

PASSENGERS' PERCEPTION ABOUT E -AIRLINE SERVICES IN CHENNAI CITY – AN EMPIRICAL STUDY

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Abstract

The significant embrace of digital technology by airlines might have transformed customer experiences with airline services and influenced passengers' perceptions compared to previous times. Nonetheless, there is a shortage of research that systematically examines the adoption of new technology in the airline sector from the viewpoint of passenger satisfaction. This research explores travelers' views and contentment regarding the adoption of digital technology by airlines. A survey using an online questionnaire was carried out to investigate the perceptions and satisfaction of Chennai City passengers regarding 11 digital technology services provided by airlines. A total of 100 valid responses were examined using ANOVA tests and stepwise multiple linear regression analysis. The analysis shows that the majority of passengers view airlines' adoption of new technology favorably. In the ultimately chosen regression model, six technologies provided by the airlines are statistically significant and influence passenger satisfaction. They consist of AI customer service, electronic luggage tags, robotic cleaners, UV light and antimicrobial cabin sanitation, an app-managed in-flight entertainment system, and electronic library. The facial recognition service, digital documentation, and AI Customer service are the least preferred compared to other technologies provided by the airlines. Airlines have a chance to broaden their services to build greater trust among passengers. **Keywords:** Passengers' Perception, Digital Transformation, Passengers' Satisfaction, Online survey & Aviation.

INTRODUCTION

According to James Feider, "Change is not always bad; it can be natural.". This study is attempted to understand the impact of Airline Services among Passengers. Only the passengers have concentrated for this study. This is because the change in the technology makes change in the attitude of passengers in recent years. They are very much addicted towards the technology. (Digital Technology) It becomes as a necessity in all our daily life. Hence, the researcher targeted the passengers in Chennai City and their attitude towards Airline Services.

SIGNIFICANCE OF THE STUDY

This research paper provides an insight into the effect of new technology that airlines adopt on passengers' experience. Airlines will be benefitted by identifying passengers' needs and better understanding about the present-day challenges. Since passenger satisfaction is vital to airlines and challenges in passengers' air travel experience might influence their satisfaction, a deeper insight into the changes in passenger satisfaction towards airlines' new technology adoption is needed. Online surveys are frequently used to collect passenger's / users' opinions on the quality of services.

REVIEW OF LITERATURE

Airlines worldwide have been working on digitalization for decades to enhance efficiency and customer experience. By implementing digital technology, airlines could increase passenger satisfaction and enhance their competitiveness [4]. However, during the COVID-19 era, the study of new digital or technology-based services and passenger satisfaction has become an emergent field [1]. Several researchers have briefly summarized some airlines' new business strategies [2,5,6,] with cases of digital technologies that airlines have implemented. Utilization of Artificial Intelligence and the Internet of Things can enhance passengers' confidence and service quality while travelling during the pandemic [7]. However, these studies are theoretical-based and lack data support from passenger surveys. Although several studies have surveyed changes in factors regarding passenger satisfaction for full-service airlines and low-cost airlines during the pandemic, the types of services contained in the questionnaires are limited to traditional services and airlines' preventive measures. Studies have discovered that passengers showed greater interest in digital technology-related services during the COVID-19 pandemic [8,9]. Positive views have been received towards several specific non-contact digital services such as biometrics [10], self-check-in kiosks [11], service robots and inflight entertainment and connectivity services. However, there is a lack of systematic analysis of passengers' perceptions of different digital technologies together. Major digital technology adoption by airlines during the crises may have changed how customers experience the services and may affect passengers' perceptions compared to the past [11]. Data analysed by [3] indicates that the airline industry is gradually recovering. Passenger satisfaction is critical in the incoming competitive market. However, the uptake of new technology in the airline industry has yet to be researched from a passenger satisfaction-centric perspective.

Passenger's Perception:

The digital technology uptake in the airline industry needs to be talented with quality to influence passengers' satisfaction positively. Passengers are now demanding higher levels of hygiene and require airlines to provide adequate preventive measures [3]. Digital technology is one of the most effective methods to provide contactless services. Some Studies discussed the utilization of AI and the IoT to enhance service quality and rebuild passengers' confidence and satisfaction while travelling during the pandemic. Passengers who have a positive experience with airlines will spread positive word of mouth to their friends, relatives, etc., which will also benefit the airlines [10]. The study uses conceptual analytics to analyse and

present how technological advancements would benefit the industry and customer satisfaction. However, this study lacked verification from the empirical data.

