

U.S. Airline Customer Complaint Trends: A Decade-Long Analysis (2013-2022) Including COVID-19 Impacts

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Abstract

The Airline Deregulation Act of 1978 significantly reshaped the U.S. aviation industry, transitioning from government-controlled pricing and service standards to market-driven dynamics. This shift led to the rise of low-cost carriers, reduced service quality, and increased customer complaints. In response to fluctuating service standards, the Air Travel Consumer Report (ATCR) was introduced in 1987 to provide transparency in airline service quality. This study leverages ATCR data from 2013 to 2022 to analyze trends in customer complaints across major U.S. airlines. The primary objectives are identifying the major customer complaints and determining which airlines received the most complaints during the studied period including the COVID-19 pandemic era. Results indicate that flight problems, refunds, baggage issues, customer service, and reservations/ticketing/boarding are the top complaints, with refunds peaking during the COVID-19 pandemic due to travel restrictions. Airlines such as Frontier, Spirit, and United consistently received higher complaints, while Alaska, Delta, and SkyWest had fewer complaints. The study underscores the importance of service quality in fostering customer satisfaction and loyalty, suggesting that airlines should focus on reducing complaints in key areas to enhance service quality. The findings provide valuable insights for both airlines and consumers, highlighting areas for improvement and aiding consumers in making informed choices. This study also emphasizes the need for comprehensive service quality measures beyond consumer complaints to assess airline performance accurately.

Keywords: airline deregulation, Air Travel Consumer Report (ATCR), customer complaints, service quality, COVID-19 pandemic impact

1. Introduction

The Airline Deregulation Act of 1978 marked a pivotal shift in the aviation industry, ushering in an era where market dynamics determined the fate of airlines. This legislative change allowed market forces to dictate prices and routes while granting carriers the autonomy to define their service quality standards (Rhoades & Waguespack, 2008). Consequently, government policy focuses primarily on creating affordable airfares for customers, leading US airlines to prioritize cost-cutting measures for survival (Woerth, 1995). This emphasis on cost reduction has increased customer complaints. The landscape rapidly evolved to accommodate the emergence of low-cost carriers (LCCs), fundamentally altering the traditional airline business model by prioritizing affordability over frills (Rhoades, Waguespack, & Ambrose, 2021). As a result, the overall level of service quality among US airlines has declined significantly since the deregulation (Rhoades & Waguespack, 2000a; 2000b).

The United States Government introduced the Air Travel Consumer Report (ATCR) in response to fluctuating service standards in 1987. This monthly publication provided transparent insights into various aspects of airline service quality, empowering consumers with vital information. Originally featuring metrics such as on-time performance and mishandled baggage, the ATCR has evolved to encompass a broader spectrum of indicators, including cancellations, animal shipments, and reasons for flight delays and cancellations. Despite its significance, the report is not comprehensive, with participation mandated only for carriers contributing at least 1%

of domestic scheduled passenger revenues.

Service quality lies at the heart of customer satisfaction, fostering loyalty, repurchase behavior, and recommendations to other customers, and ultimately driving corporate profitability (Adeola & Adebiyi, 2014; Curtis, Rhoades, & Waguespack, 2012; Namukasa, 2013; Szwarc, 2005). Extensive research underscores the correlation between customer satisfaction, repeat purchases, and positive word-of-mouth recommendations (Harris & Uncles, 2007; Ringle, Sarstedt, & Zimmermann, 2011; Saha & Theingi, 2009). Leveraging data from the ATCR, this paper aims to conduct an analysis spanning the last decade of US airline service quality. The purpose of this study is to identify trends of service quality in the US airline industry and to answer the following questions: (1) What are the major customer complaints in the US airline industry? and (2) Which airlines receive the most complaints? The findings of this study will rank the customer complaints categories in order as well as the airline that receives the most complaints. The airlines should focus on reducing customer complaints in those areas to increase service quality. The customers also could benefit from this study when they choose airlines by selecting the lower complained airlines.

Airline quality rating is crucial for evaluating profitability and sustainability in the dynamic and competitive airline industry (Ardil, 2021). The airline quality rating studies airline performance quality, setting industry standards and providing a means for consumers and stakeholders to compare performance quality among airlines using objective, performance-based data. This assessment relies on publicly available data reporting airline performance on critical quality criteria important to consumers. This study acknowledges the evolving nature of reporting standards within the ATCR framework. By systematically examining longitudinal trends in service quality, both theoretical insights and practical implications for airline management are elucidated. The paper proceeds by contextualizing the history of service quality research within the airline industry, followed by a detailed exposition of the study methodology. Subsequent sections delve into overarching trends gleaned from the data, supplemented by a focused analysis of ten carriers.

