



Study of Passenger Awareness and Satisfaction for IRCTC Catering Service and Dairy Products Offered during Train Journey

**Sudarshan M. Patel ^{a++*}, Mahendra D. Gurjar ^{a#},
Krunal .C. Kamani ^{a#}, Maulik C. Prajapati ^{a#}
and Ashish.K. Makwana ^{at}**

^a SMC College of Dairy Science, Kamdhenu University, Anand, India.

Authors' contributions

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ABSTRACT

This study investigates passenger awareness, buying behaviour and satisfaction related to IRCTC's catering services, with a specific focus on dairy product consumption during train journeys. Despite IRCTC's extensive food service network, there remains a lack of research on how well passengers are informed about available offerings, particularly newer options like e-catering and branded dairy products. Primary data were collected from 50 passengers across four major railway stations in Gujarat using structured questionnaires.

⁺⁺ PG Student, MBA (Dairy and Food Business Management);

[#] Assistant Professor;

[†] Associate Professor;

^{*}Corresponding author: Email: sudarshan892000@gmail.com;

Findings reveal that 96% of passengers were aware of IRCTC's role in catering, and 70% had knowledge of e-catering services. Awareness of commonly available dairy items like flavoured milk (96%) and lassi (84%) was high, while only 26% and 16% recognized products like shrikhand and dairy sweets, respectively. Moreover, 58% of passengers reported always purchasing dairy products during their journey, with tea/coffee (84%) and flavoured milk (36%) being most preferred. The study highlights a strong engagement with core services but limited awareness and uptake of diverse dairy offerings. The results point to a clear opportunity for IRCTC to enhance communication strategies, improve product visibility, and strengthen dairy integration within its catering system to meet evolving passenger preferences.

Keywords: IRCTC; value chain; dairy products; catering services; passenger satisfaction.

1. INTRODUCTION

In India's dynamic public transportation landscape, the Indian Railways serves not only as a mode of travel but also as a critical provider of food services to millions of passengers on a daily basis. The Indian Railway Catering and Tourism Corporation (IRCTC), a government-owned public sector enterprise, plays a pivotal role in managing and delivering these catering services across the extensive railway network. Among its diverse operational verticals, catering has emerged as a significant contributor to both revenue generation and passenger satisfaction (Pandey et al., 2015).

Parallel to this, the Indian dairy sector occupies a central place in the nation's economy and dietary habits. With an annual production of over 239 million tonnes of milk, India stands as the world's largest milk producer. Dairy products such as milk, lassi, curd, buttermilk, and paneer are not only nutritional staples but also hold deep cultural and economic significance. Iconic dairy brands like Amul have contributed immensely to rural development, cooperative movements, and national pride, making the sector indispensable to everyday life (AMUL, n.d.).

This study explores the intersection of two vast ecosystems: the IRCTC's catering services and India's dairy industry. As travel becomes more frequent and passenger expectations shift towards hygienic, fresh, and culturally familiar food offerings, dairy products are naturally positioned to fulfill this demand. They offer both nourishment and a sense of comfort during travel. Despite the large-scale operations of IRCTC and the expansive reach of dairy cooperatives like Amul, several areas for improvement remain. These will be identified and analyzed in the course of the study.

The primary focus of this research is to evaluate passenger awareness, consumption behavior,

and satisfaction levels concerning IRCTC's catering services, with a particular emphasis on dairy products offered during train journeys. Additionally, the study investigates passenger travel patterns to better understand food service preferences in different contexts. Through the collection and analysis of primary data from passengers at four major railway stations in Gujarat (Ahmedabad, Vadodara, Anand, and Nadiad). This research provides a comprehensive assessment of existing service gaps and potential opportunities for integration within the IRCTC value chain.

The objective is to propose strategies for more efficient and systematic integration of dairy products into IRCTC's catering ecosystem, thereby contributing to improved public health outcomes, enhanced service quality, and stronger collaborations between Indian Railways and national dairy cooperatives.

Furthermore, the study reveals that purchasing decisions during travel are influenced not only by necessity but also by comfort, habitual consumption, and cultural preferences. Dairy product consumption in this context extends beyond mere sustenance; it represents familiarity and reassurance in an otherwise transient and unfamiliar travel environment. Nonetheless, challenges persist, such as the limited availability of dairy products on non-premium trains, inconsistent quality standards, and a general lack of awareness about e-catering options featuring dairy items.

