

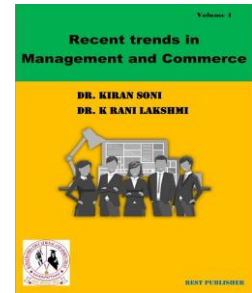


## Recent trends in Management and Commerce

Vol: 1(3), 2020

REST Publisher; ISSN: 978-81-936097-6-7

Website: <http://restpublisher.com/book-series/rmc/>



# A Survey Analysis of Service Quality for Domestic Airlines Using ELECTRE Method

Lachhani Mayra Kumar

SSt College of Arts and Commerce, Maharashtra, India.

\*Corresponding Author Email: [mayralachhani@sstcollege.edu.in](mailto:mayralachhani@sstcollege.edu.in)

### Abstract

An airline is passengers and/or air transport goods a company that provides services. Airlines to provide these services companies fly use, too for codeshare contracts along with other airlines partnerships or alliances can be created, in which they both are the same plane provide and operate. Generally, airlines have an air operator's certificate from the government aviation committee with a license granted recognized. Flight organizations can be planned or charter operators. Airline customer service is there with customers at any time during the journey communication and flight overall flight and it's about improving the flight experience. Quality of airline service service of airlines important for sizing is the benchmark. Two factors this is based on theory reference is made in sect. All domestic and international flight complaints and timing between factors identify communication characteristics visible level of analysis method used, that's it continued civil aviation passengers of service evaluation (capse) index basically air service quality developed a model of measurement (asqm). The asqm model is 26 complete in china service airlines and six low-cost airlines used to measure service quality. The study found: air the time distribution of complaints is uneven, but annual, seasonal, quarterly, and monthly show the relative concentration, august every year peak of complaints in the month all flight complaint type variables and time variables there is a high correlation between but at different times differences in the focus of complaints available: summer and autumn largest flight of the era not just complaints, but complex complaints there are also types. Full of china by service airlines of all services provided low quality paid service better than airplanes. Generally, the "service in flight and ground service" quality of service was very stable, at the same time "ticket service" quality of service has declined significantly. Quality of service of "flight service". Difficult to maintain. Airlines using complaint statistics to assess the quality of air service an objective analytical method this paper proposes, moreover airlines overall to improve service quality by providing solutions and recommendations. ELECTRE (Elimination et Choix Traduisant La Realit - Elimination and Choice Reveals Reality) methods are widely used in many real-world decision-making problems, from recruitment to transportation and more. Theoretical research on the fundamentals of electric methods is also active at this time. Alternative: Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food, and beverage are fresh and delicious. Evaluation Preference: IndiGo, Air India, SpiceJet, Alliance Air Results: From the result, it is seen that Alliance Air is got the first rank whereas the IndiGo is having the lowest rank. Conclusion: Alliance Air has the top rank and IndiGo has the lowest rank.

**Keywords:** ELECTRE, domestic passenger, Airlines, Airports, Air Companies.

### Introduction

Through customer surveys of domestic passenger flights service quality. Multiple service attributes by airlines in connection with the quality levels offered inherent subjectivity of customers and reflect imprecision, smooth survey results are represented and processed as fuzzy sets. A vague multicriteria analysis (ma) model to create an evaluation problem is used. Criterion for customer ratings on weights and performance ratings the attitude of the decision maker or a useful that includes option this model is solved by the algorithm. Very competitive in Taiwan Inland on a different route experience of airlines effectiveness of research approach conducted to demonstrate [1]. In a competitive environment, high-quality service delivery is important but in 2008 the first global economy airlines due to recession fighting for survival are coming this paper is from taiwan of domestic airlines evaluates service level and what airlines provide and customers for what they looking for the space between find out. Traditional statistics testing and multi-criteria decision making (mctm) methods to establish service quality criteria are used, in the latter most are integrated all based on

