

The Impact of Artificial Intelligence-Supported Passenger Communication Systems on Passenger Experience in the Aviation Industry: The Mediating Role of Corporate Trust and the Moderating Effect of Digital Literacy

Feride DALDIK

feridebaykara@gau.edu.tr

**** Assoc. Prof. Dr. Azmiye YINAL**

azmiyeyinal@onbeskku.edu.tr

0000-0002-7820-1553

Abstract

The purpose of this study is to examine the impact of artificial intelligence (AI)-supported passenger communication systems on passenger experience in the aviation sector and to determine the mediating role of corporate trust and the moderating effect of digital literacy in this relationship. The study was designed using a quantitative research approach, and the data were collected through an online survey from 401 passengers residing in the Turkish Republic of Northern Cyprus (TRNC) who had experience with airline services. The research employed the Artificial Intelligence-Supported Passenger Communication Systems Scale, Corporate Trust Scale, Digital Literacy Scale, and Passenger Experience Scale. Descriptive statistics, independent samples t-test, one-way analysis of variance (ANOVA), correlation analysis, and regression analysis were utilized to analyze the data.

The findings revealed that AI-supported passenger communication systems have a significant and positive effect on passenger experience. Furthermore, AI-supported systems were found to enhance corporate trust, while corporate trust positively influenced passenger experience. The results also indicated that corporate trust plays a mediating role in the relationship between AI-supported passenger communication systems and passenger experience. In addition, passengers with higher levels of digital literacy benefited more from AI applications and reported more positive passenger experiences. Demographic analyses demonstrated that age, educational level, and frequency of airline usage created significant differences among the research variables.

In conclusion, AI-supported passenger communication systems were identified as an important factor in improving passenger experience within the aviation industry. However, the effectiveness of these systems is strengthened by corporate trust and digital literacy. The findings are expected to contribute to the digital transformation strategies of airline companies and to the effective management of passenger experience.

Keywords: Artificial intelligence, aviation industry, passenger experience, corporate trust, digital literacy, passenger communication systems.

Havacılık Sektöründe Yapay Zekâ Destekli Yolcu İletişim Sistemlerinin Yolcu Deneyimi Üzerindeki Etkisi: Kurumsal Güvenin Aracılık Rolü ve Dijital Okuryazarlığın Düzenleyici Etkisi

Özet

Bu araştırmanın amacı, havacılık sektöründe yapay zekâ destekli yolcu iletişim sistemlerinin yolcu deneyimi üzerindeki etkisini incelemek, bu ilişkide kurumsal güvenin aracılık rolünü ve dijital okuryazarlığın düzenleyici etkisini belirlemektir. Araştırma nicel araştırma yöntemine göre tasarlanmış olup veriler Kuzey Kıbrıs Türk Cumhuriyeti'nde yaşayan ve havayolu hizmetlerinden yararlanan 401 yolcudan çevrim içi anket yöntemiyle toplanmıştır. Araştırmada Yapay Zekâ Destekli Yolcu İletişim Sistemleri Ölçeği, Kurumsal Güven Ölçeği, Dijital Okuryazarlık Ölçeği ve Yolcu Deneyimi Ölçeği kullanılmıştır. Verilerin analizinde betimsel istatistikler, bağımsız örneklem t-testi, tek yönlü varyans analizi (ANOVA), korelasyon ve regresyon analizlerinden yararlanılmıştır.

Araştırma sonuçları, yapay zekâ destekli yolcu iletişim sistemlerinin yolcu deneyimini anlamlı ve pozitif yönde etkilediğini göstermiştir. Yapay zekâ destekli sistemlerin kurumsal güveni artırdığı, kurumsal güvenin de yolcu deneyimini olumlu yönde etkilediği belirlenmiştir. Yapılan analizler kurumsal güvenin yapay zekâ destekli yolcu iletişim sistemleri ile yolcu deneyimi arasındaki ilişkide aracılık rolü üstlendiğini ortaya koymuştur. Dijital okuryazarlık düzeyi yüksek olan yolcuların yapay zekâ uygulamalarından daha fazla yararlandıkları ve daha olumlu yolcu deneyimi yaşadıkları tespit edilmiştir. Demografik değişkenlere ilişkin bulgular, yaş, eğitim düzeyi ve havayolu kullanım sıklığının araştırma değişkenleri üzerinde anlamlı farklılıklar oluşturduğunu göstermiştir. Yapay zekâ destekli yolcu iletişim sistemlerinin havacılık sektöründe yolcu deneyimini geliştiren önemli bir unsur olduğu belirlenmiştir. Ancak bu etkinin güçlenmesinde kurumsal güven ve dijital okuryazarlığın kritik bir rol oynadığı görülmüştür. Elde edilen bulguların, havayolu işletmelerinin dijital dönüşüm süreçlerine ve müşteri deneyimi yönetimine katkı sağlayacaktır.

Anahtar Kelimeler: Yapay zekâ, havacılık sektörü, yolcu deneyimi, kurumsal güven, dijital okuryazarlık, yolcu iletişim sistemleri.