In conclusion, the study addresses a timely and relevant question in the context of public sector catering: How can IRCTC and the Indian dairy industry collaborate more effectively to improve passenger satisfaction? By analyzing these interconnections, the research aims to offer actionable insights to enhance catering services, foster robust public-private partnerships, and

create a more satisfying and health-conscious travel experience for millions of passengers across India.

2. REVIEW OF LITERATURE

Dr. Kumar, D. A. A. (2016) conducted a qualitative analysis of food safety and hygiene practices implemented by IRCTC across various railway zones in India. Their study emphasized the significance of the Hazard Analysis and Critical Control Points (HACCP) framework as a cornerstone for ensuring safe food preparation and delivery in trains. Primary data were collected through field visits and interviews with IRCTC staff, vendors, and passengers. The study identified regional disparities in the application of food safety protocols and highlighted recurring passenger complaints regarding low food quality, overpricing, inadequate quantity, and delayed services. The authors also assessed institutional mechanisms such as surprise inspections, feedback systems, toll-free helplines, and the Rail Madad platform, concluding that these were largely underutilized. Recommendations included stricter vendor selection procedures and enhanced accountability measures for maintaining hygiene and quality standards.

Kumar and Chachal (2017) applied the DINESERV model, a specialized service quality assessment tool for dining experiences, to evaluate passenger satisfaction across IRCTC catering units in Uttar Pradesh. Based on survey data from 200 passengers, the study analyzed the gap between customer expectations and actual service delivery across five key dimensions: Tangibles, Reliability, Responsiveness, Assurance, and Empathy. Utilizing Likert-scale questionnaires and statistical gap analysis, the findings revealed substantial negative gaps in most service areas, especially in Reliability (timely service) and Tangibles (cleanliness and presentation). Passengers expressed dissatisfaction with food freshness, vendor conduct, and the perceived value for money.

Yadav and Kumar *et al.* (2019) presented a conceptual analysis of the transformation of IRCTC's catering services and its impact on passenger satisfaction. Their study traced the evolution from traditional pantry car operations to outsourced service models and e-catering platforms. Emphasizing policy interventions, particularly the 2010 and 2017 IRCTC Catering

Policies, the authors illustrated improvements in accountability, hygiene, and service efficiency. Key determinants of passenger satisfaction included food quality, packaging, timely delivery, and responsiveness to grievances. Despite progress through digitization and centralization, the study noted persistent issues such as vendor non-compliance, inconsistent quality, and weak monitoring systems. Recommendations included enhanced vendor training, strengthened feedback systems, and increased public awareness of digital services.

Patil *et al.* (2012) offered a strategic review of systemic shortcomings in Indian Railways' catering services. Published under the auspices of the International Union of Railways, the study identified critical gaps such as unhygienic conditions, fragmented vendor systems, and lack of technological integration. The authors advocated for centralized catering management under IRCTC, standardization through operating procedures, and the development of mega base kitchens equipped with automated systems. Technological innovations like RFID tracking and digital feedback mechanisms were proposed to improve quality assurance and transparency. Their recommendations later served as foundational inputs for the 2017 IRCTC Catering Policy.

Banerjee and Gaurav *et al.* (2010) explored the potential of Public-Private Partnership (PPP) models within Indian Railway tourism, emphasizing operational improvements through private sector engagement. The study highlighted deficiencies in infrastructure, service quality, and marketing efforts within public-sector offerings. Using case studies such as the Palace on Wheels and Bharat Darshan trains, the authors demonstrated that private participation in logistics, hospitality, and customer service significantly enhanced passenger experience, while IRCTC maintained regulatory oversight. The study recommended transparent tendering processes, robust policy frameworks, and integrated promotional strategies to unlock the full potential of PPP-driven tourism initiatives.

Kumar and Chachal *et al.* (2017) conducted an empirical study of food service quality at IRCTC-managed outlets in the Delhi-NCR region using the SERVQUAL framework. The study focused on five dimensions of service: Tangibility, Reliability, Responsiveness, Assurance, and Empathy and identified a marked discrepancy between expected and perceived service levels.

Passengers reported dissatisfaction with hygiene standards, staff behavior, and the promptness of service. Although IRCTC's branding contributed to consumer trust, operational inconsistencies undermined overall satisfaction. The authors called for routine quality audits, systematic staff training, and improved grievance redressal mechanisms to address service delivery gaps.