Passenger Satisfaction: Few researchers' have studied and identified the changes in the drivers of passenger satisfaction based on the analysis of passengers' comments on airline websites, social media platforms and questionnaires [3]. Machine learning approach was applied to data collected from local surveys to evaluate service attributes [11]. This study determined that the airline services like online boarding, inflight Wi-Fi and inflight entertainment system services can increase passenger satisfaction and emphasized that airlines have to prioritize its digital services. This study is supported with an adoption of a survey and discovered that digital services positively affect passenger satisfaction throughout the journey with airlines, especially during the pre-arrival, pre-boarding, and arrival stages.

OBJECTIVES OF THE STUDY:

The purport of the study is to be acquainted with the following:

- This research paper provides an insight into the effect of new technology adoption for passengers' experience.
- To identify passengers' needs and their better understanding on Airlines Services.
- To determine reasons on the changes in passengers' air travel experience shared in social networking sites (SNS) which might influence their satisfaction.
- To Provide a deeper insight into the changes in passenger satisfaction towards airlines' new technology adoption.
- To identify the attitude and impact on viewing Apps (SNS) and offer valid suggestions in developing better airline services among passengers in Chennai City.

RESEARCH METHODOLOGY

Research Design: Empirical Study

Sample Area: Chennai City

Sample Size: 100

Sampling Method: Simple random sampling

Method of Data Collection: Both primary and secondary data were collected.

Primary Data: A well-structured questionnaire comprises of both close ended as well as open ended questions.

Questionnaire Structure and Design

Part I deals with the general information i.e., includes Respondent's / Passengers' Profile.

Part II reflects the passengers' perception about airline services

Part III reflects the impact of passengers' satisfaction on the performance of Airline services in Chennai City.

FRAMEWORK OF ANALYSIS

The collected primary data have been statistically processed, classified and tabulated by using appropriate methods. Tables, figures and statistical results have been derived with the help of computer software package called (SPSS - Statistical Packages for Social sciences). The data was collected through Google forms and analysed using the SPSS statistical tool to explore descriptive statistics

LIMITATIONS OF THE STUDY

Any research study will be restricted in scope by particular inherent limitations that are participated by the choice of the research design, sampling procedure and respondent’s selection. This study has the following limitations.

- The study is limited to Chennai city, Tamil Nadu.
- Study is based on 100 respondents. The result would have been different if more samples are collected.
- Only the Passengers’ having digital literacy have been concentrated for the study.
- Time is one of the major limitations.
- Utmost care was taken to choose the correct information from the passengers’ who use Chennai Airline Services.

RELIABILITY ANALYSIS: Pre -Testing the Questionnaire

Table No: 1.1 Showing Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.743	.743	15

Source: Primary Data

A pilot study was undertaken with 15 passengers, to identify and eliminate ambiguous terms and instructions to avoid future non-response and improve the clarity. The questionnaires were tested for their reliability. The reliability of the scale measuring passengers’ perceptions as regards Airline Services, estimated by Cronbach’s Alpha is 0.743, which may be considered as adequate reliability. . Hence the research work proceeded with the structured questionnaire

Secondary Data: Books, magazines, journals websites, and previous research related to social media were used.

Table No: 1.2 Shows Passenger’s Perception towards Airline Services

Types of Digital Services	No. of Respondents	Percentage of Respondents

Artificial Intelligence (AI) Customer Service	40	40
Digital Documentation	30	30
Self-Check in Kiosk	12	12
Facial Recognition (Use facial information as a boarding pass to access the lounge and boarding)	18	18
E-Luggage Tag	100	100

Source: Primary Data - Questionnaire

From the table inferred that majority (40%) of the passengers have their satisfaction with AI Customer Service and Digital Documentation helps them to have satisfied air travel experiences in Airlines. It has an influence in developing a positive satisfaction on their travel.

