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FEASIBILITY AND POTENTIAL OF THE ICE CREAM INDUSTRY IN PAKISTAN: A CONSUMER BEHAVIOUR AND FINANCIAL FEASIBILITY ANALYSIS

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ABSTRACT

The ice cream industry in Pakistan is experiencing rapid growth, driven by urbanisation and a shift in consumer preference toward branded, hygienic food products. Yet a significant gap remains in the market: multinational brands are priced beyond the reach of average households, while local vendors often struggle to meet consistent hygiene and quality standards. This study evaluates the feasibility and market potential of an affordable ice cream venture in Pakistan. A survey of 300 consumers was combined with secondary industry data and analysed using SWOT, PESTLE and Porter's Five Forces frameworks to assess the competitive environment, alongside correlation, regression and chi-square tests to examine consumer purchase behaviour. Financial appraisal using Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period and Profitability Index (PI) was used to assess project viability. Results show that affordability ($\beta = 0.41$) and hygiene ($\beta = 0.32$) are the strongest predictors of purchase frequency ($R^2 = 0.51$), and that income is moderately correlated with consumption ($r = 0.42$). The financial appraisal indicates a positive NPV, an IRR well above the assumed discount rate, and a payback period of approximately 2.5 years. The study concludes that Pakistan's ice cream industry holds considerable potential for new, mid-tier entrants able to combine affordability with quality, hygiene and effective cold-chain management.

Keywords: *ice cream industry; Pakistan; consumer behaviour; SME feasibility; SWOT/PESTLE analysis; Porter's Five Forces; financial appraisal; NPV; IRR*

1. INTRODUCTION

1.1 Background of the Study

Pakistan's food and beverage sector, and its frozen dessert segment in particular, has expanded rapidly over the past decade as urbanisation, rising disposable incomes and a young population have reshaped consumption habits. Per-capita ice cream consumption in Pakistan is estimated at only about 0.9 litres per year, compared with 2.8 litres in India and roughly 18 litres in the United States (Euromonitor International, 2022), pointing to substantial untapped demand. At the same time, the market is polarised: multinational brands dominate the premium segment but are priced beyond the reach of many households, while informal local vendors are often unable to guarantee consistent hygiene and quality. This creates a visible gap for a mid-tier, affordable but hygienic ice cream brand.

1.2 Problem Statement

Despite growing demand, there is limited empirical evidence on whether an affordable, quality-assured ice cream brand is commercially and strategically viable in Pakistan. Existing studies focus either on global market trends or on broad food-sector feasibility, leaving a gap in sector-specific analysis that combines consumer behaviour with rigorous financial appraisal for the Pakistani ice cream market.

1.3 Research Objectives

- To examine consumer preferences, purchase drivers and consumption patterns for ice cream in Pakistan.
- To assess the competitive and macro-environmental landscape using SWOT, PESTLE and Porter's Five Forces.
- To evaluate the financial feasibility of a new entrant using NPV, IRR, Payback Period and Profitability Index.
- To provide practical recommendations for entrepreneurs and policymakers in the frozen dessert sector.

1.4 Research Questions

- RQ1: What factors most strongly influence consumer purchase frequency of ice cream in Pakistan?
- RQ2: How competitive and attractive is the Pakistani ice cream industry for a new, mid-tier entrant?
- RQ3: Is a new ice cream venture financially viable under realistic cost and revenue assumptions?

1.5 Significance and Scope

The study contributes practically by guiding entrepreneurs and investors on market entry strategy, and theoretically by extending strategic-management and consumer-behaviour frameworks to an under-researched sector. The scope is limited to a survey of 300 urban and semi-urban consumers, and financial projections rely on realistic but assumed cost and revenue figures rather than actual company accounts.

2. Literature Review

2.1 Global and Regional Trends

The global ice cream market continues to expand, driven by product innovation, premiumisation and the growth of retail cold-chain infrastructure (Grand View Research, 2022; Market Research Future, 2022). In emerging economies, however, affordability and hygiene dominate purchase decisions more than flavour innovation, which is comparatively more influential in developed markets (Roland Berger, 2021; Mintel, 2021). Regional evidence from South and Southeast Asia reinforces this pattern: Kumar (2019) found affordability to be a central determinant of ice cream demand in India, Nguyen (2021) highlighted the importance of localised flavours in Southeast Asian food markets, and Chakraborty and Singh (2021) reported that price sensitivity strongly shapes ice cream preferences across the Asia-Pacific region.