2. Literature Review

2.1 Impact of Deregulation on Airline Service Quality

The Airline Deregulation Act of 1978 reshaped the aviation industry, prompting a paradigm shift in how airlines approached service quality. Before deregulation, the Civil Aviation Board (CAB) in the USA established strict standards for service and fares, prohibiting airlines from competing solely on price and fostering competition based on service levels (Rhoades et al., 2021). However, with deregulation, airlines gained the freedom to set prices, routes, and service standards based on market demand and competition. This deregulatory environment paved the way for the emergence and rapid growth of low-cost carriers (LCCs), disrupting the traditional model by prioritizing affordability over frills and exerting pressure on legacy carriers to adjust their service models to remain competitive.

2.2 Measuring Airline Service Quality

Scholars have employed two primary methodologies to measure airline quality. The first approach involves customer survey research, where organizations such as Frequent Flyer, Conde Nast, and Consumer Reports periodically release rankings based on customer satisfaction. These surveys typically consider various factors such as on-time performance, airport check-in, seating comfort, and food service, among others. Despite the variation in survey methodologies, they consistently highlight the importance of these factors in shaping passenger perceptions of service quality (Waguespack & Rhoades, 2014).

Service quality is a critical component of competitiveness (Lewis, 1989). Providing superior service quality and achieving high customer satisfaction is a significant challenge in the modern service industry (Hung, Huang, & Chen, 2003). This challenge applies to both the public and private sectors across various business and service industries (Zahari, Yusoff, & Ismail, 2008). Service quality, defined by how well a service meets or exceeds customer needs and expectations (Asubonteng, McCleaty, Swan, 1996; Dotchin & Oakland, 1994; Lewis & Mitchell, 1990; Wisniewski & Donnelly, 1996; Zahari et al., 2008), is essential for attaining high levels of customer satisfaction.

Research suggests that delivering high service quality is vital, as it generally leads to customer satisfaction (Anderson, Fornell, & Lehmann, 1994; Cronin, Brady, & Hedley, 2000; Cronin & Taylor, 1992). Customer satisfaction or dissatisfaction emerges from the disparity between expected and perceived service. Satisfaction increases when perceived service exceeds expectations, while dissatisfaction grows when it falls short. Consequently, service quality, being inherently subjective, is often assessed in terms of consumer satisfaction (Baker, 2013).

The second method relies on publicly available secondary data, particularly from the US Department of Transportation's Air Travel Consumer Report (ATCR). Researchers have utilized this data extensively to construct indices such as the Airline Quality Rating (AQR) and the Service Disquality Index (SDI) to assess airline service quality comprehensively.

The Aviation Institute at the University of Nebraska at Omaha published the first Airline Quality Rating (AQR) report in 1991. The report included service (denied boarding and customer complaints), safety (accidents, incidents, pilot deviations), and financial (financial stability, average seat-mile costs, load factor) indicators that were weighted by industry experts. Bowen and Hedley (2021) retained only the service quality factors (on-time percentage, denied boarding, mishandled baggage, and customer complaints) to provide a purer version of airline service quality.

The Service Disquality Index (SDI) has reported airline service quality since 1987 (Rhoades & Waguespack, 2004). The index calculates a mean and confidence interval for each year to track service quality trends. Service quality in the SDI represents the sum of the percentage of late flights, total number of consumer complaints, total number of involuntary denied boardings, and total number of mishandled baggage reports divided by total yearly departures, normalizing for a particular airline. This rate measures disquality and can be interpreted as the number of quality problems per departure (Rhoades et al., 2021). Unlike the AQR, the SDI does not weigh its measures, providing a straightforward representation of the likelihood of service problems per departure. This approach allows for a historical analysis of service disquality over time.

2.3 Recent Findings on Airline Service Quality

Recent studies have extensively compared service quality among different types of carriers in the U.S. using complaint data from the Air Travel Consumer Report. These comparisons have been made between national and regional carriers (Rhoades & Waguespack, 2000a) and between major and low-cost carriers (Rhoades & Waguespack, 2005, 2008; Waguespack & Rhoades, 2014). The findings consistently show substantial differences in service quality across these groups. For the period 1987-1996, Rhoades, Waguespack, and Truedt (1998) reported significant differences in service quality between major and national/regional carriers. Further analysis by Rhoades and Waguespack (2000a) revealed statistically significant differences in service quality levels among national and regional carriers during the same period.

