



SEVERITY AND LOYALTY: THE EFFECT OF SERVICE FAILURES ON AIRLINE TOURISTS

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Abstract:

This paper explores how the severity of a service failure experienced during a recent flight for tourism influences loyalty to the respective airline. Results from an online survey show that tourists who experienced a minor issue during their flight exhibited equivalent loyalty to the airline to those who did not experience any problems. However, tourists who experienced a severe service failure during their flight exhibited a decrease in their loyalty. Like in previous studies on product defects, not all service failures are equally relevant to customer relationships: To manage tourist loyalty effectively, airlines should prioritize their efforts to eradicate service failures that tourists deem severe and then the others.

Keywords:

severity of service failure, tourists, loyalty, customer relationship management.

INTRODUCTION

According to the data published by the US Department of Transportation (DOT) for 2023, 96,853 complaints were made in 2023, mainly concerning issues experienced with airlines. Not surprisingly, as in SITA's 2023 Baggage IT Insights Report, service disruptions, especially baggage loss and incorrect baggage delivery, affected passengers' satisfaction and loyalty (Mehra, 2023). Air transportation already suffers from image loss due to service failures due to high passenger numbers and the human-centred nature of the service (Atalik, 2007). Negative experiences can influence customers and potentially lead to business loss (Oliver, 2015). Therefore, enhancing and streamlining operations is of great importance in increasing service quality and passenger satisfaction, considering the economic impacts of the sector (Mainardes *et al.*, 2021).

However, similarly to previous studies on product defects for manufactured products by Catenazzo and Paulssen (2020, 2023), not all service failures are equally relevant to customer relationships. Recent works reveal that passengers review their loyalty to the brand of the used transportation company according to the severity of experienced failures during service provision (Charpentreau, 2024). Elbaz *et al.* (2023) call for recovery strategies to increase customer satisfaction and loyalty, especially when customers experience severe service

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failures, such as flight cancellations or long delays. The severity of service failures negatively affects customers' loyalty to airlines, which can decrease customer loyalty (Elbaz *et al.*, 2023). Yet, the relationship between the severity of an experienced failure and loyalty needs further investigation (Catenazzo & Paulssen, 2023).

Expectation Disconfirmation Theory (EDT) provides a theoretical framework used in previous works to understand customer reactions to service failures; a recent study by Hien *et al.* (2024) used EDT in aviation. Accordingly, the discrepancy between customers' expectations and actual experiences after a service failure (disconfirmation) shapes customers' emotions and behaviours. As such, experiencing a service failure triggers complaints, negative word-of-mouth, intention to switch to another airline, and damaged loyalty. Although airlines should set customer satisfaction as their primary goal, not all airline experiences are satisfactory from the consumer's perspective.

Using EDT, a service failure severity can be conceptualised as the intensity of a customer (a tourist) perceiving a service problem. The higher the difference between expectation and experience, i.e. the more severe this intensity, the greater the customer's perceived loss (Weun *et al.*, 2004). Smith *et al.* (1999) found that failure severity significantly affects customers' perceptions of fairness and the effectiveness of recovery efforts. In aviation, serious service failures, such as flight cancellations or long delays, significantly impact future loyalty intentions (Nikbin & Hyun, 2015; Weun *et al.*, 2004). Additional service failures that affect passenger experiences in the aviation industry include flight delays, baggage delays, and poor-quality meals (Matikiti *et al.*, 2018). Gures *et al.* (2013) showed that the severity of these errors in passengers' reactions to service errors determines their complaint behaviours and how airlines respond to complaints increases their loyalty.

Hence, the paper at hand reports how the severity of service failures experienced during the most recent flight for tourism affects passengers' loyalty to the respective airline. More specifically, this study aims to analyse to what extent the specific severity level of an experienced failure influences the intention of passengers to choose the same airline in the future.