Basu and Mukherjee *et al.* (2018) examined the integration of e-catering services in IRCTC's operations, particularly within the East Zone, in the context of the Digital India initiative. The study highlighted the benefits of e-catering platforms in providing flexibility, meal variety, and enhanced user control. Positive consumer experiences were linked to features such as digital payments, cuisine diversity, and real-time delivery scheduling. However, challenges such as poor network connectivity during transit, delivery delays, and limited awareness among elderly passengers were also noted. The authors concluded that e-catering holds transformative potential but requires stronger logistical integration and consumer outreach to realize its full impact.

Miglani and Sharma (2015) provided an early evaluation of IRCTC's e-catering system as an innovative alternative to traditional pantry services. Their study outlined key advantages, including access to a broader range of food options, improved hygiene, and increased consumer autonomy. However, issues such as unreliable delivery coordination, passenger unawareness, and limited geographic coverage persisted. The authors stressed the need for improved vendor integration, real-time tracking capabilities, and targeted consumer education to maximize the service's reach and effectiveness.

Kumar *et al.* (2018) conducted a case study on catering services aboard the Jammu–New Delhi Durgam Express, a premium non-stop train. Employing passenger feedback and observational analysis, the study assessed food quality, hygiene, punctuality, staff behavior, and packaging. While passengers appreciated prompt service and courteous staff, concerns were raised regarding limited menu diversity and inconsistent food temperature. Operational limitations due to the absence of pantry replenishment points were also noted. The authors recommended route-specific menu planning, improved thermal packaging, and integration of real-time feedback mechanisms to enhance service delivery.

Verma *et al.* (2015) examined IRCTC's operation of the Maharaja Express, a luxury train offering high-end hospitality. The study positioned the train as a benchmark in luxury travel, showcasing five-star amenities, personalized services, and curated tourism itineraries. It emphasized the role of trained hospitality staff, stringent quality controls, and professional catering partnerships in achieving excellence. The study concluded that such premium ventures not only elevate IRCTC's brand identity but also contribute to India's international tourism appeal and revenue diversification.

Krishnakumar and Kavitha *et al.* (2020) conducted a quantitative study assessing the gap between passenger expectations and service delivery in IRCTC's catering and tourism services. Survey findings indicated significant discrepancies in food freshness, availability of regional cuisine, and service responsiveness. Although digital tools and centralized systems have improved operations, passengers continued to report inconsistencies across trains and stations. The authors recommended continuous monitoring, workforce development, and real-time feedback integration to enhance passenger-centric service quality.

The integration of dairy products within the IRCTC catering value chain can be better understood by examining broader trends in dairy production, consumption, and diversification in India particularly with reference to Gujarat's cooperative model, which has significantly influenced food logistics and product innovation.

Gujarat's dairy sector, led by the Gujarat Cooperative Milk Marketing Federation (GCMMF) under the Amul brand, has played a transformative role in India's dairy economy. Over the past two decades, Gujarat has achieved a 212% increase in milk production from 5.86 million tonnes in 2001–02 to 18.31 million tonnes in 2023–24. This is notably higher than India's overall growth of 183% during the same period. In parallel, Gujarat's per capita milk availability (700 grams/day) also surpasses the national average (471 grams/day), driven largely by robust cooperative infrastructure, logistical networks, and the diversification of dairy offerings across value-added categories like ambient products and sweets (Gurjar & Modi., 2024).

The relevance of such a model is evident in the IRCTC context, where dairy consumption

particularly of items like flavored milk, tea/coffee, buttermilk, and curd is a consistent part of travel diets. Studies show that consumer awareness and preferences for hygienic, branded dairy products have increased, particularly in urban markets and public transportation systems. Research conducted by Gurjar *et al.* (2025) emphasizes that Amul's strategic diversification into ambient dairy and gourmet offerings has allowed wide product accessibility through general trade, food plazas, and vending systems, which directly align with the mobile catering services offered by IRCTC.

Moreover, functional foods like probiotic yogurt, ghee, and dairy-based beverages have gained prominence as part of holistic dietary practices, including in synergy with yoga and digestive wellness. The study by Modi *et al.* (2024) highlights how age-specific consumption of dairy products ranging from ghee for children to yogurt and kefir for adults and seniors can improve digestion, nutrient absorption, and travel-related well-being. These findings support the case for curated dairy offerings in rail catering systems, especially those aligned with nutritional balance and wellness trends.