Introduction

Problem Statement

Artificial intelligence in technologies developments, aviation in the sector customer services and traveller communication processes digitalization It has accelerated. Today airline businesses, chatbots, virtual assistants and automatic customer support systems through to the passengers faster and personalized service to present It aims to do s. However, this systems traveller experience on it effects How shaped and from which factors affected about in the literature important gaps (Benbya, Davenport and Pachidi , 2020). Passenger experience, airline their businesses rivalry power determining basis elements someone aspect acceptance is being done. With this together artificial intelligence supported communication systems provided benefits, passengers This to systems and service present to the institution what they heard trust to the level connected aspect it can change It is considered. Corporate trust insufficient is in technological situations How much infrastructure? developed if let it be passengers service their experiences negative can be evaluated It is predicted (Morgan and Hunt, 1994). Other from digital technologies use skill aspect defined digital literacy the level of passenger's artificial intelligence applications in their adoption important One role It is playing. Digital literacy level high individuals' artificial intelligence supported from systems more more available, low at the level digital competence owner individuals whereas These systems while using various challenges able to live as stated (Ng, 2012).

The Turkish Republic of Northern Cyprus aviation in the sector artificial intelligence supported traveller communication systems traveller to your experience its effect examining studies annoyed being, research problem It constitutes. Especially artificial intelligence supported traveller communication systems, corporate trust, digital literacy and traveller experience variables together hand area research insufficient being attention It attracts. Therefore, in the research, artificial intelligence supported traveller communication systems traveller experience on its effect, corporate trust mediation role and digital literacy regulator effect in the scope of It is being investigated.

Research Objective

The main objective of this research is to examine the impact of AI-powered passenger communication systems used in the aviation industry on passenger experience. The aim is to determine the effects of chatbots, virtual assistants, automated information systems, and AI-based customer service applications, widely used by airlines today, on passengers' perceptions of service quality and overall travel experiences. Another aim of this research is to reveal the mediating role of corporate trust in the relationship between AI powered passenger communication systems and passenger experience. Passengers' trust in airlines is considered a significant factor in the acceptance and evaluation of AI applications. In this context, the extent to which corporate trust explains the impact of AI-powered communication systems on passenger experience will be examined.

The study will also evaluate the regulatory role of digital literacy, attempting to determine how passengers' knowledge and skills in using digital technologies affect the relationship between AI-powered communication systems and passenger experience. It is hypothesized that passengers with higher levels of digital literacy can benefit more from AI applications and have more positive experiences. Accordingly, this research aims to examine the relationships between AI-powered passenger communication systems, corporate trust, digital literacy, and passenger experience within a holistic model framework, by conducting studies on passengers using airline services in the Turkish Republic of Northern Cyprus. The findings are expected to contribute to the development of digital transformation applications in the aviation sector, the strengthening of customer relationship management strategies, and the improvement of passenger satisfaction.

The Importance of Research

The aviation sector, as one of the areas where technological advancements are implemented most rapidly, is directly affected by the digital transformation process. In particular, the increasing use of artificial intelligence technologies in customer service and passenger communication processes has significantly changed the way airlines deliver their services. Today, the growing expectations of passengers for fast, personalized, and uninterrupted service further increase the importance of AI-powered communication systems. Therefore, a scientific examination of the impact of these systems on passenger experience is considered important, both in terms of academic literature and industry applications (Benbya, Davenport, and Pachidi, 2020).

The importance of this research stems from the fact that AI-powered passenger communication systems are considered not only a technological innovation but also a strategic communication tool affecting passenger satisfaction and service quality. For airlines, customer experience has become one of the most important elements providing a competitive advantage. Therefore, determining passengers' perceptions of AI-based communication applications will contribute to businesses developing customer-centric digital transformation policies (Verhoef et al., 2009).

The research is also significant because it includes the corporate trust variable in the model. With the widespread adoption of artificial intelligence technologies, issues such as data security, privacy, and system reliability have gained more importance for passengers. It is believed that the trust passengers have in airline companies plays a decisive role in their acceptance of and satisfaction with AI-supported systems. Therefore, examining the mediating role of corporate trust will contribute to the development of trust-based communication strategies in the aviation sector (Morgan and Hunt, 1994).

Another important aspect of the study is that it treats digital literacy as a moderating variable. The level of digital technology use varies among individuals, and this can directly affect the evaluation of technology-based services. Determining how passengers' digital literacy levels shape the benefits they derive from AI-supported communication systems will enable the development of more effective service strategies for different user groups (Ng, 2012).

The fact that this research is conducted within the context of the Turkish Republic of Northern Cyprus (TRNC) adds particular importance to the study. Due to the TRNC being an island nation, air transportation plays a critical role in the country's economic, social, and tourism activities. Despite this, academic studies on AI-supported communication applications in the aviation sector in the TRNC are quite limited. This research will fill a significant gap in the TRNC literature and provide original scientific data at the regional level.

Finally, the research is expected to contribute to the literature through its interdisciplinary structure, which brings together the fields of communication sciences, aviation management, digital transformation, and artificial intelligence. Examining the mediating role of corporate trust and the regulatory effect of digital literacy within the same model will contribute to the generation of new knowledge from both theoretical and applied perspectives. The findings are expected to be guiding for airline companies, airport managers, and policymakers.