METHODOLOGY

Tourists living in London and its surroundings who had taken at least one flight for tourism in the last two months before the poll (September 2024) were invited to participate in an online survey. These respondents were recruited on Prolific, a crowdsourcing platform increasingly used in research (Palan & Schitter, 2018). At the beginning of the questionnaire, participants were asked to refer to the last flight if they took multiple or connecting flights during the examined time frame. Also, if they experienced various issues during this flight, respondents were required to refer to the most severe issues in the survey only. Participants were compensated for participating in the survey; the average participation time was less than three minutes, and the average remuneration was equivalent to £ 7.12 per hour. Out of the initial N=408 participants, only 63% (N=257) participated in the poll in full, successfully passed an attention test (Berinsky *et al.*, 2014), travelled for tourism, fit all other selection criteria, and were retained for analysis. Table 1 reports the main sampling statistics regarding the answers from these N=257 participants.

Females represent a slight majority of respondents (56%), and the average age is 35.72 (standard deviation 10.97), from a minimum of 18 to a maximum of 78 years old. Almost all respondents travelled in Economy class or with an airline offering a single class (90.3%); they are not members of the frequent flying programme of the airline of the analysed flight. The perceived severity of the experienced issue reported by respondents was, on average, equal to 2.8 on a 5-point scale, where 1 is the minimum and 5 is the maximum severity level.



Table 1. Sociodemographic characteristics

Gender	Male: 44%
	Female: 56%
Age	Average: 35.72
	Standard deviation: 10.97
	Min: 18; Max: 78
Class of travel	Economy class / The airline had a single class: 90.3%
	Premium economy class: 6.2%
	Business class: 2.7%
	First-class: 0.8%
Member of the Frequent Flying Programme (FFP) of the airline of the travel	Yes: 26.5%
	No: 73.5%
Experienced an issue with the flight	Yes: 23%
	No: 77%
The severity of the experienced issue	1- Not severe at all: 13.3%
	2- 23.3%
	3- 38.3%
	4- 21.7%
	5- Very severe: 3.4%

Source: Authors' research

We performed a linear regression (OLS) to estimate the impact of having experienced a service failure and its respective severity on the loyalty to the airline of the most recent flight. The question, "How likely would it be for you to fly with the airline of this flight in the future?" was used as the dependent variable in the model. This item was measured on a seven-point scale, from a minimum of not likely at all to a maximum of very likely. Then, we combined the questions on having experienced a service failure during the last flight and the question on the perceived severity of the experienced service failure. This new variable was dummy-coded, and the six obtained variables, i.e. Having experienced no failures and failure severity variables for each of the five levels were used as the independent variables of the regression model.

RESULTS

We used the answers to "having experienced no failures" as a reference category for this regression model. Like all dummy-coded regressions, the results reported in the table below (Table 2) must be compared to this reference category. For instance, for the highest level of experienced severity, i.e. severity level equal to 5, the unstandardised regression coefficient equals -3.374. Hence, travellers who experienced such a severe issue exhibited a three-point scale less loyalty than travellers who experienced no issues with the flight. We also added some controls, i.e. the class of the flight, membership in a frequent flying programme of the flight's airline, the number of flights taken over the past nine months, gender, and age. None of these variables exert statistically significant effects on the loyalty to the airline of the most recent flight. Adjusted R² was .136; the highest Variance Inflation Factor (VIF) was 1.145, excluding collinearity issues.



Table 2. Regression model

	Unstandardised coefficient	Std. Error	Lower 95%	Higher 95%
Intercept	5.806***	.259	5.297	6.316
Severity=1	-.028NS	.387	-.790	.733
Severity=2	-.367NS	.294	-.947	.213
Severity=3	-1.141***	.239	-1.611	-.670
Severity=4	-.612*	.307	-1.216	-.008
Severity=5	-3.374***	.786	-4.922	-1.826
Class of the flight	-.035NS	.144	-.319	.249
Member of the airline's FFP	.199NS	.160	-.117	.515
Number of flights taken since the beginning of the year	-.004NS	.018	-.039	.030
Gender	-.111NS	.135	-.377	.155
Age	.005NS	.006	-.007	.018