In terms of product innovation and consumer behavior, Amul's inclusion of sweets and frozen gourmet foods such as shrikhand, laddoos, paneer-based dishes, and lassi has expanded the spectrum of dairy offerings beyond traditional staples. These products, suitable for ambient storage and quick consumption, are increasingly preferred by consumers seeking a blend of convenience and cultural relevance. According to Modi *et al.* (2025), this strategy also reflects rising demand for hygienically packaged, ready-to-consume dairy offerings, which has important implications for on-train and platform-based food services.

District-wise analysis of milk production in Gujarat further reinforces the supply-side strength of the state, with Banaskantha, Mehsana, and Anand emerging as key contributors. This concentration supports consistent procurement, processing, and distribution factors crucial to IRCTC's ability to deliver fresh and safe dairy products across trains and stations.

Taken together, these studies underline that IRCTC's integration of dairy products within its catering services is well-aligned with evolving consumer expectations, supply chain

capabilities, and dietary trends. However, increased awareness of diverse dairy offerings (e.g., shrikhand, sweets, and functional drinks) and innovations in ambient packaging remain necessary to unlock the full potential of this synergy.

As of IRCTC Annual report (2023-24) catering services are provided to the travelling passengers in trains and at stations. These services are provided through Pantry Cars (562 pairs of Trains), Train Side Vending (702 Pairs of trains) and Static Units at en-route stations. In addition, passengers travelling in trains may avail food of their choice through e-Catering services, which are available at 407 stations. Static Catering Units include 570 Major Static Units (Food Plazas, Fast Food Units, Jan Ahaar, cell Kitchens, Base Kitchen, Refreshment Rooms and Automatic Vending Machine) and 9,308 Minor Static Units (all stalls & trolleys) on Indian Railways.

According to IRCTC website IRCTC also offers e-catering, letting passengers pre-order meals through its website or app (IRCTC, n.d.). IRCTC's e-catering service is a modern and convenient option that lets train passengers order meals of their choice during their journey (Indian Railways Vision Document 2030). Unlike the fixed menu in traditional onboard catering, e-catering allows travelers to pick from a wide range of food options offered by popular restaurant chains, local vendors, and food delivery partners like Zoop, RailRestro, and Travelkhana (IRCTC Tourism; Press Releases on Indian Railways and IRCTC). Passengers can place orders through the IRCTC website, the "Food on Track" app, or a helpline, and have fresh meals delivered right to their seat at selected stations based on real-time train schedules (IRCTC E-Catering, n.d.). The system ensures timely and hygienic food delivery with features like vendor ratings, dietary preferences (e.g., Jain, diabetic-friendly), and multiple payment options. This service not only improves variety and food quality for travelers especially on long journeys or trains without pantry cars but also supports local food businesses and reduces common complaints about traditional train food.

2.1 Research Objective

- 1) To examine the demographic profile of passengers and its impact on their attitude towards using IRCTC catering service
- 2) To analyse the level of passenger's awareness regarding catering services and

dairy products offered in IRCTC value chain.

- 3) To examine the buying behaviour and measure the satisfaction level of consumers who used IRCTC catering and dairy products during journey.

3. RESEARCH METHODOLOGY

This study employed a descriptive research design to evaluate passenger awareness and buying behaviour related to IRCTC catering services, with emphasis on dairy product consumption during train journeys. A non-probability convenience sampling method was used to select 50 respondents from four major railway stations in Gujarat (Ahmedabad, Vadodara, Anand, and Nadiad). The sample size was chosen to represent a diverse demographic within the constraints of time and accessibility.

Primary data were collected through a structured, pre-tested questionnaire featuring close-ended and Likert scale-based questions. The questionnaire addressed key areas such as demographic details, service awareness, dairy product availability, purchase frequency and satisfaction levels. Data collection occurred offline via face-to-face interviews conducted between February and May 2025 at station platforms and waiting areas.

Collected data were analyzed using percentage analysis for categorical responses and Likert scale scoring to assess satisfaction. The Garrett Ranking method was also employed to identify passenger preferences for dairy products and service attributes.

4. RESULT AND DISCUSSION

4.1 To examine the Demographic Profile of Respondent Passengers and It's Impact on Their Attitude towards Using IRCTC Catering Service

Understanding the demographic profile of railway passengers is crucial for analyzing their preferences, attitudes, and consumption behavior related to IRCTC catering services and dairy products during train journeys. Demographic variables such as gender, age, occupation, educational attainment, and monthly household income significantly influence consumer expectations, food choices, and satisfaction levels. To obtain comprehensive insights, the present study examined the personal and socio-economic characteristics of 50 passengers surveyed across four major railway stations in Gujarat. The detailed demographic distribution of the respondents is presented in the Table 1.