STATISTICAL TOOLS APPLIED

- a. Percentage Analysis
- b. Multiple Response Analysis
- c. Chi-Square Analysis
- d. Anova – Analysis of Variance
- e. Friedman Rank Test
- f. **Non-Parametric Test**
 - Kolmogrov Simirnov Ranking Test:(K-S Test / Ks Test)–
 - LikertzScaleAnalysis

RESULTS AND DISCUSSION

1. Percentage Analysis

Table No: 2 Shows the Demographic Details of the Respondents

VARIABLE	DOMINAL GROUP	PERCENTAGE
Gender	Male	63%
Age in years	35-45	66%
Means used for Digital Services	Smart Phone	86%

Users of Social Net Working Sites (post their experiences)	Regular	70%
Educational Qualification	U.G.	86%
Purpose to travel	Business	74%
Posting their Experience	5-10 Years	67%
Family Income (in Rs & per month)	Above Rs.1,00,000	61%

Source: Primary Data

Interpretation: Majority of the respondents 63% are male, however, the study confined to passengers who uses and post their views in SNS and using Airlines in Chennai City only. 66% are in the age group of 30- 40 years. 86% are using their smart phone for airlines digital services. 70% of them post their experiences regularly in social networking sites. 86% of them having their educational qualification as “UG “. 74% use airline services to carry out their business activity. 67% are having their travel experience and post in social networking sites as to 5-10 years. 61% of them grouped to the Family Income category as “Above Rs.1,00,000.

2. Multiple Response Analysis

Table No: 3 Showing Reasons behind posting in (SNS) Social Networking Sites

Purpose of using (SNS) Social Networking Sites	Total Responses	Percentage
To Recommend to a Friend	47	23
To post on social media	50	24
To show people type of character	10	5
To gain attention	5	2
To Use SNS Because I am Bored	37	18
To share my views to my family and friends through SNS	40	19
To save it in mind as memorable experience	8	4
Others (To Build customer loyalty and regular use of airlines & etc)	10	5
Total	207	100

Source: Primary Data

Interpretation: Respondents opined that their purpose is “to put on a social media” as responded more than other purposes.

Table No: 4 Showing Most Frequently used Digital Services

Nature	Total Responses	Percentage
Artificial Intelligence – A.I. Customer Service	64	21
Digital Documentation	95	32
Self-Check in Kiosk	15	5
Facial Recognition	11	4
E-Menu (Lounge & Cabin) to order food and beverages	18	6
E-Library (Lounge & Cabin) to replace physical catalogues	35	12
Contactless Boarding (Self-scan boarding pass at the boarding gate)	38	13
E-Luggage Tag	21	7
Others- (Automatic Cleaning Robot & Digital Application Controlled In-flight Entertainment System (Airport & Lounge) to etc.)	1	0
Total	298	100

Source: Primary Data

Interpretation: Respondents opined that they use” **Digital Documentation**” as the nature / type of digital service from airlines.

Table No: 5 Showing Type of Social Networking Sites Used for Sharing

Type of Social Networking Sites to share	Total Responses	Percentage
Whatsapp	80	40
Instagram	40	20
Facebook	78	39
Others (Twitter &etc.,)	2	1
Total	200	100

Source: Primary Data

Interpretation: Respondents opined that they use “WhatsApp” as their type of social networking site used for sharing about airlines

Table No: 6 Showing CHI SQUARE TEST RESULT

Table shows the significant relationship between Age and Overall Satisfaction Level of passengers towards provisions of digital services in Airlines:

H0: There is no significant relationship between age and overall satisfaction level of passengers towards provisions of digital services in Airlines.

H1: There is a significant relationship between age and overall satisfaction level of passengers towards provisions of digital services in Airlines.

Age/Overall Satisfaction	Highly Satisfied	Satisfied	Neutral	Dissatisfied	Highly Dissatisfied	Total
20-25	28	27	11	3	0	69
25-30	5	10	6	0	0	21
30-35	1	3	0	1	1	6
Above 35	1	2	1	0	0	4
Total	35	42	18	4	1	100

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.250(a)	12	.019
Likelihood Ratio	15.219	12	.230
Linear-by-Linear Association	2.873	1	.090
N of Valid Cases	100		

Inference: The computed value (0.019) is less than the level of significance [0.05], so the Null Hypothesis is REJECTED and Accept the Alternative Hypothesis. Therefore, there is a relationship between Age and Overall Satisfaction of college students in Chennai.