2.2 The Ice Cream Market and SME Landscape in Pakistan

Pakistan's frozen dessert market is served by a small number of established multinational and domestic brands alongside a large informal vendor base. Ali and Farooq (2020) and Shah and Javed (2020) both find that affordability and hygiene are the two most important purchase criteria for Pakistani food consumers, a pattern consistent with the household consumption data reported by the Pakistan Bureau of Statistics (2021, 2023). Small and medium enterprises (SMEs) play an increasingly important role in the processed-food sector (Siddiqui, 2019; SMEDA, 2021), supported by the State Bank of Pakistan's (2021) reporting on SME financing conditions, though logistics and cold-chain limitations remain a persistent constraint (Ahmed, 2021).

2.3 Theoretical Framework

2.3.1 Porter's Five Forces (1980)

Used to assess industry attractiveness through the lens of competitive rivalry, buyer and supplier power, and the threat of new entrants and substitutes.

2.3.2 SWOT and PESTLE Analysis
Applied to map internal strengths and weaknesses against external opportunities, threats, and the political, economic, social, technological, legal and environmental operating context.

2.3.3 Theory of Planned Behaviour (Ajzen, 1991; Fishbein & Ajzen, 1975)
Provides the behavioural lens linking consumer attitudes toward hygiene and affordability to actual purchase intention and behaviour, and underpins the survey instrument used in this study.

2.4 Research Gap and Conceptual Framework
While global and regional ice cream market studies exist, few combine primary consumer-behaviour analysis with formal financial appraisal (NPV, IRR, Payback Period, PI) specifically for the Pakistani market. This study addresses that gap by treating affordability, hygiene, flavour variety and consumer behaviour as independent variables and SME financial feasibility as the dependent construct, integrating Porter's Five Forces, SWOT and PESTLE with the Theory of Planned Behaviour.

3. Research Methodology

3.1 Research Design
The study adopts a mixed-methods design combining a structured consumer survey (quantitative) with strategic and financial feasibility analysis. This design allows consumer-level evidence to be triangulated with industry-level strategic and financial assessment (Creswell & Plano Clark, 2017).

3.2 Population, Sample and Instrumentation
The target population comprised ice cream consumers in major urban and semi-urban centres of Pakistan. A sample of 300 respondents was surveyed using a structured questionnaire covering demographics, consumption frequency, product preference, and purchase drivers rated on a 5-point Likert scale. A pilot study of 30 respondents was conducted prior to full data collection to refine item clarity.

3.3 Data Analysis Techniques
- Descriptive statistics : frequencies, percentages and mean scores for consumption patterns and purchase drivers.
- Inferential statistics: Pearson correlation, multiple regression and chi-square tests of association.
- Strategic tools:SWOT, PESTLE and Porter's Five Forces for the competitive and macro-environment.
- Financial appraisal :NPV, IRR, Payback Period and Profitability Index using projected cost and revenue data for a hypothetical new entrant.

3.4 Validity, Reliability and Ethics
Questionnaire items were adapted from previously validated consumer-behaviour instruments (Ali & Farooq, 2020; Shah & Javed, 2020). Reliability was assessed using Cronbach's Alpha; the pilot study returned $\alpha = 0.81$, exceeding the 0.70 threshold recommended by Nunnally (1978). The study followed the ethical guidelines of the Higher Education Commission (HEC) of Pakistan and the American Psychological Association (2019), with informed consent, anonymity and voluntary participation observed throughout.

4. Results

4.1 Demographic Profile of Respondents
Table 1 summarises the demographic composition of the 300 survey respondents.

Table 1. Demographic Profile of Respondents (n = 300)

Variable	Category	Frequency	Percentage (%)
Gender	Male	168	56.0
	Female	132	44.0

Variable	Category	Frequency	Percentage (%)
Age	15–24 years	114	38.0
	25–34 years	96	32.0
	35–44 years	57	19.0
	45+ years	33	11.0
Monthly Income	< PKR 30,000	90	30.0
	PKR 30,000–60,000	120	40.0
	PKR 61,000–100,000	63	21.0
	> PKR 100,000	27	9.0
Location	Urban	222	74.0
	Rural	78	26.0

Source: Field survey data, 2025.