Rhoades and Waguespack (2008) also observed that during economic downturns, airlines tend to reduce flight schedules, resulting in improvements in on-time arrivals and reductions in customer complaints, denied boardings, and mishandled baggage. Additionally, a review of 25 years of data from the Service Disquality Index by Waguespack and Rhoades (2014) found that U.S. airline service quality tends to improve during times of economic distress or following terrorist events. However, despite traffic not returning to its 2007 peak before the Global Financial Crisis, a 30-year review suggests that this cycle has been disrupted. The past five years have produced some of the lowest SDI averages in 30 years, with detailed results for individual measures and airlines providing further insights into U.S. airline service quality (Rhoades et al., 2021).

2.4 Impact of COVID-19 on Airline Industry

The COVID-19 pandemic caused severe disruption in the airline industry, impacting both operational capacity and customer satisfaction. Despite financial aid through the Coronavirus Aid, Relief, and Economic Security (CARES) Act, which sought to stabilize the industry and maintain domestic services, air traffic experienced a significant decline. Hotle and Mumbower (2021) reported a 71.5% drop in U.S. airline departures in May 2020 compared to May 2019, with larger airports experiencing more substantial service reductions. The pandemic also transformed consumer expectations, with health and safety becoming key drivers of satisfaction. Sulu, Arasli, and Saydam (2021), in their analysis of TripAdvisor reviews, identified key themes such as cancellation, refund, and check-in as major sources of dissatisfaction, with passengers expressing frustrations over airlines' inefficient handling of cancellations and refunds.

Rita, Moro, and Cavalcanti (2022) used sentiment analysis of 885 online reviews to assess customer reactions during the early stages of the pandemic. They found a sharp decline in satisfaction, particularly among low-cost carriers, where refund policies were a major point of contention. This dissatisfaction affected brand loyalty and eroded customer trust. Exploring airlines' safety measures, Zahraee et al. (2023) examined passenger satisfaction related to hygiene practices. Passengers appreciated measures such as providing hand sanitizers and disinfecting aircraft but were less satisfied with restrictive measures like the suspension of in-flight meals and new boarding procedures, highlighting a tension between cost-saving strategies and customer satisfaction. Pereira, Costa, Ramos, and Raimundo (2023) analyzed nearly 10,000 passenger reviews and found that dissatisfaction with airline staff behavior, cabin cleanliness, and refund handling worsened during the pandemic. The study

emphasized the importance of airlines adapting their strategies to align with changing passenger expectations during and after the pandemic.

3. Methodology

This study utilizes data from the U.S. Department of Transportation's Air Travel Consumer Report (ATCR), which complies with airline operating statistics. The ATCR includes data from airlines with at least 1% of domestic scheduled passenger revenues and reports on metrics such as on-time performance, cancellations, mishandled baggage, involuntary denied boardings, and customer complaints, which cover a wide range of service-related issues. These complaints cover a range of categories such as flight problems, ticketing, refunds, fares, customer service, advertising, and other service-related issues. The ATCR data has undergone several revisions since its inception in 1987, including enhancements such as a more detailed breakdown of on-time performance by the airport, a five-category description for aircraft delays, the inclusion of cancellations, and modifications in complaint categories to accommodate emerging issues like animal transport and the removal of smoking complaints.

3.1 Research Design

The research focuses on ten U.S. carriers with gross operating revenues exceeding US\$1 billion per year. Data was collected for the period between 2013 and 2022, allowing for a longitudinal analysis of trends (DOT, 2013-2022). Some airlines were excluded due to mergers, acquisitions (e.g., American Airlines acquiring US Airways in 2013 and Alaska Airlines acquiring Virgin America in 2016) or ceasing operations. The study analyzes customer complaints both at the industry level and for individual carriers. The Department continues to receive a high volume of air travel service complaints against airlines and ticket agents and its Office of Aviation Consumer Protection is processing them. The release of consumer complaint data in the ATCR has been delayed since June 2023 primarily because of the time needed to review and process these consumer complaints. Therefore, this study used data up to December 2022 for the yearly analysis.