rankings alternatives are also compared. However, in practice, decision makers often one at a time or a limited number in achieving alternatives by evaluating progress, Thus in alternatives to reduce them knowing the gaps should take [2]. High-quality service to passengers is important, thus the flight companies' competitiveness can be maintained. Service quality conditions of an airline affect competitive advantage, and with this market share, finally comes the profit. For airlines service quality is key as a factor, service quality in the airline industry and customer satisfaction related research is growing are coming many researchers on service quality in the airline system principles and methods have used however, in the context of aviation if service quality is examined, most airlines surveys, overall construction level of airline service quality are outcome-oriented. Private of service attributes study the effect of dimensions for flight managers to do although, of great benefit, airline service quality is unique the effect of dimensions is the former in air service studies not fully explored [3]. Europe or southwest airlines (usa), australia (virgin blue), canada (westjet), and malaysia other areas like (airasia). (perritella, franca, & zito, 2009). Of korean tourism in 2005 following the rapid growth of new lccs in south korea, as appears (the korea transport institute, 2007), the south korean airline industry unprecedented expansion enjoy the intense competition now facing several lccs (air busan, jin air, and jeju air, eastarjet) in the market more lccs have entered (hansung airlines, first airlines, seoul air, purplejet airlines, kostar air, incheon tiger airways, jungbu air and daecheong air) in south korea getting ready to install planes (korea civil aviation development association, 2008) [4]. Airline procedures contain the collection. Service at different stages of the chain travelers have unique expectations may have in this study, air travel by land and air is divided into service levels. And passenger service expectations for actual service received the gap between and with passenger service expectations corresponding intervals and the flagship of taiwan airlines this by managers and employees and feelings of expectation we first investigated. Next, importance-performance analysis, identifies areas for improvement to see, and service attribute evaluation is used to create maps [5]. Today's competition in the aviation industry high-quality service in a rich environment giving has become a marketing imperative. However, due to the global economic downturn, most airlines are fighting for survival. Their costs and services should be reduced as much as possible they are forced. Therefore, airline managers have theirs what customers do and what you don't want to it is necessary to decide. Regarding the quality of air service more to the feeling of passengers while maintaining, essential services items to keep, less important service spend on goods and to reduce efforts airlines require [6]. Successful service quality strategies generally, the customer segment, personalized service, guarantees, continuous customer feedback, and about the company's performance by detailed measurement are categorized. Many industries and institutions experience, this process although generally agreed, not implemented globally proves that of customer's market is based on expectations separation defies those expectations unique service creating positions, and customers attracting customer loyalty it is also necessary to create [7]. Various tourism in the country increasingly for sites satisfy travel needs do domestic flights department, local and all internationally passengers will also be provided they are the characteristics of the service should know. Customer experience management (cem) provides a way of seeing. Service provision in the aviation sector when discussing, involved understanding stakeholder interactions useful, for example, airports, air companies, passengers, food providers, travel agencies, handling agents, and so on. Which airlines or as a passenger airport, however, satisfactory service different objectives of decision making or conflicting views often for these systems will be. Service. This service any one of the providers of services provided by the service measuring quality is important [8]. Customer loyalty is a competitive advantage and an important one for the company to is an intangible asset, passenger satisfaction and in determining loyalty from china's aviation market empirical evidence is lacking. In china's domestic market of four major airlines, this article on the quality of service explores their service quality and customer satisfaction by examining communication [9]. Intercity commuter, compared to flight costs, incurred in vehicle expenses ability to respond to changes since so much, it's a given automobile for the city couple movement to travel through realized for expenses rate of airfare the model used is split variable is used. A perceived charge is the sum of charges and timetable on the route calculated amount of delay is a time value [10]. Service in the united states growing competition in response to the character service industries accurate measures of quality tried to create the 1970s in the late 1980s and early 1980s out of control fever the rise accelerated service competition. As a result, banking, telecommunication, trucking, railroads, aviation cargo, and passenger aircraft in sectors like company's management of companies in customers through service quality in a competitive battle of attraction found themselves [11]. Technology is commercial aviation in industry, government, and international norms are also important had an impact. Air traffic control in europe in the immediate effects of removal one, competing on the same track many airlines emerged, different prices, frequencies and aggregate of service quality others as may conform to the condition among the key attributes more choices for consumers provided however, the flight focusing on companies, entry of low-cost airlines due to former hereditary carrier's fierce price competition what to face can be seen. Thus, many aircraft organizations their corporate strategy to be reconsidered a critical stage has been reached [12]. Air traffic is massive since people have started using many companies offer services since it started, it's tough it has brought competition. Serious of their industry considering competitiveness with, airlines well suited to passenger needs to be understood. Desired service quality of passengers to reach expectations are essential [13]. Globally, in air transport business in recent times substantial improvements met and much in common modes of travel to provide one the industry has evolved. The aviation industry to the global economy is essential; for example, international air transport association ratings published by (iata), aviation by 2050 the sector carries 16 billion passengers and 400 million tons of cargo (iata, 2014) that will fly expressed. The aforementioned in line with the trend, nigeria's aviation sector is some of the most significant

developments that have been seen equally operators in the industry, and in the number of participant's increment is one such development [14]. Quality of service over the years of interest to researchers of airlines various dimensions of service quality several studies have been conducted to measure gordin (1988) aviation classified into three aspects quality price, safety, and time. Ostrovsky et al. (1993) proper timing, food, and beverage quality and flight the comfort of the seats, however, druid and haynes (1994) focused on passengers' check-in process, lack of time, cleanliness of seats, food and quality of beverages and customer complaints handling [15]

## Materials and Methods

**Alternative:** Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food and beverage are fresh and delicious.

**Evaluation Preference:** IndiGo, Air India, SpiceJet, Alliance Air.

**The convenience of booking:** If you're like me, the convenience of online booking you will always love it. For example, I was in college with professors while studying my appointments are theirs often through websites I registered. This is for class I being late can be avoided also to my schedule book classes on suitable days allowed to do. Naturally, after many years when starting a business, online for my services decision to use booking I did but now little after using it for a time, for online booking customers have additional scheduling options apart from providing many benefits I realized that contains in this article, among those benefits some and every today and why is the business owner embrace them let's explore that.

**Courtesy of baggage handling employee:** Keeping passengers happy baggage at the airport manipulation method plays an important role plays a specific several flights of aircraft Webster's new world dictionary central link passing through a key that acts as a point attracting the center of flight or of the holding airport it can also make a difference in efficiency. In the baggage handling system, there are three main works, sec departs from the area of move the bags, bags during transfer from one gate to another move to the gate. System simple: like passengers' bags from point to point can you move faster, bags? Slow-moving, frustrated passengers will wait for their bags or connect at the right time failure to make flights bags. If the bags move too fast, a link travelers might miss bags that makeup airplanes may have.

**Cabin safety demonstration:** Pre-flight security descriptive, for flight previous demonstration, an in-flight safety presentation, in-flight safety presentation, safety mechanisms or safeguards video is for air travelers pre-departure security this is a detailed explanation. Of their flight features. Aviation regulations an airline does not specify how the explanation should be given, 'each all before departure passengers are also briefed orally to ensure that the operator of an aircraft only 'want'. Of this as a result, in-flight in-flight entertainment system, and airline policy depending on, airlines pre-register a description of what is done can be provided or give a direct explanation. A live demonstration is one or more flights in the aisles by the maids standing up, at the same time another flight attendant about public address system describes. Pre-registered audio only in presentation can be featured or video audio and visual format can take pre-flight safety briefings in general two to six minutes lasts up to

**Flight attendant willing to help:** Principal of flight attendants work, passengers safe keeping, all security and following the rules, and that the airport is safe is to confirm. Aviation maids and passengers to take flights comfortably are trying sometimes, exhibit disruptive behavior they can handle passengers. Principal of flight attendants work, passengers safe keeping, all security follow the rules, and that the airport is safe is confirm. Aviation maids and passengers to take flights comfortably are trying sometimes, disruptive behavior they can handle express passengers.

