**Original Research Article**

**Understanding Value Chain of IRCTC catering service**

**ABSTRACT**

This study examines the value chain of the Indian Railway Catering and Tourism Corporation (IRCTC), focusing on the integration of dairy products within its catering services. The research aims to explore passenger awareness, consumption preferences, and satisfaction with IRCTC’s catering offerings, with particular emphasis on dairy product availability during train journeys. Primary data was collected through structured questionnaires from passengers at selected railway stations in Gujarat.

The findings reveal a generally high level of awareness and usage of IRCTC catering services, with dairy products occupying a significant position in passenger preferences. Branded dairy items, especially those offering convenience and freshness, were particularly favored by travelers. While passengers expressed satisfaction with service quality and value for money, areas such as nutritional balance and product variety were identified as needing improvement.

The study concludes that IRCTC possesses a well-established catering framework but has the potential to further enhance passenger experience by expanding dairy product offerings, promoting healthier meal options, and increasing awareness of e-catering services. Strengthening collaboration with established dairy cooperatives can contribute to improved service quality, greater customer satisfaction, and a more efficient value chain within public-sector catering.

**Keywords**: IRCTC, Value Chain, Dairy Products, Catering Services, Passenger Satisfaction.

**(I) INTRODUCTION**

In India’s dynamic public transportation landscape, the Indian Railways functions not only as a transport medium but also as a crucial provider of food services to millions of passengers daily. The Indian Railway Catering and Tourism Corporation (IRCTC), a public sector enterprise, plays a pivotal role in managing these services across the railway network. Among its multiple service verticals, catering has emerged as both a revenue-generating and passenger-satisfaction-oriented service.

Parallel to this, India’s dairy sector holds a unique and indispensable place in the daily lives of its people. With over 239 million tonnes of milk production annually, India is the largest milk producer globally, and dairy products form an integral part of everyday nutrition. Brands like Amul have not just built an economic success story, but have also contributed to rural development, cooperative empowerment, and national pride. Dairy products like milk, lassi, curd, buttermilk, and paneer have been staples in Indian households, celebrated for their cultural, nutritional, and economic significance.

This research includes two massive ecosystems Indian Railways catering services and the Indian dairy sector. As lifestyles change and travel becomes more frequent, passengers increasingly expect hygienic, fresh, and culturally familiar food during their journeys. Dairy products naturally fit into this demand, offering both nutrition and comfort. However, despite the extensive scale of IRCTC’s operations and the widespread presence of dairy cooperatives like Amul there is still scope of improvement which will be indentified at the end of study.

The present study focuses on awareness, consumption behavior and level of satisfaction in passengers for IRCTC catering service and dairy products being offered during their journey. This study also focused on travelling patterns of passengers. By collecting and analyzing primary data from passengers at four railway stations in Gujarat (Ahmedabad, Vadodara, Anand, and Nadiad) this research provides an in-depth assessment of existing gaps and growth opportunities in IRCTC value chain. In doing so, it aims to propose strategies for more efficient dairy integration within the IRCTC catering ecosystem, thereby supporting public health goals, enhancing service quality, and strengthening collaborative efforts between Indian Railways and national dairy cooperatives.

Moreover, this study highlights how purchasing decisions are shaped not just by necessity, but also by habits, comfort, and cultural preferences. Dairy consumption during train journeys is not merely a transaction—it’s a reflection of familiarity and assurance in an unfamiliar travel environment. However, the research also identifies gaps such as limited dairy options in non-premium trains, inconsistent quality, and lack of awareness about e-catering dairy choices.

In conclusion, the study explores a timely and relevant question for public catering systems: how can IRCTC and the Indian dairy industry collaborate more effectively to enhance passenger satisfaction? By examining these connections, the study hopes to offer meaningful insights for improving catering services, strengthening public-private partnerships, and creating a more fulfilling travel experience for millions of railway passengers across India.

**(II) REVIEW OF LITERATURE**

Dr. D. Antony & Ashok Kumar *et al.,* (2016) undertook a qualitative analysis of the food safety and hygiene practices adopted by IRCTC across different railway zones in India. The author highlighted the role of **Hazard Analysis and Critical Control Points (HACCP)** as a guiding framework for safe food preparation and service on trains. Primary data was collected via **site visits and interviews** with IRCTC staff, vendors, and passengers. The study found significant **regional disparities** in the implementation of food safety protocols. Moreover, Dr. Kumar emphasized the prevalence of **passenger complaints** related to low food quality, overcharging, insufficient quantity, and delayed service. He also reviewed institutional mechanisms like **surprise inspections, feedback forms, toll-free helplines, and Rail Madad,** and found them underutilized. The study concludes with recommendations for stricter vendor vetting and stronger accountability in hygiene and food quality compliance.