3.2 Sampling Technique

The study leverages a purposive sampling method, focusing specifically on major U.S. airlines that meet the financial criteria. This ensures that the sample is representative of the leading players in the industry. To ensure fair comparisons, the total number of passengers for each carrier was obtained and used to normalize customer complaint data.

3.3 Analysis Technique

Complaints per 100,000 systemwide enplanements were calculated to rank airlines by complaint categories. Normalization techniques were employed to make the data comparable across carriers and periods. The study identifies trends and ranks airlines by the volume of complaints in various categories. Industry-wide trends were also analyzed to provide a comprehensive picture of service quality issues in the U.S. airline industry. The results aim to highlight key problem areas for airlines, helping both carriers and customers make informed decisions to improve service quality. The airlines should focus on reducing customer complaints in those areas to increase service quality. The customers also could benefit from this study when they choose airlines by selecting the lower complained airlines. The airlines should reduce customer complaints categories that affect more on customer satisfaction.

4. Results

4.1 Complaints by Categories

Table 1 presents customer complaints on various issues by industry from 2013 to 2022. These issues include flight problems (such as cancellations, delays, or other schedule deviations), oversales, reservations/ticketing/boarding (errors made by airline or travel agents, issues with making reservations or obtaining tickets, boarding problems), fares, refunds, baggage (lost, damaged, or delayed baggage, excess baggage charges, carry-on issues, and claims difficulties), customer service (rude or unhelpful employees, inadequate meals or cabin service, treatment of delayed passengers, seating issues), disability, advertising, discrimination, animals, and other concerns.

Table 1. Complaints by Categories

Categories	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Flight Problems	1,917	2,540	3,949	3,897	3,678	2,539	3,032	815	4,952	19,326
Oversales	246	311	427	392	312	226	179	74	177	852
Res/Tkt/Boarding	977	977	1,488	1,093	1,078	816	804	794	1,522	3,578
Fares	219	556	1,172	813	834	741	463	1,675	1,848	3,268
Refunds	459	613	935	654	552	364	367	28,804	6,092	6,983
Baggage	1,077	1,299	1,833	1,406	1,119	1,004	1,061	465	1,021	5,295
Customer Service	1,059	895	1,457	1,183	1,047	945	1,077	936	1,425	1,989
Disability	380	466	620	664	666	624	694	440	997	1,415
Advertising	49	75	104	78	46	24	35	12	21	71
Discrimination	45	44	45	74	72	73	89	25	98	109
Animals	5	2	2	1	1	1	1	0	1	0
Other	277	216	231	328	240	228	188	384	143	303
Total	6,710	7,994	12,263	10,583	9,645	7,585	7,990	34,424	18,297	43,189

The primary concerns over the studied period were flight problems, followed by issues with reservations/ticketing/boarding, baggage, customer service, and refunds. Complaints about refunds peaked in 2020 and persisted through 2022, driven by travel restrictions and cancellations related to the highly contagious coronavirus. The total number of complaints surged in 2020 and reached the highest level of the decade in 2022 as travel resumed post-pandemic, leading to an increase in customer complaints. Figure 1 visually presents the trends in customer complaints over the years.