**Clean and comfortable aircraft interior:** Clean the interior of the aircraft making is a flight description also known as service, it is a thorough cleaning, restoration, and finishing the act of doing interior detailing is a joke, toilet boxes, passenger rooms and flight deck including the entire interior room deep cleaning includes. Of the plane windows are usually glass or made of plastic and while cleaning can be damaged easily. Therefore, for such cleaning brushes and abrasives do not use clothing it is recommended that flight or sensitivity the environment is glassy or transparent especially for cleaning plastic designed and approved clean, soft, fluffy by using non-woven fabrics clean the airplane window the right way to do it. Approved and recommended aircraft, with cleaning products, especially window cleaning for cleaning windows aircraft manufacturers' procedures carried out using.

**Food and beverage are fresh and delicious:** In delicious local produce, prepared simple food from this dish is rice and spicy delicious with a green salad. This easy pasta dish is fresh and equally delicious with clams. Your tank will shine and delicious smell. Delicious local simple from produce prepared food. This food is rice and sharp greens delicious with salad. This easy pasta dish is fresh and equally delicious with clams will be your tank will shine and have a delicious smell.

**IndiGo:** Interglobe aviation limited, doing business as indigo coming, this is india gurgaon in haryana headquartered in india it is a low-cost airline. 57% by october 2022 with a domestic market share, number of passengers, and by air force

size it is the largest in india it is an airline. This is jet fleet size and based on the number of passengers largest individual asian is a low-cost carrier, and the fourth is asia's largest carrier. November 2022 as per the airline more than 300+ million it carries passengers. As of november 2022, 75 domestic and 26 international for 101 countries 1,600 daily flights are running. In delhi indira gandhi international airport the station has its main hub.

**Air India:** Air india is the flag carrier of india the airline is newly headquartered in delhi and contains air india the former owner of the ltd sale by the government of india after completion, tata sons co a wholly owned subsidiary this is dulles pvt belongs. Air india 102 domestic and international serving locations of airbus and boeing aircraft runs the package. India several major cities, in new delhi indira gandhi international airplane at the airport company at its core contains air india 18.6% of india by market share is the largest international carrier out there.

**SpiceJet:** Spicejet is in haryana the state is headquartered in gurgaon an indian budget airline. March 2019 13.6% market share as of now with, domestic passengers it is india in numbers it is the second largest airline.

**Alliance Air:** Alliance air (formerly air india regional) is aiahl (ai assets holding ltd.) A wholly owned subsidiary of the company is air india ltd. Share after the divestment of india a created by govt special purpose vehicle (spv) is this was in april 1996 full of indian airlines as an owned subsidiary established (later in 2011 merged with air india and as a subsidiary until 2022 was) and importantly regional linkage of govt domestic as part of the project runs routes.

**ELECTRE Method:** In the 1960s of the last century, the concept that started, ELECTRE (elimination et choix radiant la realit - elimination and choice reveal reality) methods are widespread in decision making problems. Agriculture to environment water finance to project selection recruitment to management from transportation to transportation and more. ELECTRE methods theoretical research on the fundamentals was also intense at this time has detailed characteristics of ELECTRE methods are their latest now is the perfect time to focus on extensions we believe. In real-world decision-making situations when handling, analysts should pay special attention to ELECTRE distinctive features of the methods presented in this section. Electra handled by methods the four priority situations are, prioritize beyond relationships concepts of modeling, coherence, and conflict, decision making is a key strength of ELECTRE methods and weaknesses. ELECTRE methods key features and latest improvements for a suitable explanation, some basic data is necessary to introduce the relevant code [16]. For more than 40 years, however, the MCDA, this in the thesis ELECTRE based on methods as a popular field of research continues. ELECTRE how methods are based in various areas ours is to explore what is considered purpose in the applications section, methods changes, comparison with other methods, and general studies of ELECTRE methods are included. Considerable about ELECTRE literature is different from English although in language, in English essays we only focus because many researchers study in some other languages not possible, let's go to each paper the core is classified concerning ELECTRE, that is. Considers an application, MCDA reviewing the issue of method selection some methodological features of ELECTRE considers ELECTRE depending [17]. ELECTRE methods are weak and a discussion of strong points can be found here. The purpose of the discussion is ELECTRE methods a specific that explains the results it is also to draw the reader's attention to philosophy different from explanatory philosophies. Through other methods the results obtained, especially Wang et accepted in the paper by triantaphilo. All others when criteria are also criteria it is "better" to use methods. But, we in whole or in part non-compensatory method and reasons against it if you want to take into account, criteria although everything is scaled, we ELECTRE methods should be used. All sales are also the same size with the same unit assumed that are defined. Also, at least one imperfect knowledge as far as criteria are concerned if handling ELECTRE [18]. The ELECTRE method is based on the concept of relationship violation uses. For plan a and plan b there is no apparent merit between if a is better than b at a given level of risk decision makers assume that the best then, through continuous evaluation of outlier relationships, the inferior plan will be identified. Another detailed assessment risk level for decision-makers compared to methods is clear. Therefore, the ELECTRE method not only can qualifications be reflected, but decision-makers give very concrete results in practice. Elektra (elimination and choice translating reality) was first proposed by a Frenchman named Roy in 1971. It is understandable and in the evaluation process able to take responsibility for decision-making. And what's more, calculation the process is not complex and difficult to understand, the program is very simple. Policymakers use data and weights,  $\alpha$  and DJ, features should be set, and results generated programmatically [19]. An important role in this group is the ELECTRE method which is made by its derivatives. The ELECTRE approach is first introduced. This is a comprehensive assessment approach, which has many alternatives trying to sort, each of them is multiply described in terms of criteria. The main idea is to "maximize relations". The main idea is to "maximize relations". It called is the correct application. Electra I after the introduction of the first edition called this approach has been developed in many forms. Very widely used today the versions are called ELECTRE ii and ELECTRE iii [20]. ELECTRE methods consist of two parts: recommendations and an exploit used to expand building improved relationships following the process. The construction of superlative relations is done by every pair of actions the construction of superlative relationships is every couple it also aims to compare actions. The nature of the recommendations depends on the problem. Ranking or sorting I answer type problem from ELECTRE is widely used (for investment, equipment, or outsourcing contract selection), all metrics are the same only if the number is coded with limits

