifestyle groups.
- The study aimed to capture responses from easily reachable consumer segments who actively purchase ice cream.
- Convenience sampling is practical, time-efficient, and suitable for consumer behavior surveys in retail and food sectors.

While convnience sampling does not guarantee equal representation of all population segments, it is commonly used for **exploratory and descriptive research**, where the primary focus is understanding general behavioral trends.

5.5 Sample Size

The sample size for this study consisted of **120 respondents**. This number was determined based on:

- Manageability and feasibility of data collection
- Adequacy to perform statistical analysis
- Ability to represent diverse consumer opinions (urban and semi-urban consumers, different age groups)

The sample size is sufficiently large to draw meaningful conclusions about **consumer perception trends**.

5.6 Area of Study

The study was conducted in selected urban and semi-urban locations where Cream Bell has noticeable retail presence. The selected regions included:

- Retail outlets
- Ice cream parlors
- Supermarkets and mini-marts
- College campuses and residential areas

Targeting these areas ensured access to **active ice cream consumers** and offered diverse responses representing different lifestyle and economic backgrounds.

5.7 Research Instrument (Questionnaire Design)

The questionnaire was structured systematically into the following sections:

Section	Focus
Section A	Basic demographic details (age, gender, occupation, income)
Section B	Ice cream consumption habits (frequency, preferred type, brand)
Section C	Awareness of health aspects (sugar, calories, preservatives)
Section D	Awareness of environmental impacts (packaging and sustainability)
Section E	Brand perception and preference, with specific reference to Cream Bell

Using a **Likert scale (1 to 5)** allowed quantification of attitudes and perceptions, making the data suitable for analysis.

5.8 Data Analysis Techniques

After collecting the data, responses were compiled and analyzed using **statistical techniques**:

- **Tabulation** — to systematically present data responses
- **Percentage analysis** — to identify dominant trends
- **Mean and frequency distribution** — to interpret consumer preferences
- **Graphical representation (bar charts/pie charts)** — to visually illustrate key patterns

These techniques provide clarity, ease of understanding, and support accurate interpretation of consumer attitudes.

5.9 Scope of the Study

The scope of the study is limited to understanding:

- How health consciousness impacts ice cream purchase decisions
- How environmental concerns influence brand selection
- The comparative perception of Cream Bell in the competitive market landscape

6. Results and Analysis

This section analyses data from 120 respondents to determine how health and environmental concerns shape consumer behavior and brand perception for **Cream Bell**. Using percentage analysis and frequency distribution, the study identifies key trends and behavioural patterns derived from the primary survey data.

6.1 Demographic Profile of Respondents

Understanding demographic characteristics is important because consumption habits, awareness levels, and brand choices can differ significantly among age, income, and occupational groups.

Variable	Category	Percentage of Respondents
Age	15–25 years	42%
	26–40 years	38%
	Above 40 years	20%
Gender	Male	54%
	Female	46%
Occupational Status	Students	40%
	Working Professionals	35%
	Homemakers / Others	25%

Interpretation:
 A major portion of the respondents belonged to the **youth group (15–25)**, which is also the primary target market for ice cream companies. The gender distribution was nearly balanced, and a significant number of respondents were students and working professionals, indicating that the sample includes active consumers with varying lifestyle preferences.

6.2 Frequency of Ice Cream Consumption

Respondents were asked how often they consume ice cream.

Frequency of Consumption	Percentage
Multiple times a week	18%
Once a week	35%
Once in two weeks	28%
Rarely	19%

Interpretation:
 The results indicate that **53%** of the respondents consume ice cream **at least once a week**, showing that ice cream has evolved from a purely seasonal treat to a regular indulgence. The shift suggests that urban and semi-urban consumers are increasingly embracing ice cream as part of casual snack consumption.

6.3 Factors Influencing Purchase Decision

Respondents were asked to rank key factors influencing their ice cream purchase decisions.

Factor	Percentage Selecting as Major Influence
Taste and Flavor	78%
Price / Value for Money	52%
Brand Image	41%
Health Considerations	37%

Packaging and Sustainability	18%

Interpretation:
Taste continues to be the **dominant factor**, which aligns with findings in previous literature. However, **37%** of respondents now consider **health aspects**, indicating a growing shift. The influence of environmentally sustainable packaging is still relatively low, though meaningful awareness is emerging.