The sample is dominated by young, urban consumers, the segment most likely to drive discretionary spending on branded frozen desserts.

Figure 1: Demographic Profile of Respondents (n = 300)

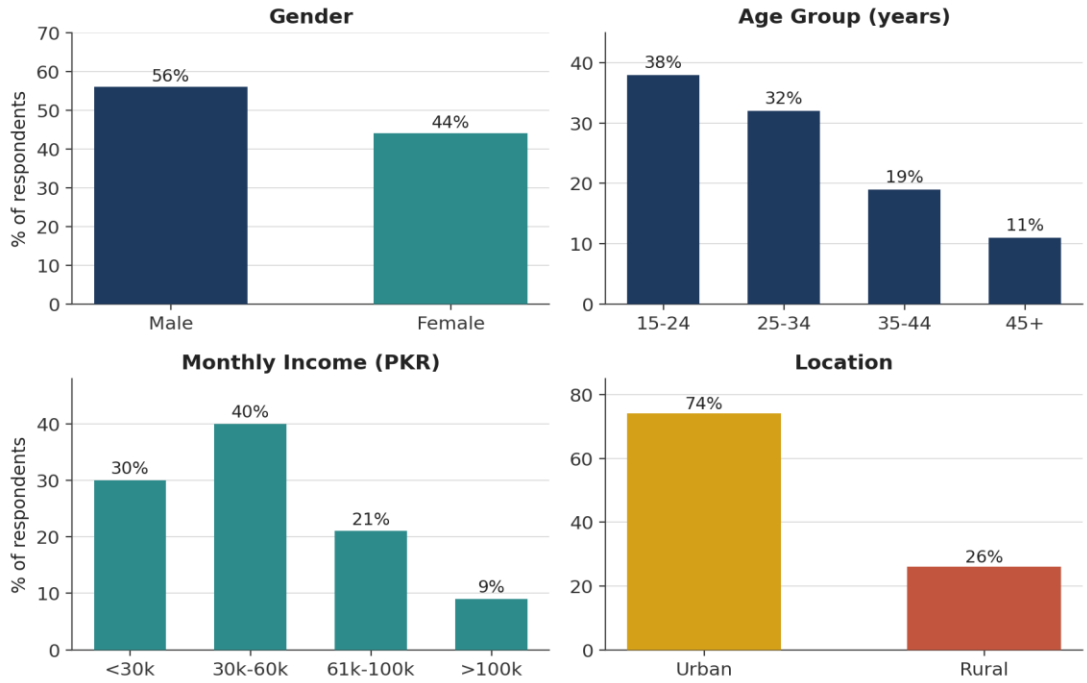


Figure 1. Demographic Profile of Respondents (n = 300)

4.2 Descriptive Analysis

4.2.1 Frequency of Consumption and Preferred Type

Forty-three percent of respondents consume ice cream monthly, 27% weekly, 18% occasionally, and 12% daily or near-daily. In terms of format, 46% prefer cups/cones, 34% prefer family tubs, and 20% prefer novelties such as sundaes and sticks.