Theoretical Framework

Today, advancements in digital technologies are significantly transforming the way service sectors operate and the ways they communicate with customers. One of the sectors most affected by this transformation is the aviation industry. Airlines are increasingly using artificial intelligence technologies to meet rising passenger expectations, increase operational efficiency, and gain a competitive advantage. The widespread adoption of AI-powered communication systems, particularly in areas such as customer service, reservation systems, call centers, virtual assistants, and chatbot applications, is reshaping the passenger experience (Benbya, Davenport, and Pachidi, 2020).

Artificial intelligence refers to computer systems that can mimic human intelligence and perform cognitive processes such as learning, analyzing, decision-making, and problem-solving. AI technologies comprise subfields such as machine learning, deep learning, natural language processing, and big data analytics. These technologies enable businesses to analyze customer behavior more accurately and develop services tailored to individual needs. In the aviation sector, the primary goal of using artificial intelligence is to make passenger service processes faster, more reliable, and more efficient (Maslej et al., 2024).

In the aviation industry, artificial intelligence applications are not limited to operational processes. Today, many airlines utilize AI-powered communication systems to improve customer service. Passengers can access flight information, make reservations, track baggage status, and find quick solutions to problems through these systems. AI-powered communication applications can provide uninterrupted service to customer requests and contribute to reducing human error (Funk, Sohlberg, Sundelius, Olsson and Bovet-Emanuel, 2025).

The concept of passenger experience is one of the fundamental concepts that has gained importance in the aviation sector in recent years. Passenger experience is defined as the sum of all interactions a passenger has with the airline before, during, and after their trip. All stages, from the booking process to check-in, flight information, and customer service, constitute a part of the passenger experience. Today, for airlines, customer experience is considered a strategic element that provides a competitive advantage, just as much as customer satisfaction (Verhoef et al., 2009).

Technological advancements offer significant opportunities to improve the passenger experience. AI-powered systems enable faster responses to passenger requests, the provision of personalized services, and increased customer satisfaction. However, the acceptance and effective use of these technological systems by passengers depend on certain factors. Foremost among these is corporate trust. Corporate trust refers to customers' belief that a business is honest, transparent, reliable, and responsible (Morgan and Hunt, 1994).

Corporate trust is critically important in the aviation sector. Passengers want to feel secure not only in terms of physical safety during their travels, but also in terms of the protection of their personal information and the reliable execution of service processes. During the use of AI-powered communication systems, passengers' personal data is processed, their preferences are analyzed, and various suggestions are offered. Therefore, the trust that passengers have in these systems and the airlines using them becomes a decisive factor in the adoption of these technologies (Ong, 2026).

Research shows that customers are more likely to accept technological services offered by organizations they trust. Customers with high levels of trust evaluate the suggestions offered by AI systems more positively and have higher perceptions of service quality. Conversely, individuals lacking trust may evaluate the same technological services more negatively. Therefore, it is thought that organizational trust can play a mediating role in the relationship between AI-powered passenger communication systems and passenger experience (Morgan and Hunt, 1994).

Another important factor affecting the passenger experience is digital literacy. Digital literacy refers to individuals' ability to use digital technologies effectively, consciously, and safely. With the widespread use of technological systems today, digital literacy is not only a technical skill but also encompasses an individual's capacity to understand and evaluate digital environments (Ng, 2012).

Individuals with high levels of digital literacy adapt to new technologies more quickly and benefit more from technological services. Especially in AI-powered systems, users need a certain level of digital competence to understand the technology, trust the systems' operation, and effectively utilize the services. Therefore, it is thought that the level of digital literacy can alter the impact of AI-powered communication systems on the passenger experience (Ng, 2012).

The Technology Acceptance Model (TAM) is one of the theoretical approaches frequently used to explain user adoption of AI-powered systems. Developed by Davis (1989), this model suggests that individuals' intention to use a technology is determined by perceived utility and perceived ease of use. In the context of AI-powered passenger communication systems, passengers' perception of these systems as useful and easy to use facilitates their adoption and positive experiences.

Another important approach to explaining technology use is the Unified Technology Acceptance and Use Theory (UTAUT). Developed by Venkatesh et al. (2003), this theory suggests that performance expectations, effort expectations, social influence, and facilitating conditions influence technology use. It is stated that individuals with high levels of digital literacy evaluate artificial intelligence applications more positively because they have stronger performance expectations and perceptions of ease of use.

In the aviation sector, customer experience theories play a significant role in explaining the relationship between AI-powered passenger communication systems and passenger experience. According to the customer experience approach, individuals evaluate not only the service they purchase but also all the experiences they have during the service process. All experiences a passenger has from their first contact with an airline company to the post-flight period determine their overall satisfaction level (Verhoef et al., 2009).

Numerous studies in the literature demonstrate that artificial intelligence applications positively impact customer experience. Personalized services, quick responses, and seamless communication, in particular, increase customer satisfaction. However, it is also noted that the impact of AI technologies on customer experience is not the same for every user group. Users' attitudes towards technology, trust levels, and digital skills can alter the strength of this relationship (Sharma, 2026).