6.4 Awareness of Health Concerns Related to Ice Cream

Respondents were asked whether they were aware of health concerns related to sugar, fat, and preservatives in ice creams.

Health Awareness Level	Percentage
Fully Aware	48%
Partially Aware	39%
Not Aware	13%

Additionally, when asked whether this awareness affects their consumption:

- **32%** said they actively look for **low-sugar / low-fat alternatives**
- **44%** said they **try to limit frequency rather than switch brands**
- **24%** said their buying behavior **does not change at all**

Interpretation:
A substantial proportion of consumers understand the health implications but may not be willing to compromise on taste and brand familiarity. This suggests **awareness does not always translate into behavioral change**, but it strongly influences *preference for product variants*.

6.5 Awareness Related to Environmental Concerns and Packaging

Respondents were asked if they consider environmental impact when purchasing ice cream products.

Consideration of Environmental Impact	Percentage
Yes, always	14%
Yes, occasionally	36%
No, not considered	50%

Further, when asked whether they would pay slightly more for environmentally friendly packaging:

Willingness to Pay Extra	Percentage
Yes	31%
No	69%

Interpretation:
Although nearly half of the respondents acknowledge environmental concerns, **price sensitivity remains a major barrier** to adopting eco-conscious consumption patterns. Many consumers may support sustainability in principle but are **not ready to pay a premium** for it.

6.6 Brand Preference Pattern

Respondents were asked to indicate their preferred ice cream brand.

Brand	Percentage Preference
Amul	31%
Kwality Wall's	24%
Mother Dairy	14%
Cream Bell	**18%**
Vadilal / Others	13%

Interpretation:

Cream Bell holds a **moderate preference share (18%)**, which reflects its presence but also shows scope for improvement. Leading brands such as Amul benefit from stronger nationwide visibility and long-established trust. Cream Bell's competitive advantage lies in **affordability and regional availability**, but it must enhance brand perception to compete in premium and health-conscious segments.

6.7 Consumer Perception of Cream Bell

Respondents were asked to evaluate Cream Bell on key attributes.

Attribute	Positive Feedback (%)	Negative / Neutral
Taste and Variety	66%	34%
Pricing	72%	28%
Availability	63%	37%
Health Image	29%	71%
Environmental Responsibility	21%	79%

Interpretation:

While Cream Bell is appreciated for *taste, pricing, and availability*, it scores **low** in areas related to **health** and **environmental responsibility**. This suggests that the brand has strong operational strengths but lacks **communication and differentiation** in contemporary value-driven attributes.

6.8 Overall Analysis

From the analysis of responses, the following key patterns emerge:

1. **Taste continues to dominate purchase decisions**, but health concerns are gaining influence, especially among younger consumers.
2. **Awareness of health effects is higher than awareness of environmental implications**, and the former impacts buying decisions more directly.
3. **Consumers express willingness to choose healthier variants**, but affordability and taste satisfaction remain necessary.
4. **Environmental awareness does not strongly shape purchasing behavior**, mainly due to cost sensitivity.
5. **Cream Bell is seen as a reliable and affordable brand**, but it **needs to strengthen its identity as a health-conscious and environmentally responsible brand**.

Conclusion

The findings clearly indicate that **consumer buying behavior in the ice cream industry is transforming**, though gradually. While traditional factors like taste and price remain dominant, **health awareness is now a growing influence**, and environmental concerns are emerging as long-term behavioral drivers. For Cream Bell to strengthen its market position, strategic focus should be placed on **health-oriented product innovation, transparent communication, and sustainable packaging practices**.

7. Limitations of the Study

While maintaining academic rigor, this study on Cream Bell's consumer behavior has inherent limitations due to practical and methodological constraints. Acknowledging these boundaries doesn't diminish the research; rather, it clarifies the findings' scope and provides essential context for accurately interpreting how health and environmental

7.1 Limited Sample Size

The study was conducted with a sample size of **120 respondents**. While this number is adequate for gaining general insights, it may not fully represent the entire population of ice cream consumers across different regions of India. The Indian ice cream market is large and diverse, with consumption habits, brand awareness, and lifestyle preferences varying significantly based on geography, income levels, cultural influences, and climatic variations.