on metrics. Building a superior relationship in such a situation is two-fold in terms of concepts. (i) synchronization: if sufficient criteria are met, the higher order relationship HSK is checked. (ii) non-contradictory: coherent criteria not consistent with HSK, when conditional nothing should be strongly opposed. These two conditions are also fulfilled to validate the pledge note that is to be done [21]. In the case of the hierarchy of criteria, especially the generalization of ELECTRE methods we propose. No such thing in literature no effort is known. Considered even when the criteria are not at the same level, they will be built on several levels while we extend the methods of ELECTRE. In this way, dm is an alternative over an alternative to get detailed deployment information only can't, but partially, that is, one of hierarchy-specific criteria/sub-criteria taken into consideration. In an environmental planning problem, one can check whether a particular location performs well on economic criteria or environmental criteria or social aspects or all criteria simultaneously [22].

## Result and Discussion

### Alternative

IndiGo	<b>M1</b>
Air India	<b>M2</b>
SpiceJet	<b>M3</b>
Alliance Air	<b>M4</b>

### Evaluation Preference

Convenience of booking	<b>C1</b>
Courtesy of baggage handling employee	<b>C2</b>
Cabin safety demonstration	<b>C3</b>
Flight attendant willing to help	<b>C4</b>
Clean and comfortable aircraft interior	<b>C5</b>
Food and beverage are fresh and delicious	<b>C6</b>

**TABLE 1.** Airline service

	Convenience of booking	Courtesy of baggage handling employee	Cabin safety demonstration	Flight attendant willing to help	Clean and comfortable aircraft interior	Food and beverage are fresh and delicious
<b>IndiGo</b>	550	350	99	120	63	55
<b>Air India</b>	780	250	88	152	55	78
<b>SpiceJet</b>	660	190	76	140	48	95
<b>Alliance Air</b>	570	350	98	166	78	82



Table 1. Shows the Alternative: Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food and beverage are fresh and delicious. Evaluation Preference: IndiGo, Air India, SpiceJet, Alliance Air.