Surjeet Kumar and Naveen Chachal *et al.,*(2017) applied the **DINESERV model,** a service quality assessment tool developed specifically for dining services, to measure passenger satisfaction across various IRCTC catering units in Uttar Pradesh. The authors surveyed 200 passengers to assess the gap between customer **expectations** and **perceived performance** across five dimensions: **Tangibles, Reliability, Responsiveness, Assurance, and Empathy**.Using a **Likert-scale questionnaire** and statistical tools for gap analysis, the study found a substantial negative gap in nearly all service dimensions, especially in Reliability (timely service) and Tangibles (cleanliness, presentation). Passengers were particularly dissatisfied with food freshness, vendor behavior, and perceived value for money.

Yadav and Kumar *et al.,* (2019) presented a conceptual study analyzing the transformation of IRCTC’s catering services and its impact on passenger satisfaction. The authors traced the evolution of catering from traditional pantry car services to outsourced models and digital e-catering platforms. Their study emphasized how policy interventions particularly the IRCTC Catering Policies of 2010 and 2017 restructured operations to enhance accountability, food safety, and service efficiency. Key factors influencing passenger satisfaction included food quality, hygiene, packaging, timely delivery, and responsiveness to complaints. While digitization and centralized control through IRCTC showed improvements, the study identified persistent challenges such as vendor non-compliance, inconsistent service quality across zones, and inadequate monitoring. The authors recommended vendor training, effective feedback systems, and enhanced public awareness of e-catering options to bridge these gaps. This study provides a vital conceptual foundation for understanding how IRCTC’s catering value chain influences consumer experience and operational efficiency in the public-sector railway food system.

Patil, Mukul, and Mathur *et al.,*(2012) offered a detailed analysis of systemic gaps in Indian Railways’ catering services and proposed strategic reforms to modernize the system. Their study, published by the International Union of Railways, highlighted poor hygiene, fragmented vendor systems, and a lack of technological integration as major pain points contributing to low passenger satisfaction. They advocated for the centralization of catering under IRCTC, standardization through SOPs, and the introduction of mega base kitchens with automated controls. The report further emphasized the role of technology such as RFID tracking and feedback management systems to ensure quality and transparency. These recommendations served as the foundation for later policy reforms, including the 2017 IRCTC Catering Policy, and remain highly relevant for evaluating and improving the railway catering value chain today.

Banerjee & Gaurav *et al.,*(2010)explored the potential of Public-Private Partnership (PPP) models in the domain of Indian railway tourism, with particular attention to the operational and experiential improvements achievable through private sector involvement. The study identified significant gaps in infrastructure, service quality, and marketing within the existing public-sector railway tourism offerings. Banerjee argued that strategic PPP frameworks could help Indian Railways, particularly through IRCTC, leverage private expertise in hospitality, logistics, and customer engagement to create more competitive and attractive tourism packages. The thesis highlighted examples such as the Palace on Wheels and Bharat Darshan trains, noting their relative success where private players contributed to service delivery while IRCTC maintained regulatory oversight. The author recommended improved policy mechanisms, transparent tendering, and integrated promotional campaigns to fully realize the scope of PPP in enhancing railway-based tourism experiences. This work is particularly relevant for understanding how IRCTC can expand its tourism andcatering value chains by balancing commercial partnerships with public accountability.

Kumar and Chachal *et al.,*(2017) conducted an empirical study focusing on the quality of food services provided at IRCTC-managed food outlets in the Delhi-NCR region. The study utilized a structured questionnaire to assess passenger perceptions across key service quality dimensions, including tangibility, reliability, responsiveness, assurance, and empathy drawing upon the SERVQUAL framework. Results indicated a significant gap between customer expectations and perceptions, particularly in the areas of hygiene, staff behavior, and promptness of service. The authors noted that while the branding of IRCTC ensured visibility and trust to some extent, operational inconsistencies at the outlet level undermined overall passenger satisfaction. Furthermore, the study stressed the need for regular quality audits, staff training, and better customer grievance redressal mechanisms to align service delivery with evolving consumer expectations. This research provides valuable insights into micro-level service challenges within IRCTC’s catering vertical and underscores the importance of maintaining consistent quality across different geographic zones.