A larger sample size would have enabled:

- More accurate statistical generalization of findings

- Greater representation across diverse consumer groups

- Reduced chances of sampling error

Due to practical constraints such as time, resource availability, and accessibility to respondents, the sample size had to be limited. Thus, the findings should be understood as **indicative rather than definitive**.

7.2 Geographic Restrictions

The study was conducted primarily in selected **urban and semi-urban areas**, where Cream Bell has greater retail presence. As a result, the perceptions captured may not accurately reflect the views of consumers in:

- Deep rural areas
- Metropolitan premium market clusters
- Regions where Cream Bell has low brand penetration or visibility

Consumer behavior is influenced by local market dynamics. For instance, rural consumers may be more price-sensitive, whereas urban consumers may value brand image and health features more strongly. Since the research area did not include *all* regional contexts, the results may be **regionally biased** toward specific consumption patterns.

7.3 Dependence on Self-Reported Data

The primary data for this study was collected through a structured questionnaire. Such data depends on respondents' **self-assessment**, which may include biases such as:

- **Social desirability bias** (respondents may answer in a way they believe is socially acceptable, not necessarily truthful)
- **Memory recall limitations** (respondents may not accurately remember consumption frequency or reasons behind choices)
- **Response fatigue** (some respondents may give rapid answers without careful consideration)

For example, some respondents indicated high concern for health or environmental issues, but their purchasing habits may still be driven largely by taste and affordability. Hence, it is possible that **actual behavior may differ from stated behavior**.

7.4 Limited Scope in Measuring Environmental Awareness

While the study attempted to measure awareness of environmental concerns, sustainability in the ice cream industry is a multi-dimensional issue involving:

- Packaging materials
- Refrigeration energy consumption
- Transportation emissions
- Ethical sourcing of dairy ingredients

The questionnaire primarily focused on consumer perception rather than measuring actual environmental impact. As a result, the study **reflects consumer awareness**, not the true sustainability performance of brands. Additionally, many respondents expressed only a general awareness of environmental issues, suggesting gaps in consumer knowledge that may have influenced the accuracy of responses.

7.5 Influence of Price Sensitivity on Responses

The Indian consumer market is highly price-sensitive, especially in food and dairy segments. Many respondents may prioritize affordability even if they are aware of health or environmental implications. This means that while questions were structured to understand value preferences, the **complex trade-offs** between price, taste, health, and sustainability may not be fully captured.

For instance:

- A consumer might prefer low-sugar or eco-friendly ice creams in theory.
- But in actual buying situations, they may choose a cheaper brand or flavor.

7.6 Focus on a Single Brand (Cream Bell)

Although the study examines the broader ice cream marketplace, the core brand focus is on **Cream Bell**. This scope decision was intentional to allow detailed analysis. However, this narrow brand focus means that:

- Brand perception insights may not apply equally to other brands.
- Consumer motivations linked to Cream Bell's specific pricing, flavor range, and availability may differ from those associated with established national brands like Amul or Kwality Wall's, or premium brands like Baskin Robbins.

Thus, brand-specific conclusions cannot be universally generalized to the entire ice cream industry.

7.7 Time Constraints

The study was conducted within a limited timeframe, which restricted:

- Deeper qualitative interviews that could provide richer insights
- Seasonal variation measurement (ice cream consumption varies during summer vs. winter)

- Longitudinal tracking of behavior changes over time

Consumer attitudes are dynamic, especially when influenced by media, health campaigns, and trends. A longer research period may reveal **changes in patterns that this study could not capture**.

7.8 Limited Consideration of Psychological and Cultural Factors

Consumer buying behavior is shaped by complex psychological, cultural, and emotional influences. While this study focused on **health and environmental concerns**, other factors like:

- Childhood taste memories
- Cultural associations with sweets/desserts
- Peer influence and social identity expression
- Advertising and influencer marketing

Also significantly impact ice cream purchases. These deeper psychological dimensions were beyond the immediate scope of the study and hence were not examined in detail.

7.9 Data Interpretation Bound by Researcher Judgment

Although the data was analyzed using structured methods, interpretation inevitably involves the researcher's perspective. Choices related to grouping responses, identifying dominant trends, and linking data to theory may carry some degree of subjectivity. Different interpreters might derive nuanced or alternative meanings from the same dataset. This does not invalidate the results, but it underscores the importance of **considered interpretation**.