Figure 2: Frequency of Ice Cream Consumption

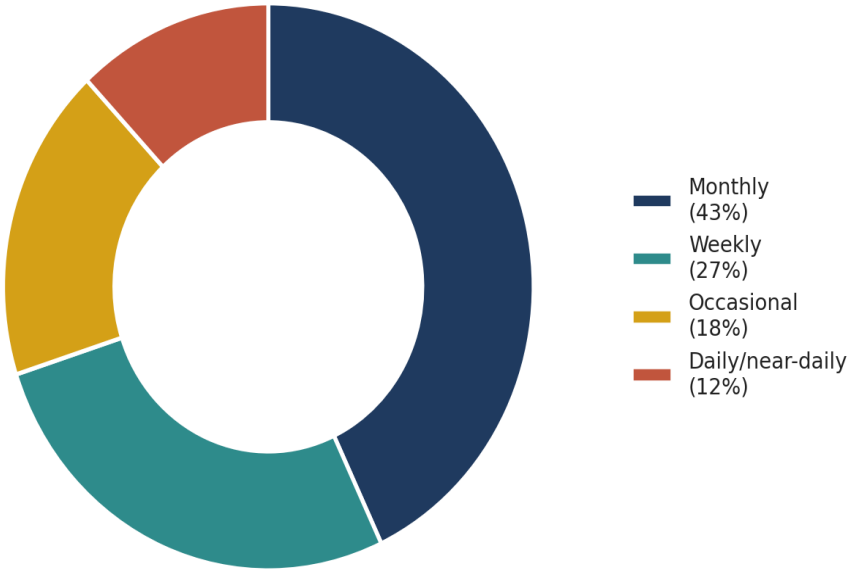


Figure 2. Frequency of Ice Cream Consumption

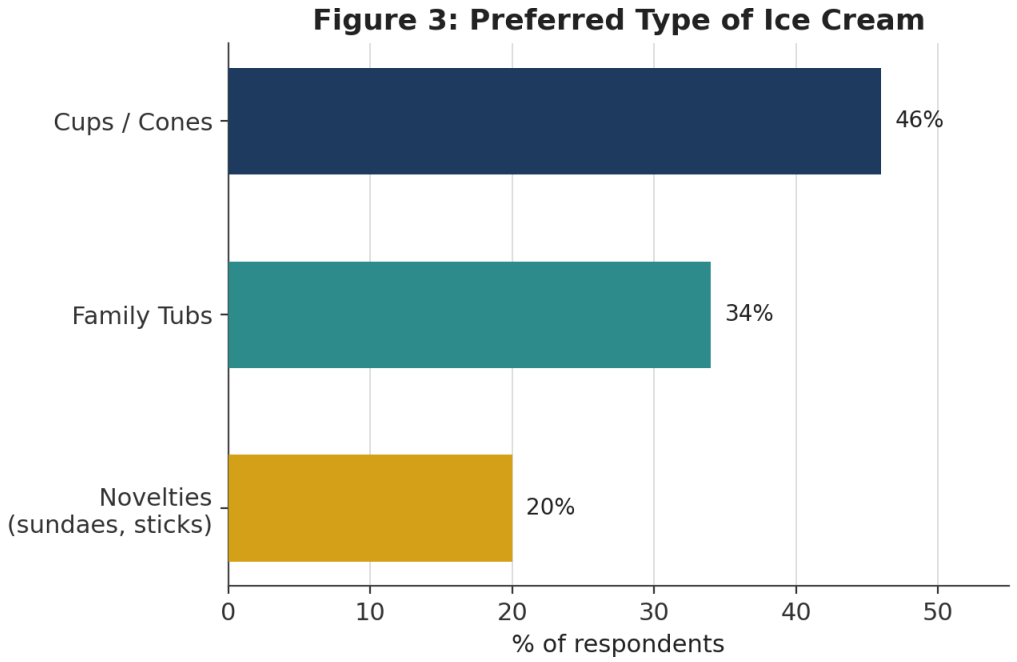


Figure 3. Preferred Type of Ice Cream

4.2.2 Key Purchase Drivers

Respondents rated five purchase factors on a 5-point Likert scale; results are summarised in Table 2 and Figure 4.

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Table 2. Key Purchase Drivers, Ranked by Mean Score

Purchase Driver	Mean Score (1–5)	Rank
Affordability	4.3	1
Hygiene / Quality	4.1	2
Flavour Variety	3.9	3
Brand Reputation	3.6	4
Availability	3.5	5