When evaluated within the context of the Turkish Republic of Northern Cyprus (TRNC), the aviation sector is of strategic importance to the country's economy. As an island nation, air transport plays a critical role in the sustainability of both tourism and higher education activities. Recent investments and digitalization efforts at Ercan Airport have strengthened the technological infrastructure of passenger services. However, studies examining the impact of AI-powered passenger communication systems on passenger experience appear to be quite limited.

This research examines the impact of AI-powered passenger communication systems on passenger experience, considering both the mediating role of institutional trust and the moderating effect of digital literacy. Thus, a holistic approach is taken to evaluate how passengers perceive technological services, the role of trust in this process, and the impact of individual digital skills on the experience. The research is expected to make significant contributions to the literature on communication, aviation management, and digital transformation.

Hypotheses

H1: Artificial intelligence supported traveller communication systems traveller experience positive in the direction It has an effect .

H2: Artificial intelligence supported traveller communication systems institutional trust positive in the direction It has an effect .

H3: Corporate trust traveller experience positive in the direction It has an effect .

H4: Corporate trust , artificial intelligence supported traveller communication systems with traveller experience between in the relationship mediation role is undertaking .

H5: Digital literacy , artificial intelligence supported traveller communication systems with traveller experience between in the relationship It has a regulatory role .

Method

3.1. The Research Model

this research, aviation in the sector artificial intelligence supported traveller communication systems traveller experience on it its effect to examine for quantitative research method It has been used in research. relational scanning model within the framework It has been accomplished. Relational scanning model, variables between relationships to be determined and to be explained opportunity providing research from models It is one of them. In the research artificial intelligence supported traveller communication systems independent variable, passenger experience dependant variable, corporate trust vehicle variable and digital literacy whereas regulator variable aspect hand It has been received.

3.2. The Research the Universe and Sample

The research its universe in the Turkish Republic of Northern Cyprus weather way transport from its services beneficiary passengers It has been created. In the research easy sampling method, the data was used at Ercan Airport. trip eden and research voluntarily aspect participant from the passengers in hand Research has been conducted. in the scope of a total of 420 participants, it has been reached. Missing. And incorrect filled surveys after being removed later 400 valid analyses questionnaire over It has been accomplished.

3.3. Data Collection vehicles

In the research data collection vehicle aspect five from the section formed questionnaire form It has been used.

the first part participants demographic features to determine towards to the questions place is given. In this section gender, age, education status, occupation, income level and trip frequency like variables It has been measured.

Second in the section artificial intelligence supported traveller communication to their systems related perceptions to determine for the purpose of Venkatesh, Thong and Xu (2012) from the developed UTAUT-2 scale adapted expressions It has been used.

Third in the section participants airline to their businesses what they heard trust levels to determine for this purpose by Morgan and Hunt (1994) developed Corporate Trust Scale It has been used.

Fourth in the section digital literacy level measure for the purpose of Ng (2012) developed Digital Literacy From its scale It has been used.

Fifth in the section whereas traveller experience measure for the purpose of Klaus and By Maklan (2013) Developed Customer Experience Quality (EXQ) Scale It has been used.

In the research place area, all Items are on a 5-point Likert scale. by It has been evaluated.

3.4. Data Collection

Data Collection The process

Research The data shows that in the Turkish Republic of Northern Cyprus (TRNC) recently ... year inside -most little One times weather way transport from its services benefited from the passengers cycle intra- questionnaire by method data has been collected .Data collection vehicle aspect prepared questionnaire Form ; Demographic Information Form, Artificial Intelligence Form Intelligence Assisted Passenger Communication Systems Scale, Corporate Trust Scale , Digital Literacy Scale and Passenger Experience From its scale It has formed .

In the research simple random sampling method Data collection has been used. process finally missing and incorrect filled surveys Extracted, analyses 400 valid participant over It has been carried out. To the participants research purpose about necessary explanations done, research participation completely volunteering on the basis based on stated and in hand done all data just scientific for purposes will be used expression It has been done.

Research in the scope of participants identity information request undone, personal data privacy and ethic principles in line with to protect care It has been shown. Collected Data was collected using SPSS 29 and AMOS 24 software packages. programs by analysis done and research purposes in line with This has been evaluated (Karasar , 2020; Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz and Demirel, 2022).

3.5. Data Analysis

From the research in hand done data the analysis was performed using SPSS 29 and AMOS 24 software packages. programs It has been used.

Data in the analysis firstly frequency, percentage, arithmetic average and standard deflection values calculated. Scale's reliability to determine Cronbach Alpha reliability test analysis It has been done. The scales' structure to test its validity for Confirmatory Factor analysis (CFA) was applied.

Variables between relationships to determine Pearson correlation for the purpose of Analysis Research has been conducted .in the model place area directly effects, mediation effect and regulator the effect to examine for Structural Equality Corporate Modeling (SEM) was used. trust mediation the effect of the Bootstrap method tested with, digital literacy regulator effect whereas moderator analyses with It have been evaluated.

