A STUDY ON THE IMPACT OF AI FEATURES AND USER DEMOGRAPHICS ON PASSENGER SATISFACTION WITH IRCTC'S ONLINE TICKET BOOKING SERVICES

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ABSTRACT

This research investigates how artificial intelligence (AI) features and user demographics influence passenger satisfaction with IRCTC's online ticket booking system. It focuses on the role of the Ask DISHA chatbots in shaping user experience and evaluates satisfaction differences based on occupation. A structured questionnaire was used to gather data from 250 respondents, and the Chi-Square and ANOVA tests were used for analysis. The results demonstrate that user background and AI integration have a substantial impact on service satisfaction. .Rephrase without altering the message in any way. IRCTC's tech advancements, like the Next Generation E-Ticketing system, have enhanced booking speed and capacity. However, there is a need to improve AI features, user awareness, and accessibility. The study concludes that a user-focused and tech-driven approach can further improve digital travel services.

KEYWORDS   *IRCTC E-Ticketing System, Ai Technology, Ease Of Navigation, User Experience, Passenger Satisfaction, Support Availability.*

INTRODUCTION

The Indian Railway Catering and Tourism Corporation Ltd. (IRCTC), a Mini Ratna under the Ministry of Railways, was established in 1999 to professionalize catering and hospitality services. It also promotes tourism through affordable hotels, tour packages, and global booking systems. IRCTC revolutionized train travel with its Online Ticket Booking System, empowering users via technology. From just 27 tickets booked on its 2002 launch day, it reached a record of 15.88 lakh e-tickets on March 21, 2022. Over two decades, it has grown into one of Asia-Pacific's largest e-commerce platforms. In 2014, IRCTC introduced the Next Generation E-Ticketing (NGeT) System, drastically boosting booking speed. As of November 12, 2022, it hit a peak of 28,434 tickets booked in a minute. The system is supported by high-capacity servers and advanced digital infrastructure. Through its website and mobile apps, IRCTC continues to lead online railway ticketing in India.

LITERATURE REVIEW

Preshita Neha Tudu (2020), in their research study titled "To book or not to book through IRCTC – Consumer's intention to use Indian Railway's online ticketing system" explored the factors influencing individuals' decisions to adopt online railway ticket booking in India. The research integrated the Theory of Planned Behavior (TPB), the Technology Acceptance Model (TAM), and the concept of perceived risk to understand consumer behavior. Data were gathered from 220 participants through snowball sampling using an online questionnaire. Structural equation modeling was utilized to analyze the relationships and evaluate model fit. The results showed that Perceived Usefulness (PU) had a significant impact on both the consumers' attitudes and their intention to use the online system. Perceived Ease of Use (PEOU) was also found to positively shape users' attitudes toward online ticketing. Furthermore, factors such as attitude, subjective norms, and Perceived Behavioral Control (PBC) were strong predictors of the intention to use the IRCTC online booking service. Validating the applicability of TPB. However, perceived risk negatively impacted consumers' intentions. These insights can help railway management develop targeted policies and strategies to improve adoption rates for online ticketing in India.

Krishna Kumar K and Kavitha S (2020), is research paper titled "Passengers' Expectation And Satisfaction On Service Performance In Indian Railway Catering And Tourism Corporation," aimed to comprehend Indian Railway Catering and Tourism Corporation (IRCTC) passenger expectations and

satisfaction. Which manages online and offline passenger services. Key expectations included ticket availability, punctuality, catering services, and safety measures. Data from 120 passengers at the Southern Railway's Salem Railway Division were gathered for the study. For data analysis, a variety of statistical techniques were used, including correlation, one-sample t-test, ranking, ANOVA, percentage analysis, and chi-squared test. The results showed that passenger satisfaction was greatly impacted by important factors such as physical infrastructure, responsiveness, safety, convenience, dependability, and overall service quality. In India, railway transportation has been a preferred mode of travel due to its affordability and convenience.

Given the country's high population, a vast and efficient railway system has been crucial to meet passengers' mobility needs.

OBJECTIVES OF STUDY

1. To explore how AI tools like Ask DISHA shape users' impressions of the IRCTC portal and mobile application.
2. To investigate the role of demographic factors in shaping user satisfaction with IRCTC's online ticket booking experience.
3. To analyze the performance of IRCTC's digital services in delivering a smooth and satisfying booking process for passengers.

RESEARCH GAP

The Ask DISHA chat bot is the main focus of this study, but other significant AI elements that potentially impact user experience are overlooked. It ignores important factors like education level, geographic location, and digital aptitude in favor of focusing just on a few user variables, such as occupation. The study's one-time data collection method leaves out variations among regions or changes over time.

RESEARCH METHODOLOGY

- Number of Respondents: 250
- Structured Questionnaire is the main approach.
- Research articles, journals, and websites are the secondary method.