Basu and Mukherjee *et al.,* explored the role of IRCTC's e-catering services in advancing the Digital India initiative, focusing particularly on user experience in the East Zone. The study highlighted how IRCTC’s integration of digital technology through its mobile app, website, and partnerships with food aggregators has transformed the traditional catering system by offering passengers greater flexibility, choice, and convenience. By analyzing consumer responses, the authors found that factors such as ease of ordering, variety of cuisine, digital payment options, and on-time delivery significantly influenced user satisfaction. However, the study also noted areas requiring improvement, including network connectivity issues during train travel, occasional delivery failures, and lack of awareness among older passengers. The paper concluded that e-catering services have the potential to revolutionize the Indian Railways food delivery model by reducing dependence on pantry cars and enhancing customer autonomy. This research adds depth to the understanding of how digitalization is reshaping IRCTC’s catering value chain and passenger service expectations.

Miglani and Sharma *et al.,*(2015) conducted an early and insightful study on the scope and potential of e-catering services in Indian Railways, positioning it as a transformative innovation for passenger convenience. Their research examined the shift from traditional pantry-based meal distribution to a technology-enabled food delivery model driven by IRCTC. The study highlighted key advantages of e-catering, including greater food variety, improved hygiene, and the ability for passengers to select meals from reputed restaurants via smartphones or online platforms. However, the authors also pointed out operational challenges such as inconsistent delivery coordination, lack of awareness among passengers, and limited service coverage across smaller stations and routes. They emphasized that the full potential of e-catering could only be realized through better vendor integration, real-time delivery tracking, and sustained passenger education efforts. This study significantly contributes to the understanding of how digital interventions like e-catering can redefine food service standards and enhance the customer experience in the Indian Railways ecosystem.

Kumar *et al.,*(2018) conducted a focused case study on the catering services provided on the Jammu–New Delhi Duronto Express, analyzing passenger satisfaction and operational efficiency within a premium non-stop train service. The study employed direct passenger feedback and observational methods to assess critical aspects such as food quality, hygiene, punctuality of service, staff behavior, and packaging. Findings revealed a moderate level of satisfaction among passengers, with high appreciation for the timely delivery and courteous staff, but recurring concerns regarding the **limited menu diversity, bland taste,** and **inconsistent food temperature**. The study also pointed to logistical constraints such as long-distance travel without pantry refreshment points, which sometimes impacted food freshness. Kumar recommended route-specific menu planning, better thermal insulation for food containers, and real-time feedback integration to elevate service standards. This micro-level study is valuable in highlighting the unique challenges faced by IRCTC in maintaining uniform catering quality across premium train services and supports broader discussions on improving passenger-centric service delivery in Indian Railways.

Verma *et al.,* (2015) presented a detailed study of the **Maharaja Express**, India’s flagship luxury train operated by IRCTC, examining how high-end hospitality and tourism services are integrated within the railway catering and tourism framework. The study highlighted the Maharaja Express as a benchmark of excellence in luxury travel, offering five-star hotel-style amenities, curated tour itineraries, gourmet meals, and personalized service. Verma emphasized that IRCTC’s successful operation of the Maharaja Express demonstrated its capability to manage premium travel experiences while blending cultural tourism with world-class onboard services. The study noted the significance of professional catering partnerships, strict quality control, and the use of hospitality-trained staff as key elements of the train’s success. Furthermore, Verma observed that such high-end ventures enhance India’s image in international tourism and contribute to IRCTC’s brand value and revenue diversification. This case study offers useful insights into IRCTC’s tourism vertical, showcasing its potential beyond mass transit food services, and aligns with broader discussions on value chain differentiation in public-sector catering and tourism.

Krishnakumar and Kavitha *et al.,*(2020) explored the gap between passenger expectations and actual service performance in IRCTC’s catering and tourism operations. Their study applied a quantitative approach using structured surveys to assess key service quality dimensions, including food quality, hygiene, staff behavior, punctuality, and grievance redressal. The authors found a significant disparity between expected and perceived service levels, particularly in the areas of meal freshness, availability of regional cuisine, and responsiveness of service staff. Despite IRCTC’s efforts in streamlining operations and adopting digital tools, many passengers reported inconsistencies across trains and stations. The study emphasized the need for continuous service monitoring, staff training, and passenger-centric policy improvements to close the satisfaction gap. It also recommended leveraging real-time feedback systems and technology-driven interventions to enhance service delivery. This research contributes to the broader literature by offering empirical insights into consumer satisfaction patterns and service quality challenges within the IRCTC catering and tourism framework.