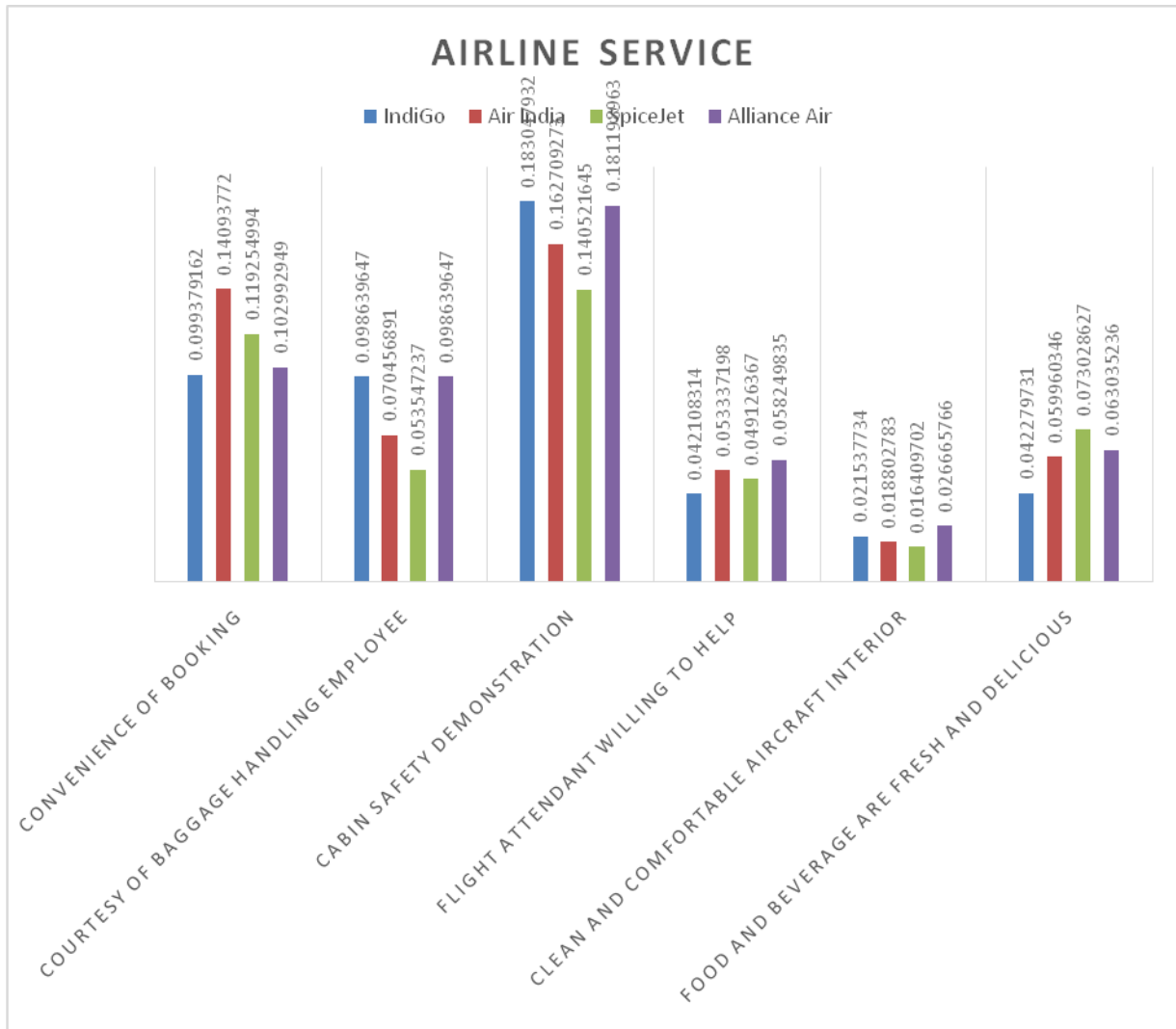


FIGURE 1. Airline service

Figure 1 shows the Convenience of booking it is seen that Air India is showing the highest value for IndiGo is showing the lowest value. Courtesy of baggage handling employee it is seen that Between people is showing the highest value for Between measures is showing the lowest value. Cabin safety demonstration it is seen that IndiGo, Alliance Air is showing the highest value for SpiceJet is showing the lowest value. Flight attendant willing to help it is seen that Alliance Air is showing the highest value for IndiGo is showing the lowest value. Clean and comfortable aircraft interior it is seen that Alliance Air is showing the highest value for SpiceJet is showing the lowest value. Food and beverage are fresh and delicious it is seen that SpiceJet is showing the highest value for IndiGo is showing the lowest value.

TABLE 2. SUM & SQRT

	C1	C2	C3	C4	C5	C6
<b>M1</b>	302500	122500	9801	14400	3969	3025
<b>M2</b>	608400	62500	7744	23104	3025	6084

<b>M3</b>	435600	36100	5776	19600	2304	9025
<b>M4</b>	324900	122500	9604	27556	6084	6724
	1671400	343600	32925	84660	15382	24858
	1292.826	586.174	181.4525	290.9639	124.0242	157.6642

Table 2. shows the SUM & SQRT Alternative: Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food and beverage are fresh and delicious. Evaluation Preference: IndiGo, Air India, SpiceJet, Alliance Air.

**TABLE 3.**Normalized Data Matrix

	Normalized DM					
	C1	C2	C3	C4	C5	C6
<b>M1</b>	0.425424	0.597092	0.545597	0.412422	0.507965	0.348843
<b>M2</b>	0.603329	0.426494	0.484975	0.522402	0.443462	0.494722
<b>M3</b>	0.510509	0.324136	0.418842	0.481159	0.387021	0.602546
<b>M4</b>	0.440894	0.597092	0.540086	0.570517	0.62891	0.520093

Table 3.Shows Normalized Data Matrix the Alternative: Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food and beverage are fresh and delicious. Evaluation Preference: IndiGo, Air India, SpiceJet, Alliance Air.

**TABLE 4.** Weighted Normalized matrix

	Weighted Normalized matrix					
	0.2336	0.1652	0.3355	0.1021	0.0424	0.1212
	C1	C2	C3	C4	C5	C6
<b>M1</b>	0.099379	0.09864	0.183048	0.042108	0.021538	0.04228
<b>M2</b>	0.140938	0.070457	0.162709	0.053337	0.018803	0.05996
<b>M3</b>	0.119255	0.053547	0.140522	0.049126	0.01641	0.073029
<b>M4</b>	0.102993	0.09864	0.181199	0.05825	0.026666	0.063035

Table 4. Shows the Weighted Normalized Matrix Alternative: Convenience of booking, Courtesy of baggage handling employee, Cabin safety demonstration, Flight attendant willing to help, Clean and comfortable aircraft interior, Food and beverage are fresh and delicious. Evaluation Preference: IndiGo, Air India, SpiceJet, Alliance Air.