Table 1. Demographic profile of passengers

(n=50)

Sr. No.	Factor	Frequency	Percentage
(a) Gender wise distribution			
1	Male	30	60
2	Female	20	40
	Total	50	100
(b) Age wise distribution			
1	Below 20	02	04
2	21 – 30	17	34
3	31 – 40	13	26
4	41 – 50	10	20
5	Above 51	08	16
	Total	50	100
(c) Occupation wise distribution			
1	Student	07	14
2	Business owner	12	24
3	Government employee	20	40
4	Private employee	07	14
5	Retired person	04	08
	Total	50	100
(d) Education wise distribution			
1	10 th	07	14
2	12 th	12	24
3	Graduate	20	40

Sr. No.	Factor	Frequency	Percentage
4	Postgraduate	07	14
5	Ph.D.	04	08
	Total	50	100
(e) Monthly family income (in Rs.) wise distribution			
1	0 - 50000	13	26
2	50001 - 1 Lakh	18	36
3	1 Lakh - 1.5 Lakh	07	14
4	1.5 Lakh - 2 Lakh	05	10
5	Above 2 Lakh	07	14
	Total	50	100

a) Gender-wise Distribution

The gender-wise distribution of respondents reveals that 60% were male and 40% were female. This reflects a moderately balanced sample, with a slight predominance of male passengers. Gender-based differences may influence perceptions of IRCTC catering services, as food preferences and expectations often vary. Male passengers may prioritize quantity and convenience, whereas female passengers may place greater emphasis on hygiene, nutrition, and overall meal presentation factors that directly affect satisfaction levels.

b) Age-wise Distribution

The majority of respondents (34%) belonged to the 21–30 age group, followed by 26% in the 31–40 category, and 16% in the 41–50 range. Passengers under the age of 20 accounted for 4%, while those above 51 constituted 16%. This age composition indicates a predominantly young and middle-aged traveling population. These groups are generally more quality-conscious and digitally literate, which may lead to higher expectations for service quality, menu variety, and access to modern features such as e-catering.

c) Occupation-wise Distribution

In terms of occupation, government employees represented the largest share (40%), followed by private-sector employees (30%), students (14%), business owners (10%), and retired individuals (6%). The dominance of employed respondents with stable income suggests a consumer segment that may place greater value on professionalism, service punctuality, and product authenticity in catering services. Working professionals are also more likely to demand standardized and hygienic food options during travel.

d) Education-wise Distribution

The education profile indicates that graduates form the largest group (40%), followed by postgraduates (36%), 12th standard pass (14%), 10th standard pass (4%), and Ph.D. holders (6%). The high proportion of well-educated respondents suggests a consumer base that is likely more aware of food quality, hygiene, and brand differentiation. This demographic may have a stronger preference for trusted brands like Amul and expect clean, nutritious, and well-presented food options from IRCTC catering services.

e) Monthly family income-wise Distribution

Regarding monthly household income, 36% of respondents fell within the ₹50,001–₹1,00,000 bracket, followed by 26% in the ₹0–₹30,000 range, 20% in the ₹1,00,001–₹1,50,000 bracket, and 18% in the ₹1,50,001–₹2,00,000 category. The predominance of middle-income households suggests a customer base that balances affordability with quality. For this segment, cost-effectiveness, value-for-money offerings, and access to premium branded products are likely to influence their perceptions and choices related to IRCTC catering services.

4.2 To Analyse the Level of Passenger's Awareness Regarding Catering Services and Dairy Products Offered in IRCTC Value Chain

Passenger awareness plays a pivotal role in the effective utilization of catering services, particularly in large-scale systems such as those operated by IRCTC. The level of awareness not only shapes passenger perceptions of service quality but also influences their likelihood of availing food and beverage options during travel.

This study examines the awareness levels of passengers with respect to both general catering services and specific dairy product offerings integrated within the IRCTC value chain. Key dimensions assessed include awareness of IRCTC's role in food service delivery, familiarity with available service channels (such as pantry cars and e-catering), and knowledge of dairy product availability onboard.