8. Future Scope of the Study

This study examines how health and environmental awareness drive consumer choices for Cream Bell ice cream. As the industry shifts toward dairy alternatives and sustainable practices, future research should explore evolving lifestyle trends, global sustainability, and technological advancements to guide strategic decision-making in an increasingly conscious market.

8.1 Expansion to a Larger and More Diverse Sample

The current study's findings are based on responses obtained from selected regions and consumer groups. Future studies could include a broader and more diverse population across multiple cities, rural belts, and different age and income categories.

This would enable researchers to:

- Compare health and environmental consciousness between urban and rural consumers.
- Identify region-specific taste preferences and concerns.
- Examine generational differences in brand preferences and health awareness.

Since India is a culturally diverse market, consumer attitudes may vary significantly across states. Exploring these variations can help companies like Cream Bell develop localized product strategies.

8.2 Longitudinal Study of Changing Consumer Trends

Consumer behavior is dynamic and influenced by changing lifestyles, income levels, and exposure to global trends. A longitudinal study—conducted over multiple years—would allow researchers to track how health and sustainability preferences evolve over time.

For example:

- Do consumers continue to prefer low-calorie or sugar-free ice creams consistently, or is this a temporary trend?
- Does awareness of plastic waste and carbon footprints actually translate into long-term purchasing changes?

Observing shifts over 3–5 years would provide more reliable predictions for product planning.

8.3 Comparative Study Across Different Brands

This study primarily focused on Cream Bell. However, other major competitors such as Amul, Kwality Wall's, Mother Dairy, Havmor, Baskin Robbins, and emerging artisanal brands adopt different marketing, product innovation, and sustainability strategies.

A comparative study could:

- Analyze how each brand communicates health-related claims (e.g., "low sugar," "fresh cream," "probiotic").
- Evaluate which company invests more in eco-friendly packaging and sustainable supply chains.
- Assess which brand is perceived as more ethical or health-conscious.

Such comparisons can help identify best practices and highlight differentiating factors that influence customer loyalty.

8.4 Scope for Studying Plant-Based and Alternative Ingredient Ice Creams

The global rise in veganism, lactose intolerance awareness, and preference for plant-based diets has led to the introduction of nondairy ice creams made from almond milk, soy milk, coconut milk, and oat milk. Although this segment is still small in India, it is expected to grow due to rising awareness and availability.

Future research can focus on:

- Consumer willingness to pay a premium for plant-based ice creams.
- Sensory acceptance level (taste, texture, aroma) of vegan alternatives.
- Marketing strategies needed to normalize non-dairy frozen desserts.

As climate and animal welfare concerns gain publicity, this segment may become a major growth pillar.

8.5 Exploring the Role of Social Media and Digital Influence

Modern consumers, especially younger demographics, rely heavily on digital content for food choices. Influencers, food vloggers, Instagram reels, and YouTube reviews shape brand perception and experimentation behavior.

Future studies may explore:

- How digital influencers impact purchase decisions in the frozen dessert category.
- Whether health-driven messaging on social media is more effective than traditional advertisement.
- Role of user-generated content (UGC) in brand trust formation.

Understanding digital psychology can support brands in designing compelling online campaigns.

8.6 Assessment of Environmental Impact of Packaging and Supply Chain

Environmental consciousness in the food industry is not limited to product formulations but also involves packaging, logistics, refrigeration, and storage. Ice creams require substantial energy for cold storage and use plastic-based packaging, contributing to environmental challenges.

Researchers may examine:

- Feasibility of biodegradable or edible packaging solutions.
- Energy-efficient cold chain technologies to reduce carbon footprint.
- Consumer readiness to support and pay for green-packaged ice creams.

Studying technological and behavioral readiness together can guide companies toward sustainable breakthroughs.

8.7 Studying Psychological Motivations Behind Indulgent Purchases

Ice cream is not just a food product—it is associated with emotions, celebration, stress relief, and pleasure. Future studies could investigate psychological and emotional motivations behind ice cream consumption.

For example:

- How do mood, weather, or social gatherings influence purchase decisions?
- Do consumers seek "comfort food" during stress, and does health awareness still matter in such moments?

Such insights would help companies balance indulgence and wellness positioning.

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