Table 1. Normality Analysis

Variable	Kolmogorov– Smirnov Statistic	df	Shallow.	Shapiro– Wilk Statistic	df	Shallow.	Distortion	Flatness
Artificial Intelligence Assisted Passenger Communication Systems	0.104	401	0.001	0.968	401	0.001	0.36	-0.41
Corporate Trust	0.097	401	0.003	0.972	401	0.002	0.28	-0.37
Digital Literacy	0.089	401	0.006	0.975	401	0.004	-0.22	-0.31
Passenger Experience	0.101	401	0.002	0.970	401	0.001	0.33	-0.45

Research The data was analyzed using SPSS 29.00 and AMOS 24 programs. by analysis It has been done. To be done. analyses can be determined for firstly normality analysis It has been accomplished.

As seen in Table 1 in the Kolmogorov -Smirnov and Shapiro-Wilk tests in hand done meaningfulness values less than 0.05 is It has been determined .However sample its size is 401 people being because of This tests big in samples increasingly sensitive results that it can give It is known .Therefore normality in the evaluation skewness and kurtosis values are also taken into consideration It was obtained .In the research place area Artificial Intelligence Assisted Passenger

Communication Systems, Corporate Security, Digital Literacy and Passenger Experience variables belonging distortion And flatness values within ± 1 range is This has been observed .These results in line with normal distribution of data close is acceptance done And in the analyses parametric from the tests The following were utilized .The sub- objectives of the research .in line with frequency , percentage , arithmetic average And standard deflection analyses This has been done .The scales reliability to determine Cronbach Alpha coefficients for the purpose of calculated .Scales structure testing its validity for Confirmatory Factor analysis (CFA) was applied .Variables between relationships determination Pearson Correlation for Analysis It was made .Artificial .intelligence supported traveller communication systems traveller experience on it its effect to examine for Structural Equality Corporate Modeling (SEM) was used .trust mediation the effect of the Bootstrap method while being tested with , digital literacy regulator effect moderator analyses with has been evaluated .In the research all Analyses are 95% confident. at the level accomplished and meaningfulness level $p < 0.05$ acceptance It has been done.

Validity And Reliability

In the research used Artificial Intelligence Assisted Passenger Communication Systems The scale is based on Venkatesh, Thong and Xu (2012), Corporate Trust Scale Morgan and Hunt (1994), Digital Literacy The scale was developed by Ng (2012) and the Passenger Experience Scale by Klaus and By Maklan (2013) scales have been developed .Turkish adaptations And validity-reliability studies relating to area in summer in line with examined And research in the scope of again reliability analyses It has been accomplished .

In the research used scales drink consistency levels to determine Cronbach's Alpha coefficients for the purpose of It has been calculated. The obtained the results are presented in Table 2.

Table 2. Reliability Analysis

Scale	Number of Items	Cronbach's Alpha
Artificial Intelligence Assisted Passenger Communication Systems Scale	16	0.92
Corporate Trust Scale	8	0.89

Digital Literacy Scale	17	0.90
Passenger Experience Scale	12	0.93

Table 2 is examined , Artificial Intelligence Assisted Passenger Communication Systems Scale for The calculated Cronbach's Alpha coefficient is 0.92, Corporate Trust Scale .0.89 for Digital Literacy Scale The scores were 0.90 for the Passenger Experience Scale and 0.93 for the Passenger Experience Scale .It is seen .Obtained results , all scales high at the level drink consistency owner that It shows .Nunnally and According to Bernstein (1994) , Cronbach's Alpha coefficient is 0.70 and on being scale Trustworthy that This shows .In this respect in the research used all scales reliability levels sufficient is And in the analyses can be used result It has been reached .Also confirmatory factor analysis results scales structure validity supported And in the research used measuring their vehicles valid And Trustworthy is It has been determined .

Findings

Table 3. Participants Demographic Its Features According to Distribution

Variable	Group	n	%
Gender	Woman	210	52.4
	Male	191	47.6
Age	18-25 years old	85	21.2
	26-35 years old	127	31.7
	36-45 years old	108	26.9
	46 years old and on	81	20.2
Educational Status	High school	74	18.5
	Front Licence	62	15.5
	Licence	187	46.6
	Postgraduate	78	19.4
Occupational Status	Public Employee	92	22.9
	Private Sector	189	47.1
	Student	74	18.5
	Other	46	11.5

Airline Use Frequency	Once or twice a year	148	36.9
	3-5 times a year	136	33.9
	6-10 times a year	71	17.7
	10 times and on	46	11.5
Total		401	100

52.4% of the participants were women and 47.6% were men. It consists of. Participants big the majority, 31.7%, are aged 26-35. group It constitutes education. level in terms of when examined 46.6% of participants are undergraduate graduate is It is seen. Airline use frequency in terms of 36.9% of participants visit 1-2 times a year. weather way from its services benefited It has been determined.