Table No: 7 Showing ANOVA TEST RESULT

Ranks with Regard to type of social networking sites used to post their satisfaction level on airline travel experience

Ho: There is no significant difference between the respondent’s ranks with regard to type of social networking sites used to post and their satisfaction level on Airline travel experience.

Ha: There is a significant difference between the respondent’s ranks with regard to type of social networking sites used to post and their satisfaction level on Airline travel experience.

Type of social networking sites * Satisfaction

Type of social networking sites / satisfaction level on their Travel Experience	HIGHLY SATISFIED	SATI SFI ED	NEU TRAL	DIS SAT ISFIED	HIGHLY DISSATIS FIED	Total
WhatsApp	2	22	1	1	0	26
Instagrams	2	10	1	0	1	14
Facebook	0	32	5	3	3	43
Others (Twitter & etc.,)	1	11	3	2	0	17
Total	5	75	10	6	4	100

Source: Primary Data

Type of social networking sites / satisfaction level on their Travel Experience

	Sum of Squares	do	Mean Square	F	Sig.
Between Groups	3.334	3	1.111	1.687	.175
Within Groups	63.256	96	.659		
Total	66.590	99			

Source: Primary Data

INTERPRETATION: The above table shows that the computed value [0.175] is more than the level of significance [0.05], so the null hypothesis is ACCEPTED. Hence there is no significant different between the type of social networking sites used to post and satisfaction level on their airline travel experience.

Table No.8 Showing Friedman Rank Test Result:

Ranks with Regard to purpose of sharing their travel experience and respondents' positive satisfaction on airline travel experience

Ho: There is no significant difference between the respondent's ranks with regard to purpose of sharing their travel experience and respondents' positive satisfaction on airline travel experience

Ha: There is a significant difference between the respondent's ranks with regard to purpose of sharing their travel experience and respondents' positive satisfaction level on Airline travel experience.

N	100
Chi-Square	57.401
Df	11
Asymp. Sig.	.000

Source: Primary Data

Interpretation: Since, the asymptotic value of 0.000 is less than 0.05. Hence the null hypothesis is

rejected. Therefore, there is a significant difference between the respondents' ranks with regard to purpose of sharing or posting their travel experience. Hence, purposes of sharing or posting their travel experience have been ranked based on Friedman Rank Test.

Table No: 6 A Showing Ranking of Purpose of sharing or posting their travel experience

Particulars	Mean	Rank
Sharing travel experience feel more real	5.35	1
perceived enjoyment	5.97	3
security and privacy	6.31	5
Users' personality	5.98	4
altruistic motivations and personal fulfilment	6.66	7
self-actualization	6.74	8
It helps to identify and show who I am	7.53	12

It shows my updates	7.06	10
It gives me pleasure	7.17	11
photos and videos of attractions	6.78	9
Self-presentation/Self-expression	5.8	2
sharing behaviour	6.65	6

Source; Primary Data - Questionnaire

Interpretation: Respondents **highly considered** the factors **feel more real than traditional portraits**, self-presentation/self-expression; it reflects their perceived enjoyment and Users' personality are ranked **from one to four respectively**. Then, the Respondents **have moderately considered** and able to define their security and privacy issues, sharing behaviour, altruistic motivations and personal fulfilment and self-actualization are ranked **from five to eight respectively**. The **less considered** purposes are photos and videos of attractions, it shows my updates, It gives me pleasure & **It helps to identify and show who I am and** are ranked from **nine to twelve respectively**.