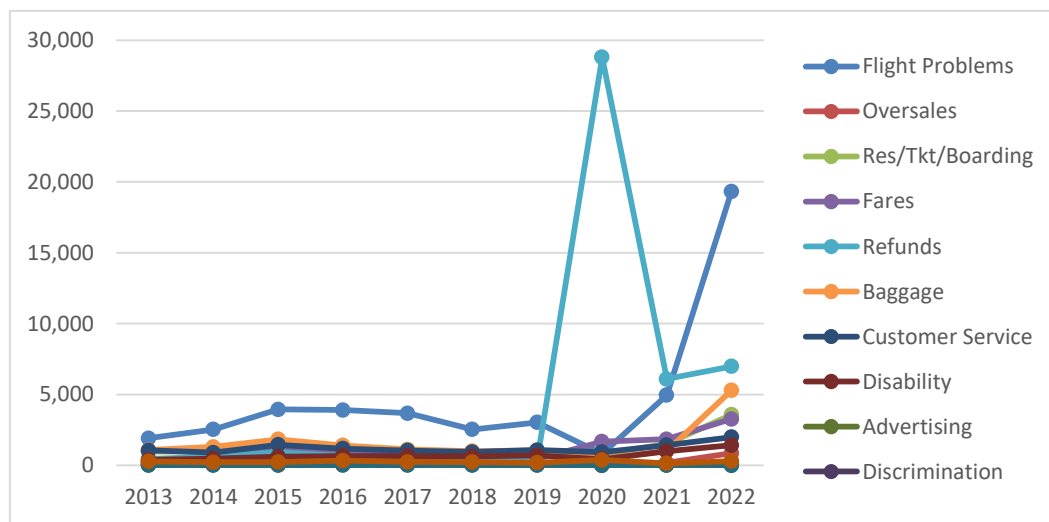


Figure 1. Complaints by Categories

Table 2. % of Total Complaints by Categories

Categories	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Ave
Flight Problems	28.57	31.77	32.20	36.82	38.13	33.47	37.95	2.37	27.06	44.75	31.31
Oversales	3.67	3.89	3.48	3.70	3.23	2.98	2.24	0.21	0.97	1.97	2.63
Res/Tkt/Boarding	14.56	12.22	12.13	10.33	11.18	10.76	10.06	2.31	8.32	8.28	10.02
Fares	3.26	6.96	9.56	7.68	8.65	9.77	5.79	4.87	10.10	7.57	7.42
Refunds	6.84	7.67	7.62	6.18	5.72	4.80	4.59	83.67	33.30	16.17	47.66
Baggage	16.05	16.25	14.95	13.29	11.60	13.24	13.28	1.35	5.58	12.26	11.79
Customer Service	15.78	11.20	11.88	11.18	10.86	12.46	13.48	2.72	7.79	4.61	10.20
Disability	5.66	5.83	5.06	6.27	6.91	8.23	8.69	1.28	5.45	3.28	5.67
Advertising	0.73	0.94	0.85	0.74	0.48	0.32	0.44	0.03	0.11	0.16	0.48
Discrimination	0.67	0.55	0.37	0.70	0.75	0.96	1.11	0.07	0.54	0.25	0.60
Animals	0.07	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.02
Other	4.13	2.70	1.81	3.10	2.49	3.01	2.35	1.12	0.78	0.70	2.22
Total	100	100	100	100	100	100	100	100	100	100	100

Table 2 presents the percentage of total customer complaints by category to highlight the most common issues. The percentages were calculated by summing complaints for each year, dividing them by the total complaints, and multiplying by 100. On average, refunds accounted for 47.66% of complaints, followed by flight problems (31.31%), baggage (11.79%), customer service (10.20%), and reservations/ticketing/boarding (10.02%). In 2020, refunds comprised 83.67% of complaints, with all other categories contributing less than 5% each. Figure 2 provides further details of complaint trends. Over the years, complaints about flight problems, refunds, baggage, customer service, and reservations/ticketing/boarding dominated.