Table 4. Regarding Research Variables. Descriptive Statistics

Variable	n	Minimum	Maximum	Average ($\bar{X}$)	Standard Deflection
Artificial Intelligence Assisted Passenger Communication Systems	401	1.25	5.00	3.98	0.71
Corporate Trust	401	1.38	5.00	4.06	0.68
Digital Literacy	401	1.47	5.00	4.18	0.63
Passenger Experience	401	1.29	5.00	4.11	0.66

Table 4 is examined... participants artificial intelligence supported traveller communication to their systems towards perceptions high at the level is It is observed that ($\bar{X}=3.98\pm0.71$). Participants airline to their businesses what they heard institutional trust their levels are also high is It has been determined ($\bar{X}=4.06\pm0.68$). Digital literacy variable in the research -most high average owner variable aspect found ($\bar{X}=4.18\pm0.63$), participants digital technologies effective that they could use Passenger experience has shown this. variable average and 4.11 calculated being participants general journey their experiences positive they evaluated It has been seen.

Table 5. By Gender According to AI - Powered Passenger Communication Systems, Corporate Security, Digital Literacy and Passenger Experience Their Scores Comparison

Variable	Gender	n	Average	SS	t	p
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Artificial Intelligence Assisted Passenger Woman	210	3.87	0.69	-	0.006*
Communication Systems				2,784	
	Male	191	4.11	0.71	
Corporate Trust	Woman	210	3.98	0.67	0.012*
				2,512	
	Male	191	4.16	0.69	
Digital Literacy	Woman	210	4.09	0.65	0.003*
				2,946	
	Male	191	4.28	0.61	
Passenger Experience	Woman	210	4.01	0.68	0.002*
				3,107	
	Male	191	4.23	0.63	

*p < 0.05

The results of the independent samples t-test based on gender revealed significant differences ($p < 0.05$) in participants' perceptions of AI-powered passenger communication systems, levels of corporate trust, digital literacy, and passenger experiences. Male participants had higher average scores than female participants in all variables. This finding indicates that male participants have a more positive view of AI-powered communication systems, a higher level of trust in airlines, greater proficiency in using digital technologies, and a more positive perception of overall passenger experiences.

Table 6. Age To their groups According to AI - Powered Passenger Communication Systems, Corporate Security, Digital Literacy and Passenger Experience Their Scores Comparison

Variable	Age Group	n	Average	SS	F	p
Artificial Intelligence Assisted Passenger	18-25	85	4.28	0.54	8,462	0.000*
Communication Systems	26-35	127	4.12	0.61		
	36-45	108	3.89	0.70		
	46 and on	81	3.67	0.76		
Corporate Trust	18-25	85	4.18	0.60	4,128	0.007*
	26-35	127	4.12	0.66		
	36-45	108	4.01	0.71		

	46 and on	81	3.92	0.73		
Digital Literacy	18-25	85	4.45	0.49	16,742	0.000*
	26-35	127	4.27	0.57		
	36-45	108	4.05	0.63		
	46 and on	81	3.81	0.71		
Passenger Experience	18-25	85	4.21	0.58	3,684	0.012*
	26-35	127	4.16	0.61		
	36-45	108	4.07	0.68		
	46 and on	81	3.95	0.72		

*p < 0.05

The results of the one-way analysis of variance conducted according to age groups show that there are statistically significant differences in participants' perceptions of AI-supported passenger communication systems, levels of institutional trust, digital literacy, and passenger experiences ($p < 0.05$).

According to the research findings, participants in the 18-25 age group, in particular, were found to have higher perceptions of AI-powered passenger communication systems and higher levels of digital literacy compared to other age groups. A partial decrease in perception and proficiency in using digital technologies was observed as age increased. Similarly, younger participants were found to have more positive evaluations of passenger experiences and trust in airlines.

Table 7. By Educational Attainment AI - Powered Passenger Communication Systems, Corporate Security, Digital Literacy and Passenger Experience Their scores Comparison

Variable	Educational Status	n	Average	SS	F	p
Artificial Intelligence Assisted Passenger Communication Systems	High school	74	3.71	0.75	7,584	0.000*
	Front Licence	62	3.89	0.70		
	Licence	187	4.05	0.66		
	Postgraduate	78	4.22	0.61		
Corporate Trust	High school	74	3.89	0.72	4,123	0.007*

	Front Licence	62	4.01	0.68		
	Licence	187	4.08	0.66		
	Postgraduate	78	4.24	0.60		
Digital Literacy	High school	74	3.76	0.71	18,441	0.000*
	Front Licence	62	4.01	0.64		
	Licence	187	4.23	0.57		
	Postgraduate	78	4.42	0.49		
Passenger Experience	High school	74	3.91	0.71	5,267	0.002*
	Front Licence	62	4.02	0.66		
	Licence	187	4.16	0.62		
	Postgraduate	78	4.27	0.58		

*p < 0.05

Education to the situation according to performed only directional variance analysis the results , participants artificial intelligence supported traveller communication systems perceptions , corporate trust levels , digital literacy And traveller experiences between significant differences that This shows ($p < 0.05$).

Participants education level as it rises artificial intelligence supported communication to their systems towards perceptions more positive halo came It has been determined .Specifically postgraduate education to the level owner participants both digitally literacy and passenger experience their scores other to groups according to more high is It is observed .The findings relate to education .level digital technologies adaptation , technological from services utilization And airline services evaluation in their processes important One variable that to emerge It places .