Non Parametric Test:

4.Kolmogrov Simirnov Ranking Test:(K-S Test Or Ks Test)

Table No: 8 Showing Ranking for Skills Acquired While Viewing Comic Apps – (5- Most Important to 1- Not at All Important)

Items	1	2	3	4	5	Total	Mean/ Average (Total/ Sample Size =100)	Rank
Values as learning experience	(78*1) 78	(9*2) 18	(10*3) 30	(2*4) 8	(1*5) 5	139	1.39	1
Teaches life experiences	(28 *1) 28	(30*2) 60	(33*3) 99	(8*4) 32	(1*5) 5	224	2.24	5
Improve Cognitive Abilities	(23*1) 23	(41*2) 82	(20*3) 60	(6*4) 24	(10*5) 50	239	2.39	6
Entertainment	(27*1) 27	(50*2) 100	(16*3) 48	(5*4) 20	(2*5) 10	205	2.05	4

Creativity through Imagination of SNS Posts	(26*1) 26	(52*2) 104	(18*3) 54	(2*4) 8	(2*5) 10	202	2.02	3
Improves Visual and learning digital literacy	(9*1) 9	(42*2) 84	(27*3) 81	(18*4) 72	(4*5) 20	266	2.66	7
Pleasurable & Memorable Travel Experiences	(43*1) 43	(46*2) 92	(9*3) 27	(1*4) 4	(1*5) 5	171	1.71	2

Source; Primary Data - Questionnaire

Interpretation: The above table shows the ranks that are given by the respondents for various factors which influence their travelling experiences through “**KOLOMOGOROV-SMIRNOV’S TEST**”. **1st Rank (1.49) is given for ‘Values as Learning Experience’** which is considered as important for choosing airline services, and **7th Rank (2.86) is given for Improves Visual and learning digital literacy.**

Likert Scale Analysis

Table No: 9 Showing Likert Scale Analysis of Factors Considered for digital experiences in Airlines.

Particulars	Likert Scale					Total	Rank
	1	2	3	4	5		
Protecting others & Making decisions	9	116	60	4	10	199	IV
Motivating / Accepting /Inspiring	49	76	30	8	5	168	I
Themes & identifying who is leading	1	80	99	96	10	286	VI
Critical thinking experience/education	48	32	102	4	5	191	III
Leadership experience/education	40	74	60	8	5	187	II
Real- life decisions/comparisons	20	86	72	48	5	231	V

Source: Primary Data

Interpretation: From the above analysis, it is inferred that the respondents ranked ‘I’ for ‘Motivating / Accepting /Inspiring’ which is the skill acquired and Preferred while viewing comic apps, and finally ‘VI’ rank for “Themes & Identifying who is leading “.

IMPLICATIONS OF THE STUDY FINDINGS AND SUGGESTIONS

This study identifies that the respondents have a motivational vision. The morale of the participated responses is also boosted. The users of digital Apps are able to hit the task together.

This paper suggested that airline services and the passenger's travel can be viewed to keep memories and post it in social networking sites but not causing any dangers. Digitalization is a global trend in the airline industry, and airlines have adopted a series of digital services / products for passengers. This study assist to understand passengers' perceptions about digital technologies in developing customer-centric business strategies in Airline services.

Most of the passengers suggested that developing a more user-friendly interface in airlines' applications to provide a better service and experience for passengers. In addition, passengers expect digital transformation to be a major development to be focused by airlines in the future.

The future research may attempt to study the various other variables such as, Information Technology, Complaint Handling and Organizational Culture, and etc., that were not included.

CONCLUSION

This study concludes and identify that it measures the Influence of e-comics in the development of Leadership Quality and boos their level of confidence. This study identified that the success depends only on character building and the viewer's gets happiness at the time when they view comic apps. This paper identified and concluded that some might have positive attitude stating that it boosts their level of confidence.

Maintaining Satisfied passengers is the main motto of every airline services. Saving of money and time, safety and quality of service, in-flight service practice and off-flight package experience may affect the passengers' satisfaction. This paper highlights that the passengers are satisfied with the service quality dimensions delivered such as in-flight service, in-flight digital service and back-office operations. The purpose of this study was to explore the level of passengers' satisfaction with the service quality on Indian airlines in terms of three dimensions of service quality instrument i.e., in-flight services, in-flight digital services and back-office operations. This study concluded that the passengers are highly satisfied with service quality of SpiceJet Ltd.

RESEARCH GAP / SCOPE OF THE STUDY

This study found that the digital apps used in Airlines significantly influence the passengers in Chennai. This study can be adopted in other areas of Tamil Nadu or other states of India, by increasing of sample size. It can also be conducted in other part of the world at large

Books Refereed

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