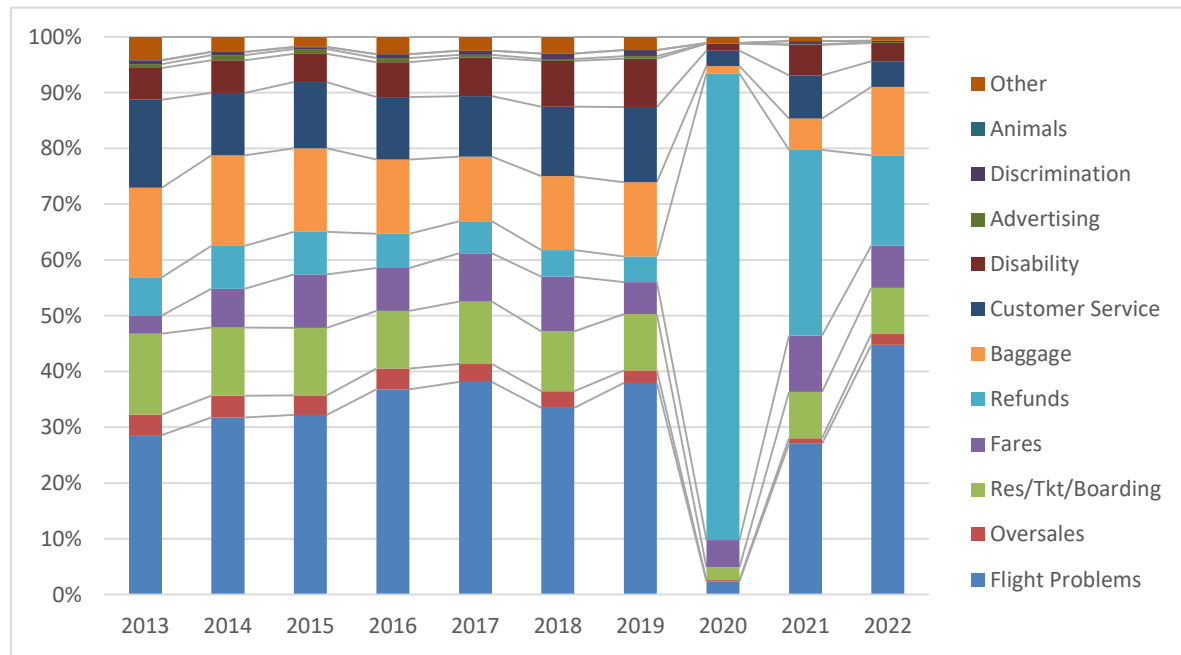


Figure 2. % of Total Complaints by Categories

4.2 Complaints by Airlines

Table 3 shows customer complaints by individual carriers, while Table 4 presents complaints per 100,000 passengers, normalizing the data for accurate comparisons. Over the decade, the airlines with the most complaints were Frontier (10.56) followed by Spirit (7.78), United (5.48), Hawaiian (5.19), JetBlue (3.32), American (3.27), Alaska (1.78), Delta (1.57), Southwest (1.37), and SkyWest (0.72). Skywest, Delta, and Alaska had fewer complaints than the average for the period, while Frontier and United had more. In 2020, complaints spiked for Frontier (49.31), Hawaiian (37.66), and United (29.74), with JetBlue (11.30) close to the average. Figure 3 graphically displays customer complaints per 100,000 passengers by individual carrier.

Table 3. Complaints by Airlines

Airlines	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alaska	87	89	114	121	149	190	212	1,125	491	916
American	1,730	1,792	3,987	3,600	2,840	2,044	2,553	5,952	4,016	8,165
Delta	713	926	1,025	981	1,335	985	826	3,841	1,329	3,781
Frontier	317	466	1,040	888	472	792	581	5,524	1,196	5,158
Hawaiian	105	90	111	126	107	128	85	1,241	241	358
JetBlue	192	376	302	287	456	418	412	1,617	1,929	3,552
SkyWest	217	234	197	152	191	169	179	160	328	546
Southwest	398	635	754	707	734	590	535	1,792	1,678	10,595
Spirit	1,019	935	2,069	1,432	1,331	814	964	1,760	3,522	3,881
United	1,935	2,458	2,726	2,277	2,030	1,455	1,643	11,278	3,582	6,237

Table 4. Complaints per 100,000 passengers

Airlines	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alaska	0.44	0.42	0.50	0.50	0.57	0.57	0.60	9.16	2.11	2.88
American	1.99	1.93	3.36	2.49	1.96	1.38	1.64	9.05	3.46	5.41
Delta	0.59	0.71	0.74	0.68	0.92	0.65	0.51	6.96	1.29	2.66
Frontier	3.10	3.92	7.89	5.94	2.78	4.02	2.57	49.31	5.79	20.26
Hawaiian	1.06	0.89	1.06	1.16	0.95	1.10	0.74	37.66	3.69	3.58
JetBlue	0.63	1.17	0.86	0.75	1.14	0.99	0.96	11.30	6.38	8.96
SkyWest	0.80	0.84	0.65	0.49	0.53	0.43	0.42	0.79	0.92	1.37
Southwest	0.34	0.50	0.52	0.47	0.47	0.36	0.33	2.64	1.36	6.75
Spirit	9.44	7.44	11.73	6.74	5.59	2.83	2.85	9.61	11.45	10.10
United	2.14	2.72	2.86	2.27	1.89	1.28	1.41	29.74	4.93	5.54
Average	2.05	2.05	3.02	2.15	1.68	1.36	1.20	16.62	4.14	6.75

Note. **Bolds** are airlines with more customer complaints than average complaints for that year.