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 3availability (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.

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, Don, and Gurjar (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’s e-catering service is a modern and convenient option that lets train passengers order meals of their choice during their journey. 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. 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. 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.

**(III) RESEARCH OBJECTIVE**

1. To examine the demographic profile of passengers and it’s 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.

**(IV) RESEARCH METHODOLOGY**

The study employed a descriptive research design utilizing primary data collected through structured questionnaires. The sample size consisted of 50 respondents, selected from four major railway stations of Gujarat (Ahmedabad, Vadodara, Anand, and Nadiad). The respondents included a mix of railway passengers from diverse backgrounds, covering various age groups, occupations, and travel classes. Data collection was conducted during the period from February to May 2025, using offline methods through face-to-face interaction at railway stations.

To ensure accuracy and actual representation, the questionnaire was designed to capture information on awareness, buying behavior, satisfaction levels and travel patterns. The collected data was analyzed using statistical tools such as percentage analysis, Likert scale ratings and Garrett ranking method to interpret passenger preferences and satisfaction indicators.

**(V) RESULT AND DISCUSSION**

**5.1 : 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 passengers is essential to assess their preferences and attitudes towards IRCTC catering services and dairy product consumption during train journeys. Demographic factors such as gender, age, occupation, education level, and monthly family income play a significant role in shaping consumer expectations, consumption habits, and satisfaction levels. To gain deeper insights, this study analyzed 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 following table.

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 | 10th | 07 | 14 |
| 2 | 12th | 12 | 24 |
| 3 | Graduate | 20 | 40 |
| 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** |

1. **Gender-wise Distribution:**

The gender-wise distribution shows that 60% of the respondents were male and 40% were female. This indicates a moderate gender balance, with a slight male dominance in the sample. Such a distribution may influence the attitude towards IRCTC catering services, as travel preferences and food choices often differ between male and female passengers. Males may prioritize quantity and convenience, while females may focus more on hygiene and nutritional value, which could shape overall satisfaction levels.

1. **Age-wise Distribution:**

The largest segment of respondents (34%) falls in the 21–30 age group, followed by 26% in the 31–40 bracket, and 16% in the 41–50 category. Passengers below 20 years accounted for only 4%, while those above 51 comprised 16%. This age distribution highlights a dominant young and middle-aged traveler demographic, who are typically more quality-conscious and digitally aware, potentially expecting better service standards, variety, and modernized options like e-catering.

1. **Occupation-wise Distribution:**

Occupation-wise, government employees (40%) represent the largest proportion, followed by private employees (30%), students (14%), business owners (10%), and retired persons (6%). This suggests that a majority of the respondents have steady employment and stable income sources, possibly influencing their expectations for professional and standardized catering services. Service quality, timely delivery, and product authenticity may be of greater importance to working-class passengers compared to others.

1. **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.
2. **Monthly family income-wise Distribution:**

Income-wise, the majority of respondents (36%) fall in the ₹50,001–₹1 lakh category, followed by 26% in the ₹0–₹30,000 range, 20% in ₹1 lakh–₹1.5 lakh, and 18% in ₹1.5 lakh–₹2 lakh categories. The presence of a considerable middle-income group suggests a price-sensitive yet quality-conscious passenger segment. This income distribution could impact attitudes towards catering services, where affordability, value-for-money meals, and access to premium add-ons like branded dairy products are important considerations.

**5.2 : To analyse the level of passenger’s awareness regarding catering services and dairy products offered in IRCTC value chain.**

Passenger awareness is a crucial determinant in the effective utilization of catering services, especially in large-scale operations like those managed by IRCTC. The level of awareness influences not only how passengers perceive service quality but also their likelihood of opting for available food and beverage options during travel. This study focuses on analyzing the awareness levels of passengers concerning both general catering services and specific dairy product offerings within the IRCTC value chain. By examining key factors such as awareness of IRCTC’s role in catering, knowledge of available food service channels, familiarity with dairy products, and awareness about pantry car facilities, the study aims to understand how informed passengers are about their choices. This assessment directly supports the objective of identifying awareness gaps, enabling targeted improvements in service communication, product visibility, and overall passenger satisfaction in railway catering services. The detailed awareness profile is presented in the following table.