By analyzing these aspects, the study seeks to evaluate how well-informed passengers are regarding their catering options. This evaluation supports the broader objective of identifying existing awareness gaps and informing strategies for enhanced service communication,

product visibility, and overall passenger satisfaction. The detailed findings on passenger awareness are presented in the Table 2.

a) Awareness of IRCTC's Role in Catering Services

The survey revealed that 96% of respondents were aware of IRCTC's responsibility for providing catering services to railway passengers, while only 4% lacked this awareness. This high level of recognition reflects strong brand visibility and indicates that IRCTC is well-known among travelers, potentially enhancing trust and expectations regarding food quality and service standards.

Table 2. Awareness about catering service and dairy products in IRCTC value chain (n=50)

Sr. No.	Factor	Frequency	Percentage
(a) Awareness of IRCTC's role in catering service			
1	Aware	48	96
2	Unaware	02	04
	Total	50	100
(b) Awareness of various catering services of IRCTC			
1	Rail Neer	50	100
2	Meals Served by Pantry Car	45	90
3	Food Stall on Stations	45	90
4	Online Food Order	35	70
5	Train Side Vending	33	66
6	Fast Food Unit	32	64
7	Jan Ahaar	30	60
8	Food Plaza	26	52
	Total	50	100
(c) Not all trains have pantry cars for Mobile catering			
1	Aware	33	66
2	Unaware	17	34
	Total	50	100
(d) Alternative choice in absence of pantry car in train			
1	Local vendors on stations	09	18
2	E-catering	16	32
3	Train side vending service	10	20
4	Bring food from home	15	30
	Total	50	100
(e) Awareness of Dairy products at trains and railway stations			
1	Flavoured Milk	48	96
2	Lassi	42	84
3	Buttermilk	40	80
4	Dahi/curd	32	64
5	Ice-cream	15	30
6	Butter	15	30
7	Shrikhand	13	26
8	Dairy sweets	08	16
9	Milk Powder	08	16
	Total	50	100

b) Awareness of Various Catering Services of IRCTC

All respondents (100%) reported awareness of *Rail Neer* packaged drinking water, indicating its high visibility and widespread availability. Awareness of pantry car services and food stalls at stations was also substantial, at 90% each. E-catering services were known to 70% of respondents, suggesting growing awareness but room for further outreach. Awareness of Train Side Vending (66%), Fast Food Units (64%), Jan Ahaar (60%), and Food Plazas (52%) varied considerably, reflecting an uneven understanding of both mobile and static catering options. While traditional services are well-recognized, newer or location-specific services require increased promotional efforts.

c) Awareness That Not All Trains Have Pantry Cars

A majority of respondents (66%) were aware that not all trains in India are equipped with pantry cars. However, 34% were still unaware of this, reflecting a gap in service information. This lack of awareness can potentially lead to dissatisfaction among passengers, especially when traveling on long routes without pantry car services.

d) Alternative Choices in Absence of Pantry Car

In the absence of pantry car 36% of respondents preferred carrying home-prepared food, while 32% utilized train side vending services. Additionally, 18% depended on local vendors or station outlets, and 14% used e-catering platforms. These responses indicate a reliance on personal provisions and informal vendors,

underscoring the need for wider awareness and improved accessibility of official alternatives such as e-catering.

e) Awareness of Dairy Products at Trains and Railway Stations

Among dairy offerings, flavored milk had the highest awareness at 96%, followed by lassi (84%), buttermilk (80%), and curd (64%). In contrast, awareness of value-added dairy products remained relatively low ice cream (40%), butter (30%), shrikhand (26%), dairy sweets (16%), and milk powder (10%). This trend suggests that while staple dairy beverages are well recognized, there is limited visibility of premium or diversified dairy products within IRCTC's catering ecosystem.

4.3 To Examine the Buying Behaviour and Measure the Satisfaction Level of Passengers Who Used IRCTC Catering and Dairy Products during Journey

4.3.1 Buying behaviour analysis of passengers

This section aims to analyze the frequency with which passengers utilize IRCTC catering services, their preferred service channels, and the consumption patterns related to dairy products during train journeys. The findings provide valuable insights into passenger preferences and purchasing behavior, particularly concerning dairy offerings. This analysis supports the broader objective of assessing consumer choices to inform strategies for enhancing product availability and service quality. A summary of the key observations is presented in the Table 3.