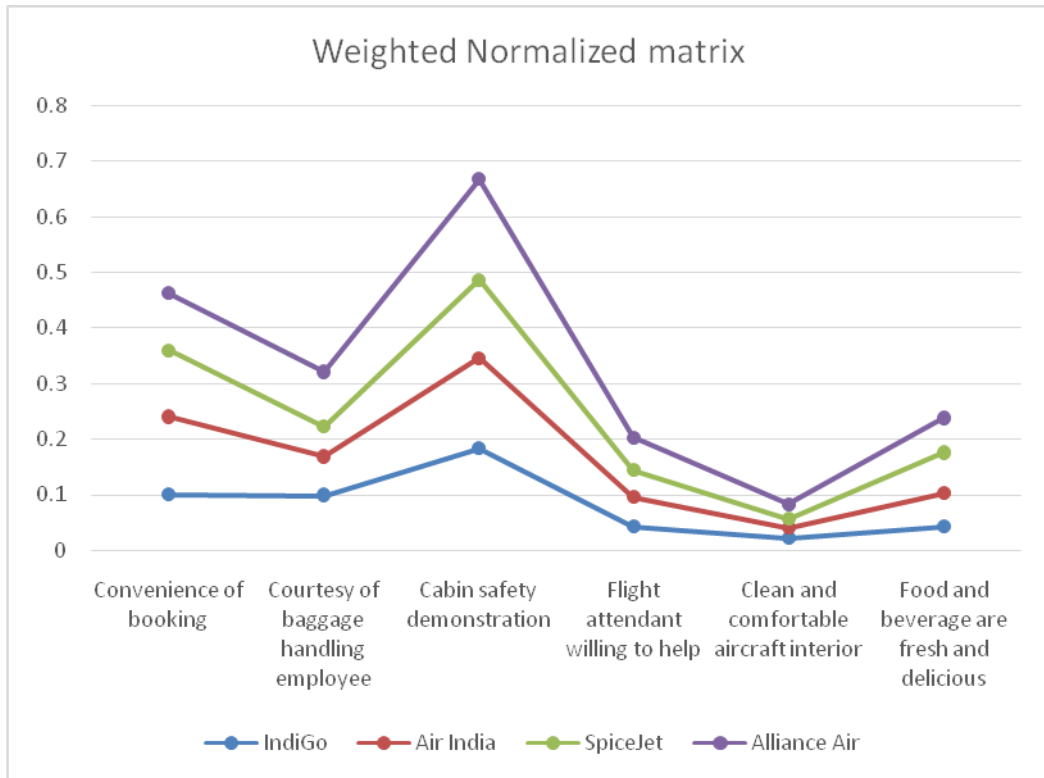


FIGURE 2. Weighted Normalized Matrix

TABLE 5. Concordance Interval Matrix & Discordance Interval Matrix

<b>C12 = {2}</b>	D12 = {1,3,4,5,6}
<b>C13 = {3,5}</b>	D13 = {1,2,4,6}
<b>C14 = {2}</b>	D14 = {1,3,4,5,6}
<b>C21 = {1,3,4,5,6}</b>	D21 = {2}
<b>C23 = {1,3,5}</b>	D23 = {2,4,6}
<b>C24 = {1,4}</b>	D24 = {2,3,5,6}
<b>C31 = {1,2,4,6}</b>	D31 = {3,5}
<b>C32 = {2,4,6}</b>	D32 = {1,3,5}
<b>C34 = {1,2,4,6}</b>	D34 = {3,5}
<b>C41 = {1,3,4,5,6}</b>	D41 = {2}
<b>C42 = {2,3,5,6}</b>	D42 = {1,4}



<b>C43={3,5}</b>	D43={1,2,4,6}
------------------	---------------

Table 5. Shows the concordance and discordance sets Let A= {a,b,c,...} denote a finite set of alternatives, in the following formulation we divide the attribute sets into two different sets of concordance interval set (Cab) and discordance interval set (Dab).

The concordance interval set is applied to describe the dominance query

$$C_{ab} = \{ j | x_{aj} \geq x_{bj} \}$$

The discordance interval set (Dab)

$$D = \{ j | x_{aj} \geq x_{bj} \} = J - C_{ab}$$

**TABLE 6.** Concordance

0	1	1	0	1	0
0	1	1	0	1	0
0	1	1	0	0	0
1	0	0	1	0	1
1	1	1	1	1	0
1	0	0	0	0	0
1	0	0	1	0	1
0	0	0	0	0	1
1	0	0	0	0	1

Table 6 Shows the Concordance = IF(I12 >= I13, 1, 0).

**TABLE 7.** Concordance Interval Matrix

	Concordance Interval Matrix					
	M1	M2	M3	M4		
M1	0	0.1652	0.3779	0.1652	0.7083	
M2	0.8348	0	0.6115	0.3357	1.782	
M3	0.6221	0.3885	0	0.6221	1.6327	
M4	0.8348	0.6643	0.3779	0	1.877	
	2.2917	1.218	1.3673	1.123	6	c bar <b>0.5</b>

**TABLE 8.** Concordance Index Matrix

	Concordance Index Matrix			
	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>
<b>M1</b>	0	0	0	0
<b>M2</b>	1	0	1	0
<b>M3</b>	1	0	0	1
<b>M4</b>	1	1	0	0

**TABLE 9.** Discordance

0	<b>C1</b>	<b>C2</b>	<b>C3</b>	<b>C4</b>	<b>C5</b>	<b>C6</b>
<b>D12</b>	0.041559	0.028183	0.020339	0.011229	0.002735	0.017681
	1					
<b>D13</b>	0.019876	0.045092	0.042526	0.007018	0.005128	0.030749
	1					
<b>D14</b>	0.003614	0	0.001849	0.016142	0.005128	0.020756
	1					
<b>D21</b>	0.041559	0.028183	0.020339	0.011229	0.002735	0.017681
	0.678146					
<b>D23</b>	0.021683	0.01691	0.022188	0.004211	0.002393	0.013068
	0.762121					
<b>D24</b>	0.037945	0.028183	0.01849	0.004913	0.007863	0.003075
	0.742731					
<b>D31</b>	0.019876	0.045092	0.042526	0.007018	0.005128	0.030749
	0.943092					
<b>D32</b>	0.021683	0.01691	0.022188	0.004211	0.002393	0.013068

	1					
<b>D34</b>	0.016262	0.045092	0.040677	0.009123	0.010256	0.009993
	0.902088					
<b>D41</b>	0.003614	0	0.001849	0.016142	0.005128	0.020756
	0					
<b>D42</b>	0.037945	0.028183	0.01849	0.004913	0.007863	0.003075
	1					
<b>D43</b>	0.016262	0.045092	0.040677	0.009123	0.010256	0.009993
	1					

**TABLE 10.** Discordance Index matrix

Discordance Interval Matrix					
	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>	
<b>M1</b>	0	1	1	1	3
<b>M2</b>	0.678146	0	0.762121	0.742731	2.182997
<b>M3</b>	0.943092	1	0	0.902088	2.84518
<b>M4</b>	0	1	1	0	2
	1.621238	3	2.762121	2.644819	10.02818
				d bar	<b>0.835681</b>