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 |

1. **Awareness of IRCTC’s Role in Catering Services:**

The data reveals that a significant majority of respondents (96%) were aware of IRCTC’s responsibility in providing catering services to railway passengers. Only 4% were unaware of IRCTC’s role, indicating a strong overall recognition among travelers. This high awareness suggests that IRCTC’s brand presence and involvement in food services is well-known among frequent passengers, which can positively influence trust and expectations regarding food quality.

1. **Awareness of Various Catering Services of IRCTC:**

When asked about specific catering services, all respondents (100%) knew about Rail Neer packaged water, reflecting its prominent visibility across trains and stations. A high percentage (90%) were aware of pantry car meal services, and 90% also recognized the availability of food stalls at stations. E-catering services had an awareness level of 70%, indicating growing but still limited reach. Awareness about Train Side Vending (66%), Fast Food Units (64%), Jan Ahaar affordable meals (60%), and Food Plazas (52%) showed a varied understanding of static and mobile catering options. This indicates that while core services like pantry cars and Rail Neer are highly familiar, newer services like e-catering and static units like Food Plazas need further promotion.

1. **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.

1. **Alternative Choices in Absence of Pantry Car:**

In the absence of pantry car facilities, passengers reported varied preferences for food options. About 36% opted for bringing food from home, 32% used train side vending services, 18% relied on local vendors or station outlets, and 14% used e-catering services. This demonstrates a significant dependency on personal food arrangements and on-board vending when pantry services are unavailable, highlighting the need for more accessible and well-publicized alternatives like e-catering.

1. **Awareness of Dairy Products at Trains and Railway Stations:**

Regarding dairy product awareness, flavored milk had the highest recall, with 96% of respondents aware of its availability. Lassi (84%), buttermilk (80%), and dahi/curd (64%) were also widely recognized. However, awareness of more premium dairy options was lower, with only 40% aware of ice cream, 30% of butter, 26% of shrikhand, 16% of dairy sweets, and 10% of milk powder. This pattern indicates that while basic and commonly consumed dairy beverages are well known, there is limited awareness about the availability of diversified or value-added dairy products within IRCTC catering services.

* 1. **: To examine the buying behaviour and measure the satisfaction level of passengers who used IRCTC catering and dairy products during journey.**

**5.3.1: Buying Behaviour Analysis of Passengers**

To examine how often passengers use IRCTC catering, their preferred services, and the frequency and types of dairy products purchased during journeys. The analysis helps understand consumption trends and supports the objective of evaluating passenger choices, offering insights to improve product availability and service quality. The summarized findings are presented in the table below.

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 |
| (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 |

1. **Usage of IRCTC Catering Services:**

The data indicates that a vast majority of passengers (96%) reported using IRCTC catering services during their train journeys, with only 4% stating they did not use these services. This high utilization rate reflects the strong dependency of passengers on onboard and station-based catering facilities, making it an essential component of the travel experience.

1. **Catering Services Used by Passengers:**

Among the different IRCTC catering services, Rail Neer (91%) was the most commonly used product, showing its dominance as a trusted packaged drinking water brand. Food stalls at stations were used by 68% of passengers, suggesting that on-platform options are a preferred choice. Other catering services like fast food units (20%), mobile catering (30%), e-catering (26%), and train-side vending (18%) showed moderate usage, while food plazas (6%) and Jan Ahaar (4%) were less frequently used. This variation highlights that while passengers actively use multiple food service options, awareness, accessibility, and convenience play a significant role in shaping their buying behaviour.

1. **Frequency of Using IRCTC Catering Services:**

When it comes to the frequency of use, 34% of passengers reported occasional usage, followed by 24% who rarely used catering services. A notable 34% used catering frequently or very frequently, indicating a sizeable group of regular consumers who engage with IRCTC catering on most of their journeys. This spread shows diverse engagement levels, potentially driven by journey duration, service quality, or food preferences.

1. **Frequency of Buying Dairy Products During Journey:**

Regarding dairy product consumption, 58% of passengers stated they always bought dairy products during their trips, whereas 16% bought them sometimes and 26% rarely. This clearly demonstrates a strong preference for dairy consumption during train journeys, with a significant proportion of passengers making it a routine part of their travel experience.