Source: Authors' research

Reference category: No issue during the flight

^{NS} p>.05 * p<.05 ** p<.01 *** p<.001

The above results (Table 2) display that not all failures experienced on a flight hamper the relationship between travellers and the respective airline. Tourists experiencing a non-severe issue exhibit equivalent loyalty to the airline to participants who did not experience any issue. These results extend the findings from Catenazzo and Paulssen (2023) to service failures, specifically to service failures in aviation. Not only for minor product defects with manufactured products but also non-severe service failures are irrelevant in the eyes of travellers for tourism. Loyalty to the airline decreases only if the severity of the experienced service failure is high. For severity levels 1 and 2, loyalty is equivalent to experiencing no service failures. It decreases with failure severity levels 3. The effects of severity levels 3 and 4 on loyalty to the airline do not differ significantly. The difference between these two unstandardised regression coefficients using Cumming's (2009) confidence intervals' overlapping criterion test is inconclusive (p>.05).

DISCUSSION AND CONCLUSION

The research at hand examines the effects of the severity of service failures encountered by travellers for tourism on their loyalty to the airline of their flight. The underlying goal of this study was to determine variations in travellers' loyalty following failures of different severity. Results show that not all problems experienced during the flight damage the relationship between tourists and the respective airline: The decrease in travellers' loyalty was observed only among travellers who experienced a severe failure. The perceptual threshold proposed by Zeithaml and Bitner (2003) and Weun *et al.* (2004) explains why customers consider low-severity service failures forgivable. This is because these errors are usually below the customers' tolerance range. When an error does not significantly disrupt their expectations or cause major dissatisfaction, it is perceived as less serious and more acceptable. Extending the findings of Catenazzo and Paulssen (2023) on product failures to service (airlines') failures, this study revealed that service failures perceived as minor do not significantly affect customer loyalty. However, it was determined that serious service failures perceived as severity levels 4 and 5 substantially reduce customer loyalty. Hess *et al.* (2003) and Tax *et al.* (1998) emphasise that critical severity thresholds change customer perceptions and damage clients' relationship with the airline of the most recent flight.



These findings provide a timely contribution to the literature by shedding light on the relationship between experienced service failures and travellers' loyalty to the respective airline. Yet, like all empirical-based studies, the present work suffers from several limitations. The selected sample only included individuals living in and around London, which hampers the generalizability of the findings. This creates an opportunity for future research examining how the perceived severity of service failures and customer loyalty may vary across different cultural contexts. Second, participants only reported the most serious failure on their last flight—simultaneous effects of multiple failures may have been overlooked. Furthermore, the data was collected via an online survey platform (Prolific), whose members are self-selected and not randomly drawn.

From a practical standpoint, this study suggests that airline operation managers should primarily identify and eliminate service failures travellers deem severe. To maintain customer loyalty, service quality management strategies should focus on reducing the impact of such critical issues. Furthermore, as evidenced in the literature (Johnston & Michel, 2008; Maxham & Netemeyer, 2002), airlines should enforce service recovery policies proactively, especially in the case of severe failures.