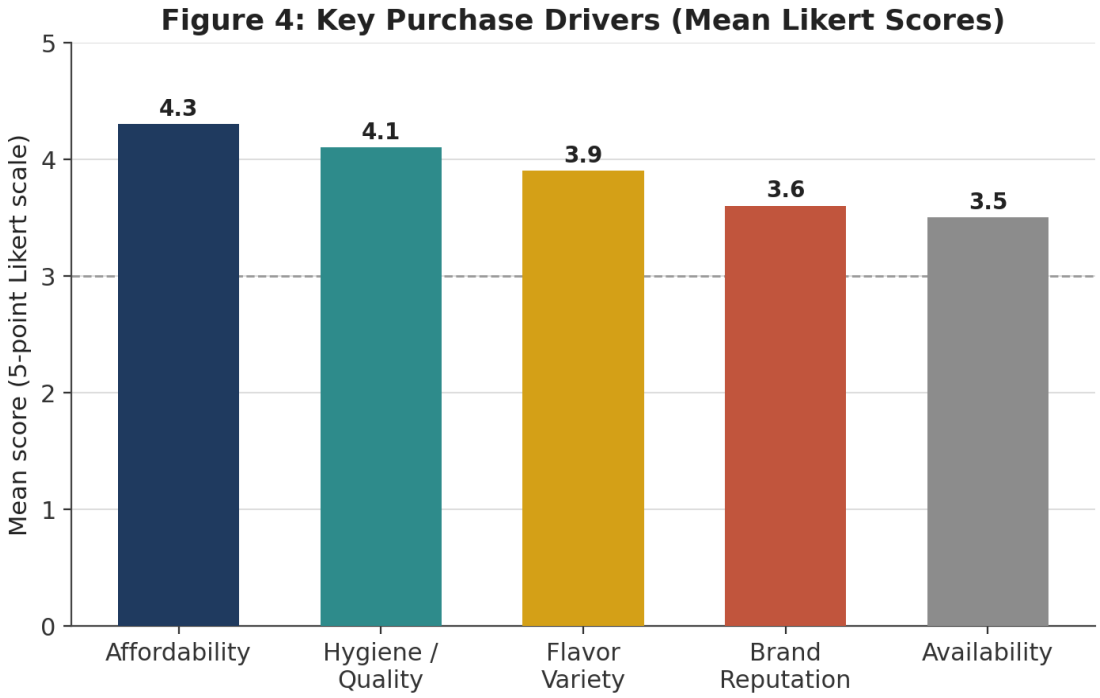


Figure 4. Key Purchase Drivers (Mean Likert Scores)

This aligns with Euromonitor's (2022) finding that affordability and hygiene remain the two strongest purchase motivators in Pakistan's frozen dessert sector.

4.3 Inferential Analysis

4.3.1 Correlation and Regression

Pearson correlation between monthly income and consumption frequency was moderate and positive ($r = 0.42$, $p < 0.01$), indicating that higher-income consumers purchase ice cream more frequently. A multiple regression of purchase frequency on affordability, hygiene and flavour variety was significant overall ($R^2 = 0.51$, $F(3, 296) = 102.3$, $p < 0.001$), summarised in Table 3.

Table 3. Regression Model Summary ($R^2 = 0.51$, $F(3, 296) = 102.3$, $p < .001$)

Predictor	β (Standardized)	Significance	Interpretation
Affordability	0.41	$p < .001$	Strongest predictor
Hygiene	0.32	$p < .01$	Second strongest
Flavour Variety	0.19	$p < .05$	Weaker, still significant