1. **Dairy Products Bought by Passengers During Journey:**

Milk and flavoured milk (88%) emerged as the most frequently purchased dairy items, followed closely by tea or coffee (84%). Other popular items included curd (40%) and buttermilk (38%), while more specialized options like paneer dishes (8%) and lassi (6%) saw relatively low preference. This indicates that passengers primarily opt for ready-to-drink dairy products that offer convenience, hydration, and taste during travel. The low purchase of paneer-based dishes and lassi points towards limited availability or lower demand for heavier or specialty dairy items during journeys.

**5.3.2: Passenger’s satisfaction from catering services used and Dairy Products consumed**

To gain a comprehensive understanding of passenger’s satisfaction from catering services used and dairy products consumed during their journey, respondents were asked to rate their experiences with IRCTC catering services and dairy products using a five-point Likert scale ranging from ‘Highly Dissatisfied’ to ‘Highly Satisfied’. This section focuses on measuring satisfaction across key service factors, including quality of service, value for money, and nutritional balance, as well as product-specific factors like taste, hygiene, serving temperature, and availability of dairy products. The Likert scores offer valuable insights into areas where IRCTC is meeting passenger expectations and highlight potential areas for improvement in both food service quality and dairy product offerings during train journeys. The satisfaction ratings are presented in the table below.

( 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 |

Likert score = Σ (fx ) / Total no. of. Respondents

1. **Passenger’s Satisfaction for Catering Services Used:**

The satisfaction of passengers towards catering services was evaluated based on three key factors. Firstly, regarding Service, the average Likert score was 4.02, indicating a generally high level of satisfaction among passengers. Secondly, for Value for Money, passengers rated it with a slightly higher Likert score of 4.12, suggesting that most respondents felt the prices charged by IRCTC catering were reasonable relative to the quality and quantity of food offered. However, when asked about Balanced Nutrition, satisfaction levels dipped to a Likert score of 3.5, the lowest among catering service factors. highlighting that many passengers were uncertain or less convinced about the nutritional balance of IRCTC meals. This indicates a potential area for improvement in promoting healthier food options.

1. **Passenger’s Satisfaction for Dairy Products Consumed:** Passenger satisfaction with dairy products was measured across four criteria. Taste and Freshness received a high Likert score of 4.10 which reflects that most passengers were satisfied with the sensory appeal and freshness of the dairy products served. Packaging and Hygiene also scored 4.10, indicating strong satisfaction with the cleanliness and presentation of dairy products during train journeys. This is important as good packaging often enhances consumer confidence in product safety, especially in a travel environment.  
   On Temperature, the average satisfaction score was slightly lower at 3.94. This suggests mixed feedback, where maintaining optimal serving temperatures for products like curd, buttermilk, or flavored milk might be inconsistent, particularly during longer journeys or in non-premium trains. Lastly, Availability stood out with the highest Likert score of 4.28, indicating that passengers were highly satisfied with the availability of dairy products during their journey, pointing to effective distribution and stocking practices by IRCTC and its partner vendors.

**(VI) CONCLUSION**

The study clearly establishes that IRCTC’s catering services enjoy significant engagement among passengers, with 96% of respondents reporting usage of IRCTC catering during their journeys. High levels of awareness exist for core services, with 100% of passengers aware of Rail Neer and 90% aware of pantry car services. However, awareness of modern service channels like e-catering remains at 70%, indicating considerable scope for improving visibility and adoption of digital ordering platforms. Dairy products emerged as an important component of passenger consumption, with 58% of passengers stating they “always” purchase dairy products while traveling. Flavoured milk (96% awareness) and tea/coffee (84% consumption) are the most preferred items, reflecting the significance of dairy in travel diets. Nevertheless, awareness of value-added products like shrikhand (26%) and dairy sweets (16%) remains low, suggesting underutilization of product variety within the IRCTC value chain.

Satisfaction analysis shows encouraging results, with passengers rating service quality at 4.02/5 and value for money at 4.12/5. For dairy products, taste and freshness (4.10/5) and packaging and hygiene (4.10/5) received high satisfaction ratings. However, concerns persist around nutritional balance (3.5/5) and temperature maintenance (3.94/5), highlighting opportunity to introduce healthier food options which include dairy products.

In conclusion, while IRCTC’s catering ecosystem performs well in core service delivery, there are clear policy opportunities to expand dairy offerings through reputed cooperatives like Amul. Promote nutritional improvements, and increase awareness of e-catering services.

**COMPETING INTERESTS DISCLAIMER:**

Authors have declared that they have no known competing financial interests OR non-financial interests OR personal relationships that could have appeared to influence the work reported in this paper.

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