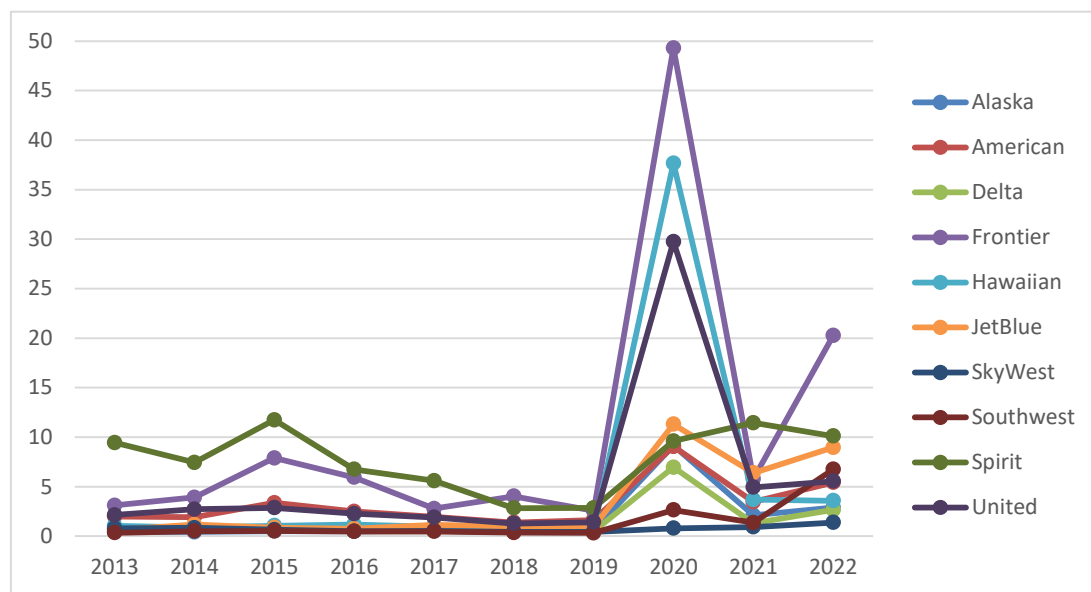


Figure 3. Complaints per 100,000 passengers

5. Discussion

Systemizing service delivery in the airline industry is particularly challenging due to the significant human element involved throughout the entire service process. Unlike other industries that can operate like an assembly line, airlines face variables such as customer interactions, unpredictable schedules, and operational complexities. This makes it difficult to develop streamlined, standardized systems. As a result, many airlines have opted to compete primarily by adjusting airfares rather than focusing on comprehensive service improvements, such as baggage handling, on-time flights, and in-flight services (Morash & Ozment, 1994). The increase in customer complaints over the years suggests that this approach may be inadequate in addressing customer dissatisfaction (Bolton, 1989).

Despite the fact that the airline industry offers relatively homogeneous services, such as the transportation of passengers and goods, airlines differentiate themselves by emphasizing service quality rather than simply lowering airfares or cutting costs (Chang, Yeong, & Loh, 1996; Gourdin & Kloppenbourg, 1991; Hamill, 1993). Airlines that excel in service quality understand that a superior consumer experience fosters customer loyalty and enhances financial performance. These airlines often invest in employee training, talent management, and service delivery programs. Despite these efforts, many consumers still do not report complaints even after poor service encounters, which limits the ability of airlines to fully understand the scope of service issues (Oliver, 1997).

This study analyzed complaint data on U.S. airline operations from 2013 to 2022, collected from the Department of Transportation's (DOT) Air Travel Consumer Report (ATCR). Complaints were categorized into various areas, including flight problems, oversales, reservations/ticketing/boarding, fares, refunds, baggage, customer service, disability, advertising, discrimination, animals, and other issues. A notable spike in complaints occurred during the global COVID-19 pandemic in 2020 and 2021, a time when the airline industry experienced unprecedented disruptions, such as widespread flight cancellations, travel restrictions, and heightened passenger anxieties. This period saw a surge in complaints, particularly regarding refunds, as many flights were canceled and airlines struggled to manage refund requests.

Typically, customer complaints focus on flight problems, baggage, customer service, and ticketing, reservation, and boarding, in that order. However, the pandemic shifted this trend, with refunds becoming the top complaint category. Complaints about other issues, such as flight problems, diminished temporarily due to the significant reduction in flights. By 2022, as flight operations resumed more fully, complaints about flight problems reached a historic high of 19,326, accounting for 44.75% of total complaints. This rise underscores the persistent challenges airlines face in managing operational reliability and addressing mechanical issues, which have been a significant concern due to recent problems with aircraft models like Boeing.