Table 3. Buying behaviour of respondents for catering services and dairy products (n=50)

Sr. No.	Particular	Frequency	Percentage
(a) Usage of IRCTC catering service			
1	Yes	48	96
2	No	02	04
	Total	50	100
(b) Catering services used by passengers			
1	Rail Neer	44	91.7
2	Food Stalls on Station	33	68.8
3	Fast Food Units	11	22.9
4	Mobile Catering	10	20.8
5	E-Catering	8	16.7
6	TSV (Train Side Vending)	7	14.6
7	Food Plazas	3	6.3
8	Jan Ahaar	1	2.1

Sr. No.	Particular	Frequency	Percentage
(c) Frequency of using IRCTC catering service			
1	Never	02	04
2	Rarely	14	28
3	Occasionally	05	10
4	Frequently	17	34
5	Very Frequently	12	24
	Total	50	100
(d) Frequency of buying Dairy Products during journey			
1	Rarely	13	26
2	Sometime	08	16
3	Always	29	58
	Total	50	100
(e) Dairy products bought by passengers during journey			
1	Milk / Flavoured Milk	18	36
2	Tea/coffee	42	84
3	Curd	04	08
4	Buttermilk	10	20
5	Paneer Dishes	17	34
6	Lassi	03	06

a) Usage of IRCTC Catering Services

The findings reveal that a significant majority of passengers (96%) reported utilizing IRCTC catering services during their train journeys, with only 4% indicating non-usage. This high engagement rate underscores the critical role of IRCTC's onboard and station-based catering facilities in shaping the overall travel experience.

b) Catering Services Used by Passengers

Among the various catering options, Rail Neer was the most commonly consumed item, with 91% of respondents reporting its use, affirming its strong brand presence as a trusted packaged drinking water. Food stalls at railway stations were used by 68% of passengers, highlighting their popularity due to accessibility and convenience. Other services such as fast food units (20%), mobile catering (30%), e-catering (26%), and train-side vending (18%) showed moderate usage. In contrast, Food Plazas (6%) and Jan Ahaar (4%) recorded limited patronage. These patterns suggest that service visibility, ease of access, and passenger preferences significantly influence usage behavior.

c) Frequency of Using IRCTC Catering Services

With respect to usage frequency, 34% of passengers reported occasional use, while 24% indicated rare usage. Notably, 34% reported frequent or very frequent engagement with catering services, suggesting a considerable segment of regular consumers. This variation

likely reflects differences in travel duration, individual food preferences, and perceived service quality.

d) Frequency of Buying Dairy Products During Journey

Dairy products were a routine purchase for many passengers, with 58% stating they always purchased such items during their journeys. An additional 16% reported occasional purchases, while 26% indicated rare consumption. These figures point to a strong overall preference for dairy-based options among travelers.

e) Dairy Products Bought by Passengers During Journey

Among dairy items, milk and flavoured milk (88%) were the most frequently consumed, followed closely by tea and coffee (84%). Other commonly selected products included curd (40%) and buttermilk (38%). In contrast, items such as paneer-based dishes (8%) and lassi (6%) were less frequently purchased, possibly due to limited availability, lower consumer demand, or suitability for travel consumption. The findings suggest a preference for light, ready-to-drink dairy products that offer convenience, refreshment, and taste.

4.3.2 Passenger's satisfaction from catering services used and dairy products consumed

To gain a comprehensive understanding of passenger satisfaction regarding both the

catering services availed and the dairy products consumed during train journeys, respondents were asked to evaluate their experiences using a five-point Likert scale ranging from 'Highly Dissatisfied' to 'Highly Satisfied'. This section assesses satisfaction levels across key service dimensions, including overall service quality, value for money, and nutritional adequacy. Additionally, product-specific attributes such as

taste, hygiene, serving temperature, and the availability of dairy items were examined. The Likert scale responses provide valuable insights into areas where IRCTC is successfully meeting passenger expectations, as well as identifying aspects that require improvement in terms of food service delivery and dairy product offerings. The detailed satisfaction ratings are presented in the Table 4.