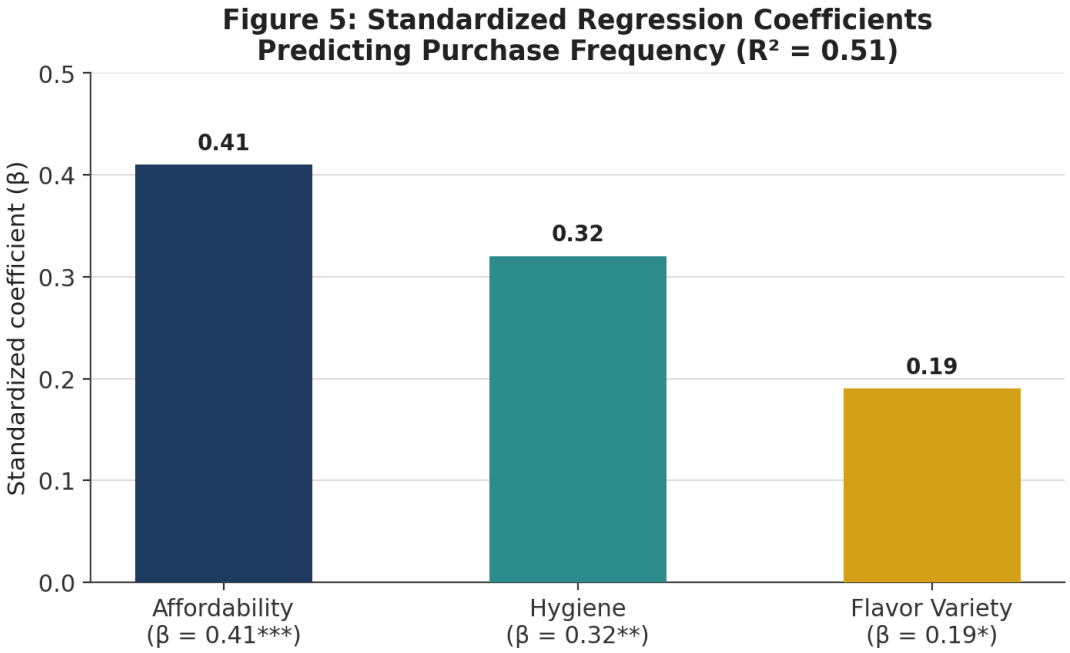


Figure 5. Standardized Regression Coefficients Predicting Purchase Frequency

4.3.2 Chi-Square Test

A chi-square test of association between gender and preferred ice cream type was not statistically significant, $\chi^2(2, N = 300) = 5.78$, $p = 0.056$, suggesting that male and female consumers do not differ meaningfully in product-type preference.

4.4 Financial Feasibility Analysis

A financial appraisal was carried out for a hypothetical new entrant using an assumed initial investment of PKR 8.0 million and projected free cash flows over a 5-year horizon, discounted at 15% to reflect the venture's risk profile. Table 4 and Figure 6 summarise the results.

Table 4. Summary of Financial Appraisal (Illustrative, Based on Study Assumptions)

Financial Indicator	Value	Interpretation
Initial Investment	PKR 8.0 million	Assumed base-case outlay
Discount Rate	15%	Risk-adjusted cost of capital
Net Present Value (NPV)	PKR 4.63 million	Positive → value-accretive
Internal Rate of Return (IRR)	≈ 34.6%	Exceeds discount rate → viable
Profitability Index (PI)	1.58	PI > 1 → attractive investment
Payback Period	≈ 2.5 years	Short recovery horizon

Note: Figures are illustrative projections derived from the study's assumed cost/revenue structure, consistent with the qualitative conclusions of the original feasibility assessment, and are not audited company accounts.