Table 8. Comparison of AI-Powered Passenger Communication Systems, Corporate Trust, Digital Literacy, and Passenger Experience Scores Based on Airline Usage Frequency.

Variable	Airline Use Frequency	n	Average	SS	F	p
Artificial Intelligence Assisted Passenger Communication Systems	Once or twice a year	148	3.78	0.74	9,624	0.000*
	3-5 times a year	136	3.96	0.69		
	6-10 times a year	71	4.17	0.61		

	10 times a year And on	46	4.35	0.57		
Corporate Trust	Once or twice a year	148	3.91	0.72	6,183	0.000*
	3-5 times a year	136	4.05	0.67		
	6-10 times a year	71	4.19	0.59		
	10 times a year And on	46	4.31	0.55		
Digital Literacy	Once or twice a year	148	3.97	0.68	11,857	0.000*
	3-5 times a year	136	4.17	0.60		
	6-10 times a year	71	4.31	0.53		
	10 times a year And on	46	4.48	0.47		
Passenger Experience	Once or twice a year	148	3.95	0.70	8,442	0.000*
	3-5 times a year	136	4.11	0.63		
	6-10 times a year	71	4.25	0.58		
	10 times a year And on	46	4.39	0.51		

*p < 0.05

Airline use frequency according to performed only directional variance analysis the results , participants artificial intelligence supported traveller communication systems perceptions , corporate trust levels , digital literacy And traveller experiences in terms of significant differences that This shows (p<0.05). The findings indicate that the airway use frequency as participants artificial intelligence supported traveller communication to their systems towards perceptions , corporate trust levels , digital their literacy And traveller your experiences increased to emerge It places .Especially 10 times a year And on trip eden passengers all in variables -most high averages owner that they are It has been determined .This situation, the weather way from its services more chic beneficiary individuals digital to systems more more familiarity what they developed And presented services more positive they evaluated It shows .

Table 9. Artificial Intelligence Assisted Passenger Communication Regression Regarding the Impact of Systems on Passenger Experience Analysis Results

Independent Variable				B	β	t	p
Artificial Intelligence Assisted Passenger Communication Systems				0.712	0.741	18,964	0.000*
R	R ²	Corrected R ²	F	p			
0.741	0.549	0.548	359,632	0.000*			

$p < 0.05$

Regression analysis results according to artificial intelligence supported traveller communication systems , passenger experience significant And positive in the direction It has an effect ($\beta=0.741$; $p<0.001$). The model clarity power Upon examination , artificial intelligence supported traveller communication systems traveller in your experience change approximately 54.9% disclosed It is observed that ($R^2=0.549$).

Argument

this research, artificial intelligence supported traveller communication systems traveller experience on it effect examined and in hand done findings, words subject systems traveller experience significant and positive in the direction that it affected to emerge He placed it. Regression analysis results, artificial intelligence supported communication applications traveller in your experience change important One section he explained This shows. This result is artificial. intelligence applications service quality increased and customer experience he developed in the direction of through studies parallelism It shows. Especially chatbots, virtual assistants and automatic to inform systems thanks to passengers faster and uninterrupted service as much as he/she can It is stated (Benbya , Davenport and Pachidi , 2020; Verhoef et al., 2009).

In the research artificial intelligence supported traveller communication systems with institutional trust between positive directional significant One relationship This finding indicates that the airway... their businesses offered digital services just technological sufficiency in terms of No, it's not the same. in time trust element also evaluated in terms of that It shows .Passengers' artificial intelligence systems while using personal data will be protected And systems Trustworthy will work towards beliefs as to the institution what they heard Confidence is also increasing .The results obtained ... results , relationship marketing theory within the framework trust customer their relationships basis determinants someone that to emerge put through studies They overlap (Morgan and Hunt, 1994; Ong, 2026).

The research One other important result, corporate trust with traveller experience between strong and significant One the relationship It is the presence of passengers. airline to their businesses what they heard trust as service processes more positive they evaluated This has been observed. This result is for the customer. experience just presented service with its quality No, it's not the same. in time service supplier to the institution towards trust it is also shaped by perception This is demonstrated. Trust is also mentioned in the literature. of feeling customer satisfaction and customer experience -most important determinants someone is This is emphasized (Morgan and Hunt, 1994; Verhoef et al., 2009).

In the research age to the variable according to in hand done findings , young participants artificial intelligence supported communication to their systems towards perceptions And digital literacy levels more high that This shows .Especially for those aged 18-25 .group technology based services more positive evaluation , digital with technologies growing generations to new systems more fast rapport that it can provide to emerge This situation is related to the Technology Adoption Model .And Unified Technology Adoption and Use Theory of basis assumptions This is supported by (Davis, 1989; Venkatesh et al ., 2003).

Education to the level related the findings also draw attention. It is attractive .Education level as it rises artificial intelligence supported to systems towards positive perception , digital literacy And traveller experience increased It has been determined .This result is related to education .level individuals technological systems understanding , evaluating And effective use skills he developed It shows .Digital competence with the increase together users artificial intelligence from applications more more use the services they provided And This Therefore service their experiences more positive they evaluated it can be said (Ng, 2012).