(1=Highly dissatisfied, 2=Dissatisfied, 3=Neutral, 4=Satisfied, 5=Highly satisfied)

Table 4. Passenger's satisfaction level (likert Scale)

								(n=50)
Factors		1	2	3	4	5	Total	Likert score
(a) Passenger's satisfaction for catering services used								
Service	N	00	01	10	26	13	50	4.02
	fx	00	02	30	104	65	201	
Value for money	N	00	00	08	28	14	50	4.12
	fx	00	00	24	112	70	206	
Balanced nutrition	N	00	02	28	13	07	50	3.5
	fx	00	04	84	52	35	175	
(b) Passenger's satisfaction for dairy products consumed								
Taste & Freshness	N	00	01	11	20	18	50	4.10
	fx	00	02	33	80	90	205	
Packaging & Hygiene	N	00	00	11	23	16	50	4.10
	fx	00	00	33	92	80	205	
Temperature	N	00	01	11	28	10	50	3.94
	fx	00	02	33	112	50	197	
Availability	N	00	01	06	21	22	50	4.28
	fx	00	02	18	84	110	214	

$$\text{Likert score} = \sum (fx) / \text{Total no. of Respondents}$$

a) Passenger's Satisfaction for Catering Services Used

Passenger satisfaction with IRCTC catering services was assessed across three key parameters. The overall service quality received an average Likert score of 4.02, reflecting a generally high level of satisfaction among respondents. In terms of Value for Money, the average score was slightly higher at 4.12, suggesting that most passengers found the pricing to be reasonable relative to the quality and quantity of food provided. However, satisfaction with Balanced Nutrition was comparatively lower, with an average score of 3.50 the lowest among the assessed factors. This indicates that a considerable number of passengers were either uncertain or less satisfied with the nutritional adequacy of the meals, underscoring a need for IRCTC to improve or better communicate the health and nutritional aspects of its offerings.

b) Passenger's Satisfaction for Dairy Products Consumed

Passenger satisfaction with dairy products consumed during train journeys was measured across four dimensions. Taste and Freshness received a high average Likert score of 4.10, indicating that most passengers were satisfied with the sensory quality and freshness of the dairy items. Packaging and Hygiene also scored 4.10, reflecting strong approval of the cleanliness and presentation, which are critical in enhancing perceived product safety during travel. However, satisfaction with Serving Temperature was slightly lower at 3.94, suggesting some inconsistency in maintaining optimal temperatures particularly for items such as curd, buttermilk, or flavored milk possibly due to storage limitations on longer routes or in non-premium trains. Notably, Availability received the highest score of 4.28, demonstrating that passengers were highly satisfied with the consistent accessibility of dairy products, indicating effective supply chain management and vendor coordination by IRCTC.

5. CONCLUSION

The study clearly demonstrates a high level of engagement with IRCTC's catering services, with 96% of respondents reporting utilization during their train journeys. Core service components show strong awareness among passengers 100% are familiar with Rail Neer, and 90% are aware of pantry car services. However, awareness of modern service channels such as e-catering is comparatively lower, at 70%, indicating substantial scope for enhancing the visibility and adoption of digital ordering platforms.

Dairy products emerged as a key element of passenger food preferences, with 58% of respondents stating they "always" purchase dairy items during travel. Flavoured milk (96% awareness) and tea/coffee (84% consumption) are the most preferred choices, underscoring the centrality of dairy in travel diets. Despite this, awareness of value-added dairy products such as shrikhand (26%) and traditional dairy sweets (16%) remains limited, indicating underutilization of the full range of dairy offerings within the IRCTC value chain.

Passenger satisfaction levels are generally high. Service quality was rated at 4.02 out of 5, while value for money received a score of 4.12. Specifically for dairy products, taste and freshness (4.10/5), along with packaging and hygiene (4.10/5), received favorable evaluations. However, areas such as nutritional balance (3.5/5) and temperature maintenance (3.94/5) reveal opportunities for improvement, particularly through the inclusion of healthier and temperature-stable dairy options.

In conclusion, while IRCTC's catering ecosystem demonstrates effective performance in its core services, there is a clear policy opportunity to enhance dairy integration through partnerships with reputed cooperatives like Amul. Strategic efforts should focus on promoting nutritional improvements, diversifying dairy offerings, and increasing awareness and usage of e-catering platforms to further elevate passenger satisfaction and service quality.

To enhance dairy integration in IRCTC catering, Amul can introduce travel-friendly products like ready-to-drink beverages and regional dairy items, and develop combo meals for passengers. Strengthening branding on e-catering platforms, improving cold chain logistics, and promoting via

station campaigns will boost visibility. Strategic collaborations with IRCTC kitchens and lounges, use of passenger feedback, and AI-based demand forecasting will optimize offerings. Seasonal customization and trial launches will ensure future readiness and increased consumer satisfaction.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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