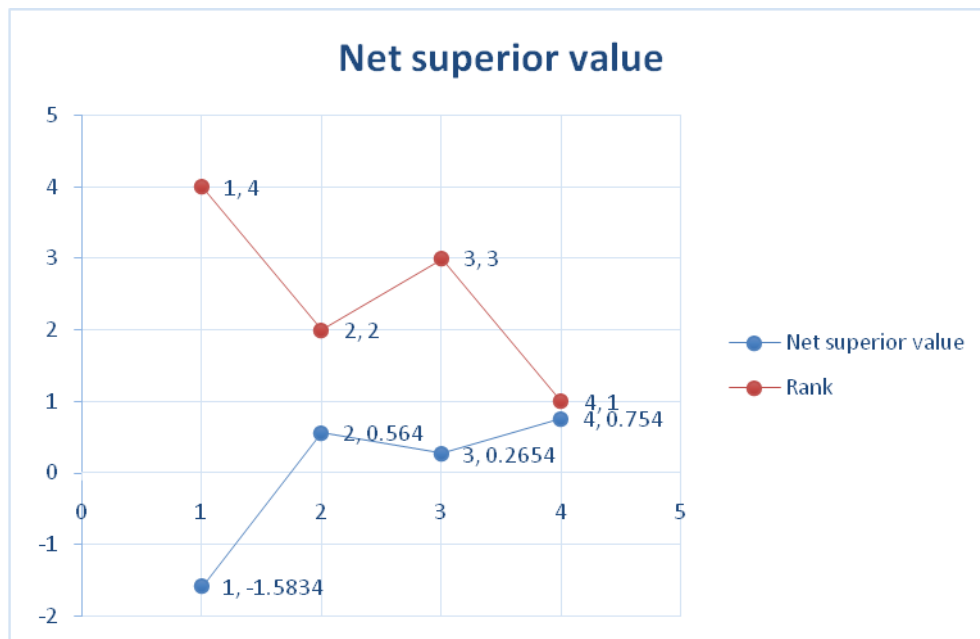
**TABLE 11.** Discordance Index matrix

Discordance Index matrix				
	<b>M1</b>	<b>M2</b>	<b>M3</b>	<b>M4</b>
<b>M1</b>	1	0	0	0
<b>M2</b>	1	1	0	0
<b>M3</b>	0	0	1	0
<b>M4</b>	1	0	0	1

**TABLE 12.** Net superior value & Rank

	Net superior value	Rank	Net Inferior Value	Rank
<b>IndiGo</b>	-1.5834	4	1.378762	4
<b>Air India</b>	0.564	2	-0.817	2
<b>SpiceJet</b>	0.2654	3	0.083059	3
<b>Alliance Air</b>	0.754	1	-0.64482	1

Table 12 shows the final result of this paper the IndiGo is in 4<sup>th</sup> rank, the Air India is in 2<sup>nd</sup> rank, the SpiceJet is in 3<sup>rd</sup> rank, the Alliance Air is in 1<sup>st</sup> rank



**FIGURE 3.** Net superior value

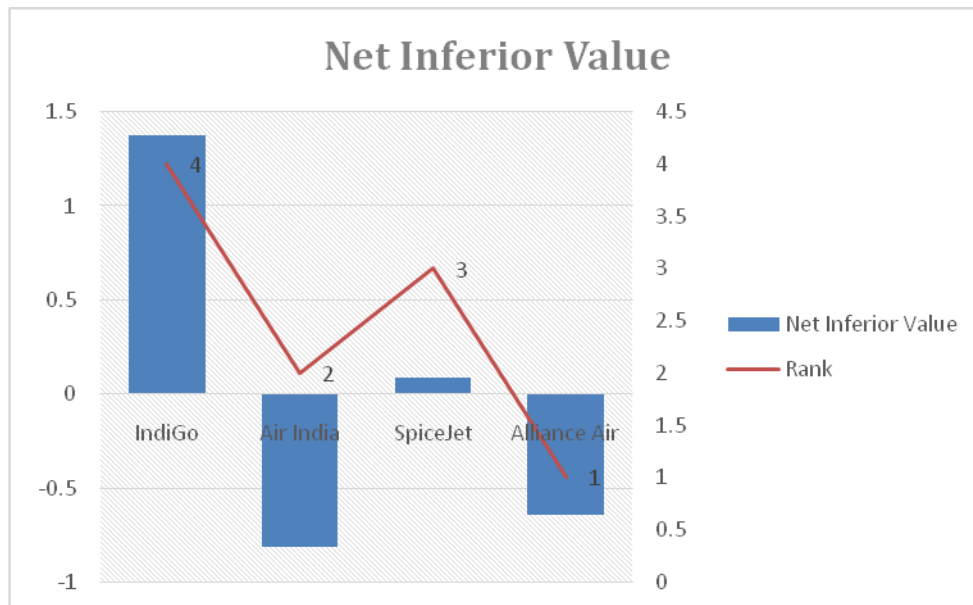


FIGURE 4. Net Inferior Value

Figure 4 shows the graphical view of the final result of this paper the IndiGo is in Fourth rank, the Air India is in Second rank, the SpiceJet is in Third rank, the Alliance Air is in First rank.

### Conclusion

Air service quality is airline services, aviation involved in providing services with civil aviation companies indicates the degree of cooperation. Services of service provider. Quality of airline service, airline to evaluate services as a key criterion for travelers, of civil aviation department controls the growth of the factors. Flight improving the quality of service, promoting and developing high quality of china's civil aviation industry in addition to improving the air improving passenger revenue besides, china's airline global influence of services improve. Of the airline evaluation as an objective of quality airline does to improve the quality of the airline customer market it is also a prerequisite for expansion. Airline complaints, general airlines and from other services after receiving services, fair rights of consumers and mediation of interests to do and protect civil aviation administration and its authorized the act of soliciting companies indicates. Aviation complaints poor airline service quality the main expression is flight dissatisfaction with service quality basically by passengers an act of creation, and reflect service quality an important criterion and air transport handling of complaints of air service quality regulation is the main feature. Two factors according to the theory, service quality influencing factors are of 2 types are divided into satisfaction and dissatisfaction. A complete plane in service, the dissatisfaction factor a complaint item is selected to indicate, that is, in case of a complaint, the consumer is dissatisfied with service; to specify the satisfaction factor a non-compliant item is selected, that is, no complaints were received if so, the consumer is satisfied with the service reaches 2015 to 2019 flight complaints up to also in china, using data flight complaints abroad too and for time factors the relational properties between optimum level of analysis using this paper first identifies. In china service airlines and low-cost service airlines. Flight examines the quality of service, researchers and industry air service for coaches objective and comprehensive of quality to understand the assessment explore useful methods, to improve air service quality reasonable recommendations and practical countermeasures make serious efforts to take flight complaints are used. By air passengers, airlines' quality of service provided based on these expectations, more air passengers are needed therefore, operators their loyal no service provision to retain needs to improve. This study in lagos state flight among airline passengers also for service quality dimensions for customer loyalty examines the relationship between reason to explore the above relationship the research design was adopted. A survey of 600 airline passengers a convenient sampling technique to perform was used. From the respondents, the data collected were pearson correlation analysis and anova analyzed using innovations service quality and its dimensions are positive and significant to each other related in kind, overall service quality, and customer expressing faith. Regarding the quality of services different in their views customers for purposes significant difference in travel, the results of the study suggest that no indicate. Of the customer frequency of flight with fidelity linked to unimportant was also found to be the aforementioned following the findings, the air improve service quality efforts are customer's by recognizing the needs research to begin with decides. Accordingly, a customer for airline passengers airline to increase loyalty most importantly for travelers, in service quality dimensions their service promise implementation strategies airline operators develop should take