Airline use frequency according to done in analyses, frequently trip eden passengers artificial intelligence supported communication systems , corporate trust , digital literacy And traveller experience in terms of more high points owner that they are This situation has been observed with services .more more interaction Koran individuals to systems familiarity that he won And digital from applications more more that you can benefit from It shows. Usage experience as technological to systems towards perception positive in the direction developed in the direction of research This the finding This is supported by (Venkatesh et al ., 2012; Sharma, 2026).

The research theoretical from the perspective -most important from the findings someone, corporate trust mediation to his role related These are the results obtained. findings, artificial intelligence supported traveller communication systems traveller experience on it effect important to the extent institutional trust through that it happened This shows that the passengers technological systems while evaluating just technical features not , service supplier to the institution what they heard trust also takes into account what they received to emerge It places .Other One In other words , trust feeling artificial intelligence applications traveller to your experience transformation providing critical One mechanism aspect can be evaluated (Morgan and Hunt, 1994).

In the research digital literacy regulator effect related in hand done The results are also noteworthy .It's attractive .Digital literacy level high the one which... passengers artificial intelligence supported from systems more more benefited And more positive experiences the ones they lived It has been determined .In contrast digital competence low in individuals same systems effect more annoyed where he stayed This is evident .This result is digital .transformation in their processes users technological skills take into consideration to be taken that It shows .Airline their businesses different user to their profiles suitable digital communication strategies improvements importance It carries (Ng, 2012; Venkatesh et al ., 2003).

Generally when evaluated research results, artificial intelligence supported traveller communication systems aviation in the sector traveller experience developer important One element that to emerge It places. However, this effect to emerge in the exit institutional trust and digital literacy like variables decisive role played It is understood. Therefore, airline their businesses just technological investments their focus sufficient not the same in time trust forming communication policies improvements and passengers digital their qualifications supportive applications their orientations This approach is necessary for sustainability. customer satisfaction and rivalry advantage in terms of important contributions will provide (Benbya) et al., 2020; Verhoef et al., 2009; Ng, 2012).

CONCLUSION

This research was conducted in the Turkish Republic of Northern Cyprus. activity showing airline businesses in the context artificial intelligence supported traveller communication systems traveller experience on it effect examined; corporate trust mediation role and digital literacy regulator effect the research has been evaluated. results, artificial intelligence supported traveller communication systems traveller experience significant and positive in the direction that it affected to emerge He placed it. Especially digital communication technologies offered fast back notification, personalized service and accessibility possibilities passengers service quality towards perceptions strengthened It has been determined.

In the research in hand done findings, artificial intelligence supported communication systems institutional trust positive One effect owner that it has shown. Passengers' airline to their businesses towards trust levels as it increases, in general traveller their experiences also positive evaluated detection This result is technological. innovations customer to your experience contribution just technical with competence annoyed not, the same in time institutional trust with its element support that to emerge It is placing. It has been realized. mediation analysis results, corporate trust artificial intelligence supported traveller communication systems with traveler experience between in the relationship important One mediation role undertaking has shown. Other One in other words, artificial intelligence applications traveller experience in its development to the institution heard trust basis One mechanism aspect to emerge This situation arises. This is the airline. their businesses technological investments trust creator communication with their strategies their support importance This shows. The research One other important the result, digital literacy

regulator effect It is related. The findings are digital. literacy level high the one which... passengers' artificial intelligence supported communication from their systems more more benefited And These systems more positive that he evaluated to emerge It has placed it. Digital technologies judge individuals service processes more effective their use, artificial intelligence applications traveller experience on it its effect It strengthens.

Demographic variables related analyses, age, education level and airline use frequency like variables research variables on significant differences that he created It has shown. Especially youth, education level high and chic trip eden passengers' artificial intelligence supported to systems towards perceptions and traveller your experiences more positive is It has been determined. These results are digital. transformation in their process's user profiles take into consideration taking necessity to emerge It places. Result as, artificial intelligence supported traveller communication systems nowadays aviation in the sector customer satisfaction and traveller experience increasing strategic vehicles between place It is taking. However, this from systems expected full benefit in hand to be able to for institutional trust strengthening and passengers' digital literacy levels increase It is required. Airline their businesses technology investments person focused communication with their policies integration, sustainable rivalry advantage in hand to do and traveller satisfaction to increase important contributions will provide.

Suggestions

- Airline businesses, artificial intelligence supported traveller communication systems by developing to the passengers more fast, personalized and uninterrupted service should provide.
- Passengers to the institution heard trust increase for data security, privacy and transparency principles importance should be given.
- Digital literacy level low to the passengers towards to inform and use guides should be prepared.
- Artificial intelligence applications person with the support of together by customer satisfaction increase must be provided.
- Airline businesses traveller back notifications organised aspect by evaluating artificial intelligence systems continually It should be improved.
- In the future will be done in research different countries and airline companies' comparative aspect It can be examined.

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