Airlines operate under different business models, categorized into full-service carriers (FSCs), low-cost carriers (LCCs), and hybrid models. FSCs, such as Delta, offer comprehensive services and target premium and business travelers, while LCCs, like Frontier and Spirit, focus on providing minimal services at lower prices for cost-conscious consumers. Hybrid models attempt to balance service quality with cost efficiency (Barret, 2004; O'Connell & Williams, 2005). This study revealed that LCCs were particularly vulnerable to operational challenges during the pandemic, with Frontier Airlines seeing the most significant increase in complaints, rising by 46.74 complaints per 100,000 passengers from 2019 to 2020.

FSCs, including Alaska Airlines, Delta, and Southwest Airlines, generally maintained lower complaint rates compared to the industry averages, even during the pandemic, suggesting they were better equipped to handle customer dissatisfaction. However, they were not immune to the impacts of the crisis, with complaint rates increasing in 2020 as well. United Airlines and Hawaiian Airlines experienced significant surges during this period. Among the major FSCs, United and American Airlines had the highest number of complaints across several categories, joining LCCs like Frontier and Spirit at the top of the complaints per 100,000 passenger metrics. This underscores the importance of addressing service quality issues across all airline categories, irrespective of business models or customer segments. The findings emphasize the need for airlines to invest in service recovery processes, including improving refund policies and addressing mechanical issues, to improve overall customer satisfaction.

In conclusion, the data reveals both systematic and crisis-driven issues within the airline industry's service delivery processes. The COVID-19 pandemic intensified these problems, particularly in areas such as refunds and customer service. Moving forward, airlines must develop more flexible and resilient service delivery systems, enhance communication during disruptions, and better manage both routine and extraordinary operations to prevent future spikes in customer dissatisfaction.

6. Conclusions

In today's competitive airline industry, passengers expect punctual flights, minimal delays, and the timely handling of checked baggage. This study identifies the key areas of customer dissatisfaction based on categorized complaints and provides guidelines for evaluating airline performance over the study period. The COVID-19 pandemic brought unprecedented disruptions, reflected in a spike in consumer complaints. As the industry moves forward, airlines must strengthen their resilience against such extraordinary events by improving communication strategies, enhancing customer service responsiveness, and developing robust contingency plans to manage large-scale disruptions. Addressing these critical challenges will better prepare for future crises and improve overall customer satisfaction.

Effective service recovery is paramount and should be prioritized by airlines. A multifaceted approach is necessary to address the root causes of customer dissatisfaction and enhance the service delivery process. This includes training staff to resolve complaints efficiently, empowering employees to act, and recognizing successful customer service efforts. Based on the findings, establishing clear, fair, and prompt refund and compensation policies is essential, particularly during extraordinary events like health-related pandemics. Streamlining the refund process and ensuring that customers receive timely compensation will help mitigate negative perceptions and build long-term trust between airlines and their passengers.

6.1 Study Limitations

Despite its findings, this study has several limitations. The Department of Transportation (DOT) only reports complaints for airlines receiving ten or more complaints annually, which likely underrepresents the true extent of consumer concerns. Furthermore, specific aspects of service quality, such as meals, seat comfort, and in-flight entertainment, are not explicitly categorized in the data. Many dissatisfied consumers may not file formal complaints with the DOT, either because they are unaware of the process or choose other outlets for their grievances. A more detailed analysis of complaint categories could provide airlines with valuable insights into the drivers of customer dissatisfaction, helping to target improvement efforts more effectively.

The rise of digital technologies and social media has also transformed how consumers share feedback on service quality, amplifying the impact of complaints. What was once limited to word-of-mouth now reaches thousands, if not millions, through social networks. In response, airlines have developed 24/7 social media monitoring centers to manage complaints in real time, aiming to address issues before they escalate into viral negative publicity. Considering the popularity of consumer-generated review platforms, such as TripAdvisor, future research could benefit from comparing complaints on these platforms with DOT data to create a more comprehensive understanding of airline performance.

6.2 Future Research Directions

This study focuses on consumer complaints alone. A more complete evaluation of airline service quality should include additional metrics, such as late flights, involuntary denied boardings, and mishandled baggage reports. Moreover, emerging concerns like airplane mechanical issues and increased turbulence due to climate change pose serious risks to both safety and customer satisfaction. Future research should examine how these factors are reflected in complaints and explore strategies to address these growing challenges within the airline industry.

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Authors' contributions

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Informed consent

Not applicable.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

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Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

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