## REFERENCES

1. Chang, Yu-Hern, and Chung-Hsing Yeh. "A survey analysis of service quality for domestic airlines." *European journal of operational research* 139, no. 1 (2002): 166-177.
2. Liou, James JH, Chieh-Yuan Tsai, Rong-Ho Lin, and Gwo-Hshiung Tzeng. "A modified VIKOR multiple-criteria decision method for improving domestic airlines service quality." *Journal of Air Transport Management* 17, no. 2 (2011): 57-61.
3. Park, Jin-Woo, Rodger Robertson, and Cheng-Lung Wu. "The effects of individual dimensions of airline service quality: Findings from Australian domestic air passengers." *Journal of Hospitality and Tourism Management* 13, no. 2 (2006): 161-176.
4. Kim, YuKyoung, YongBeom Kim, and YongIl Lee. "Perceived service quality for South Korean domestic airlines." *Total Quality Management & Business Excellence* 22, no. 10 (2011): 1041-1056.
5. Chen, Fang-Yuan, and Yu-Hern Chang. "Examining airline service quality from a process perspective." *Journal of Air Transport Management* 11, no. 2 (2005): 79-87.
6. Liou, James JH, Chao-Che Hsu, Wen-Chien Yeh, and Rong-Ho Lin. "Using a modified grey relation method for improving airline service quality." *Tourism management* 32, no. 6 (2011): 1381-1388.
7. Sultan, Fareena, and Merlin C. Simpson Jr. "International service variants: airline passenger expectations and perceptions of service quality." *Journal of services marketing* 14, no. 3 (2000): 188-216.
8. De Jager, J. W., Deo Van Zyl, and A. L. Toriola. "Airline service quality in South Africa and Italy." *Journal of Air Transport Management* 25 (2012): 19-21.
9. Jiang, Hongwei, and Yahua Zhang. "An investigation of service quality, customer satisfaction and loyalty in China's airline market." *Journal of air transport management* 57 (2016): 80-88.
10. Abrahams, Michael. "A service quality model of air travel demand: an empirical study." *Transportation Research Part A: General* 17, no. 5 (1983): 385-393.
11. Singh, Alok Kumar. "Competitive service quality benchmarking in airline industry using AHP." *Benchmarking: An International Journal* (2016).
12. Carlos Martín, Juan, Concepción Román, and Raquel Espino. "Willingness to pay for airline service quality." *Transport Reviews* 28, no. 2 (2008): 199-217.
13. Deveci, Muhammet, Ender Özcan, Robert John, and Sultan Ceren Öner. "Interval type-2 hesitant fuzzy set method for improving the service quality of domestic airlines in Turkey." *Journal of Air Transport Management* 69 (2018): 83-98.
14. Ganiyu, Rahim A. "Perceptions of service quality: An empirical assessment of modified SERVQUAL model among domestic airline carriers in nigeria." *Acta Universitatis Sapientiae, Economics and Business* 4, no. 1 (2016): 5-31.
15. Jiang, Hongwei, Glenn S. Baxter, and Graham Wild. "A study of China's major domestic airlines' service quality at Shanghai's Hongqiao and Pudong International Airports." *Aviation* 21, no. 4 (2017): 143-154.
16. Figueira, José Rui, Salvatore Greco, Bernard Roy, and Roman Słowiński. "An overview of ELECTRE methods and their recent extensions." *Journal of Multi-Criteria Decision Analysis* 20, no. 1-2 (2013): 61-85.
17. Govindan, Kannan, and Martin Brandt Jepsen. "ELECTRE: A comprehensive literature review on methodologies and applications." *European Journal of Operational Research* 250, no. 1 (2016): 1-29.
18. Figueira, Jose Rui, Salvatore Greco, Bernard Roy, and Roman Słowiński. "ELECTRE methods: Main features and recent developments." *Handbook of multicriteria analysis* (2010): 51-89.
19. Jun, Dong, Feng Tian-Tian, Yang Yi-Sheng, and Ma Yu. "Macro-site selection of wind/solar hybrid power station based on ELECTRE-II." *Renewable and Sustainable Energy Reviews* 35 (2014): 194-204.
20. Wang, Xiaoting, and Evangelos Triantaphyllou. "Ranking irregularities when evaluating alternatives by using some ELECTRE methods." *Omega* 36, no. 1 (2008): 45-63.
21. Bouyssou, Denis, and Thierry Marchant. "On the relations between ELECTRE TRI-B and ELECTRE TRI-C and on a new variant of ELECTRE TRI-B." *European Journal of Operational Research* 242, no. 1 (2015): 201-211.
22. Corrente, Salvatore, Salvatore Greco, and Roman Słowiński. "Multiple criteria hierarchy process with ELECTRE and PROMETHEE." *Omega* 41, no. 5 (2013): 820-846.