REFERENCES

- Atalik, Ö. (2007). Customer complaints about airline service: a preliminary study of Turkish frequent flyers. *Management Research News*, 30(6), 409-419. <https://doi.org/10.1108/01409170710751908>
- Berinsky, A. J., Margolis, M. F., & Sances, M. W. (2014). Separating the shirkers from the workers? Making sure respondents pay attention on self-administered surveys. *American Journal of Political Science*, 58(3), 739-753. <https://doi.org/10.1111/ajps.12081>
- Catenazzo, G., & Paulssen, M. (2020). Product defects are not created equal: prioritizing production process improvements. *Production Planning & Control*, 31(4), 338-353. 10.1080/09537287.2019.1638979
- Catenazzo, G. & Paulssen, M. (2023). Experiencing defects: the moderating role of severity and warranty coverage on quality perceptions, *International Journal of Quality & Reliability Management*, 40(9), 2205-2221. <https://doi.org/10.1108/IJQRM-10-2021-0352>.
- Charpentreau, C. (2024, July 8). US DOT reports record air travel complaints in 2023. *AeroTime*. <https://www.aerotime.aero/articles/us-dot-reports-record-air-travel-complaints-in-2023>
- Cumming, G. (2009), Inference by eye: Reading the overlap of independent confidence intervals. *Statistics in Medicine*, 28, 205-220.
- Dresner, M., & Xu, K. (1995). Customer Service, Customer Satisfaction, and Corporate Performance in the Service Sector. *Journal of Business Logistics*, 16(1).
- Elbaz, A. M., Soliman, M., Al-Alawi, A., Al-Romeedy, B. S., & Mekawy, M. (2022). Customer responses to airline companies' service failure and recovery strategies: the moderating role of service failure habit. *Tourism Review*, 78(1), 1-17. <https://doi.org/10.1108/TR-03-2022-0108>
- Gures, N., Arslan, S., & Bakar, Z. K. (2013). Customer complaint behaviors in Turkish airline industry. *Çukurova Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 17(2), 129-148.
- Hess Jr, R. L., Ganesan, S., & Klein, N. M. (2003). Service failure and recovery: The impact of relationship factors on customer satisfaction. *Journal of the academy of marketing science*, 31(2), 127-145. <https://doi.org/10.1016/j.jretai.2006.10.010>
- Hien, N. N., Long, N. T., Liem, V. T., & Luu, D. X. (2024). Customer Responses to Airline Service Failure: Perspectives from Expectation Disconfirmation Theory. *SAGE Open*, 14(2), 21582440241248334. <https://doi.org/10.1177/21582440241248334>
- Johnston, R., & Michel, S. (2008). Three outcomes of service recovery: Customer recovery, process recovery and employee recovery. *International Journal of Operations & Production Management*, 28(1), 79-99. <https://doi.org/10.1108/01443570810841112>
- Mainardes, E. W., de Melo, R. F. S., & Moreira, N. C. (2021). Effects of airport service quality on the corporate image of airports. *Research in Transportation Business & Management*, 41, 100668. <https://doi.org/10.1016/j.rtbm.2021.100668>
- Matikiti, R., Roberts-Lombard, M., & Mpinganjira, M. (2018). The influence of perceived justice on recovery satisfaction in the airline industry. *Journal of African Business*, 19(4), 512-530. <https://doi.org/10.1080/15228916.2018.1475784>



- Maxham III, J. G., & Netemeyer, R. G. (2002). A longitudinal study of complaining customers' evaluations of multiple service failures and recovery efforts. *Journal of marketing*, 66(4), 57-71. <https://doi.org/10.1509/jmkg.66.4.57.18512>
- Mehra, S. (2023, December 14). A new deep dive into passenger frustration with airlines. *TNMT*. <https://tnmt.com/passenger-frustration-with-airlines/>
- Nikbin, D., & Hyun, S. S. (2015). An empirical study of the role of failure severity in service recovery evaluation in the context of the airline industry. *Review of Managerial Science*, 9, 731-749. <https://doi.org/10.1007/s11846-014-0135-7>
- Oliver, R. L. (1999). Whence consumer loyalty? *Journal of Marketing*, 63(4_suppl1), 33-44. <https://doi.org/10.1177/00222429990634s10>
- Palan, S., & Schitter, C. (2018). Prolific. ac—A subject pool for online experiments. *Journal of behavioral and experimental finance*, 17, 22-27. <https://doi.org/10.1016/j.jbef.2017.12.004>
- Tax, S. S., Brown, S. W., & Chandrashekar, M. (1998). Customer evaluations of service complaint experiences: implications for relationship marketing. *Journal of Marketing*, 62(2), 60-76. <https://doi.org/10.1177/00222429980620020>
- Weun, S., Beatty, S. E., & Jones, M. A. (2004). The impact of service failure severity on service recovery evaluations and post-recovery relationships. *Journal of Services Marketing*, 18(2), 133-146. <https://doi.org/10.1108/08876040410528737>
- Zeithaml, V.A. and Bitner, M.J. (2003) *Services Marketing: Integrating Customer Focus across the Firm*. 3rd Edition, Irwin McGraw-Hill, New York.