- Sampling Method- Convenience sampling
- Analysis of Variance (ANOVA) and Chi-square test were the statistical tools used.

DATA ANALYSIS AND INTERPRETATION

PEARSON CHI-SQUARE TEST

Table -1 Association between AI based Ask DISHA feature and overall impression of IRCTC Application and portal services

Hypothesis

H0: There is no significant association between AI based Ask DISHA feature and overall impression of IRCTC Application and portal services.

	VALUE	DEGREE OF FREEDOM	ASYMP. SIG. (2-SIDED)
PEARSON CHI-SQUARE	22.119[a]	9	.009
LIKELIHOOD RATIO	23.228	9	.006
LINEAR-BY-LINEAR ASSOCIATION	5.651	1	.017
N OF VALID CASES	250		

Source: Questionnaire

a. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .17.

INTERPRETATION

- Found that p- value = .009 < 0.05 therefore H0 is Rejected.
- Therefore, there is significant association between AI based Ask DISHA feature and overall impression of IRCTC Application and portal services.

Table -2 Association between the IRCTC Application and website providing the consistent functionality without errors and crashes and satisfaction level of ticket booking

Hypothesis

H0: There is no significant association between the IRCTC Application and website providing the consistent functionality without errors and crashes and satisfaction level of ticket booking

	ASYMP. SIG. (2-SIDED)	DEGREES OF FREEDOM	VALUE
PEARSON CHI-SQUARE	.000	16	143.326[a]
LIKELIHOOD RATIO	.000	16	117.247
LINEAR-BY-LINEAR ASSOCIATION	.000	1	55.970
			250

Source: Questionnaire

12 cells (48.0%) have expected count less than 5. The minimum expected count is .10.

INTERPRETATION

- From the above table, it is found that p-value =.000 < 0.05 therefore H0 is Rejected.
- Therefore, there is significant association between   the IRCTC Application or website providing the consistent functionality without errors and crashes and satisfaction level of ticket booking

ONE - WAY ANALYSIS OF VARIANCE (ANOVA)

Table -3 Influence between Occupation and passenger experience and satisfaction towards IRCTC Online ticket booking system

Hypothesis

H0 : There is no significant influence between Occupation and passenger experience and satisfaction towards IRCTC Online ticket booking system.

	SUM OF SQUARES	DEGREES OF FREEDOM	MEAN SQUARE	F	SIG.
BETWEEN GROUPS	104.721	34	3.080	1.618	.022
WITHIN GROUPS	409.379	215	1.904		
TOTAL	514.100	249			

Source: Questionnaire

INTERPRETATION

- The above table shows the difference between Occupation and passenger experience and satisfaction towards IRCTC Online ticket booking system.

- The p –value = .022 which is less than 0.05 significant level.

- Hence Ho is rejected and it is concluded that there is significant difference between Occupation and passenger experience and satisfaction towards IRCTC Online ticket booking system.

SUGGESTIONS

- **Improve AI Functionalities such as Ask DISHA Enhance:** To improve accessibility and reach, ask DISHA for regional languages, voice assistance, and a more organic conversation flow.

- **Customize Services according to User Profiles**: Create unique booking experiences and features for various user groups according to their age, occupation, and use habits.

- **Encourage the Use of Digital Tools and Their Awareness: To** promote user adoption, make AI features more visible through in-app tutorials, advertising, and notifications.

- **Boost Technical Support and Performance**: For effective problem solving, combine AI help with live customer care and maximize server capacity during peak hours.

- **Assure Integration of Feedback, Security, and Accessibility**: Enhance the platform's security and inclusivity, and gather user input often to inform future developments.

FINDINGS

1. **Influence of AI Features:** Users' opinions on the IRCTC portal are often improved by the Ask DISHA chatbots, suggesting AI features increase user satisfaction.

2. **System Performance:** Increased passenger satisfaction is largely a result of an IRCTC platform that is reliable and error-free.

3. **Impact on Demographics:** Occupation has a significant influence on user experience, with varying degrees of satisfaction across various professional groupings.

4. **Need for greater AI Features**: According to the report, current AI technologies require improvements including more natural interaction and greater language support.

5. **User Awareness Gap**: Users' apparent ignorance of and underutilization of AI features highlights the need for improved digital literacy and promotion.

CONCLUSION

According to the survey, user demographics and AI features have a significant impact on how satisfied passengers are with IRCTC's online ticketing services. While occupation has a significant influence on satisfaction levels, the Ask DISHA chatbots has a beneficial effect on users' perceptions of the site. The Next Generation E- Ticketing system, in instance, is one of IRCTC's innovations that has improved booking accessibility and efficiency. Personalized services, user awareness, and AI capabilities might all be enhanced, though. All things considered, to further improve the digital travel experience, smart technology must be integrated with user-centric design.

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