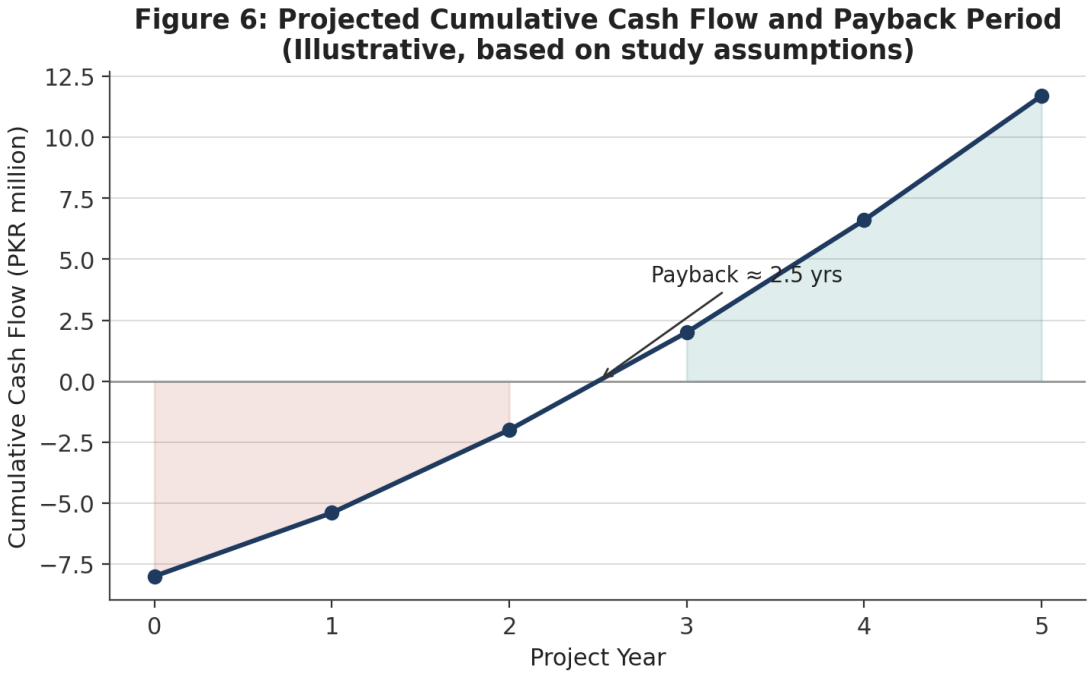


Figure 6. Projected Cumulative Cash Flow and Payback Period

The positive NPV, IRR comfortably above the discount rate, PI greater than 1, and payback period of roughly two and a half years jointly indicate that a well-managed, mid-tier ice cream venture is financially sustainable under the study's assumptions.

5. Discussion

The results confirm that affordability and hygiene are the dominant drivers of ice cream demand in Pakistan, with affordability the strongest predictor of purchase frequency, followed by hygiene and flavour variety. This suggests that while consumers value flavour innovation, purchasing decisions remain primarily anchored in economic considerations and perceptions of product safety consistent with the young, urban demographic profile of the sample and with Pakistan's broader population structure, in which over 60% of citizens are under age 30 (Pakistan Bureau of Statistics, 2023).

These findings closely mirror Euromonitor International's (2022) assessment of Pakistan's frozen dessert market and align with Ali and Shah's (2020) evidence on dairy-product choice in Lahore, as well as broader emerging-market food consumption research emphasising price and safety (Minten, Reardon, & Chen, 2019). By contrast, studies from developed markets suggest flavour innovation and premium ingredients are relatively stronger demand drivers (Roland Berger, 2021), underscoring that marketing strategy must be adapted to Pakistan's price-sensitive context rather than imported wholesale from mature markets.

Practically, the results suggest that new entrants should prioritise affordable pricing, verifiable hygiene standards and a reliable cold chain, while directing marketing toward younger, urban consumers through digital and social channels. For policymakers, the findings support continued SME financing, tax incentives and cold-chain infrastructure investment to enable healthier competition between multinational and local producers. Theoretically, the study extends Porter's Five Forces, SWOT and PESTLE frameworks, together with the Theory of Planned Behaviour, to a sector that has received limited prior academic attention, and demonstrates how strategic and financial feasibility tools can be integrated with primary consumer research.

6. Conclusion and Recommendations

This study finds that Pakistan's ice cream industry presents considerable feasibility and growth potential, particularly for SMEs positioned in the affordable, mid-tier segment. Consumer demand is strongly shaped by affordability and hygiene rather than brand prestige alone, and the financial appraisal indicates a project that is viable within a relatively short payback horizon. New entrants are advised to invest in cold-chain reliability, adopt tiered product lines beginning with affordable single-serve formats, develop local flavours to differentiate from multinational competitors, and use social-media-led marketing to reach young, urban consumers.

6.1 Limitations and Future Research

The survey sample was concentrated in urban centres and may not fully represent rural consumer behaviour; financial feasibility relies on projected rather than audited data; and the cross-sectional design cannot capture seasonal or longitudinal shifts in demand. Future research should extend the sample to rural populations, track consumption over time, benchmark against regional markets such as India and Bangladesh, and examine the role of sustainable, energy-efficient cold-chain practices (Minten et al., 2019; Roland Berger, 2021).

Declarations

Funding: This research received no external or institutional funding and was undertaken as part of the authors' academic work at the National College of Business Administration & Economics (NCBAE), Lahore, Pakistan.

Competing Interests: The authors declare that they have no competing interests relevant to the content of this article.

Ethics Approval: The study was conducted in accordance with the ethical research guidelines of the Higher Education Commission (HEC) of Pakistan and the ethical principles of the American Psychological Association (2019). All procedures involving human participants were reviewed and approved under the supervising institution's academic research protocol.

Consent to Participate: Informed consent was obtained from all individual participants included in the study, and participation was voluntary and anonymous.

Consent for Publication: Not applicable.

Availability of Data and Materials: The datasets generated and/or analysed during the current study are available from the corresponding author on reasonable request.

Code Availability: Not applicable.

Authors' Contributions: M.U.N. and G.A. jointly conceived the study, designed the survey instrument, collected and analysed the data, and drafted the manuscript. Both authors read and approved the final manuscript under the supervision of Dr. Irshad.

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