Who Cares about Service Failures?: A Comparative Study of Asian and Western Travelers in Various Classes

Xun Xu (xun.xu@email.wsu.edu)
Dept. of Finance and Management Science, Washington State University, Pullman, WA, USA

Abstract
We study the impact of flight delays as service operations failures on airline travelers’ satisfaction. Empirical results demonstrate the negative impact of service failures is more significantly among Western travelers in economy class than all business class travelers. However, the failures don’t impact the satisfaction of Asian economy class travelers.

Keywords: Service operations, Customer satisfaction, Failure recovery, Airline industry

Introduction
Increased pressure on service providers to decrease fees and enhance efficiencies in multiple industries has led to increased competitions. Minimizing the impact of service operations failures and designing robust operations are among the most efficient ways to achieve company’s service operations goals (Craighead et al. 2004). However, customers are among the most complicated factors in service operations management since they often perceive service operations failures differently from the service provider (Anderson et al. 2009). The importance and perceived value of service operations varies across the world. Often times the differences come from cultural differences in terms of tendency to complain (or blame the service provider) for service operation failures and how delays effect their demeanor. Service providers’ ability to understand their customers’ views of service failure delays can be the antecedent for service providers to conduct the recovery process and providing more robust service operations.

This paper discusses service operations failure in the context of flight operations. We use the definition from Anderson et al. (2009), where service operations failure is measured by the
flight delays. Flight delays happen all over the world. For example, according to FLIGHTSTATS report in September 2013, North American airlines suffer a flight delay rate from 5% to 25% due to the bad weather condition and other reasons like mechanical problems. Anderson et al. (2009) find while flight delays due to weather condition may not influence traveler satisfaction, flight delays due to other reasons lower traveler satisfaction significantly. However, to this point it is unclear if the type of traveler impacts the satisfaction after non-weather related delays.

Understanding the different level of impact of flight delays on traveler satisfaction among different types of travelers motivates airlines to have a better efficiency of price discrimination and flight delay compensation, which benefits the company’s financial performance and customer relationship management. In our study, we partition the travelers according to their geographic category and the class of seats. Namely, four categories of travelers: Western traveler in economy class, Western traveler in business class, Asian traveler in economy class, and Asian traveler in business class. Our research questions are: (1) Is there any difference of the impact of service operations failures on travelers’ satisfaction among different categories of travelers? and (2) If yes, which type of travelers cares most of service operations failures?

There are significant contributions for our study. First, it is one of the few papers that discuss the relationship between service operations failures and customer satisfaction in the airline industry. Second, we compare the impact of service operations failures on traveler satisfaction among different categories of travelers. Third, we analyze cross-culture implications based on empirical results to provide a more thorough guideline for future academic research and practical actions in recovery process.

**Literature Review**

Service operations management has gained more attention in various highly-interactive industries and creates a significant opportunity for commoditization and therefore benefits company’s performance (Lewis and Brown 2012). However, with consumers’ higher demands and expectations on provider supply, customer related factors are among the most important and complicated factors in service operations management to analyze. Companies need to understand the influential factors of customers’ satisfaction since it would generate greater customer loyalty and increase company’s financial performance. Therefore, the impacts of consumer behavior and service operations should be integrated (Li and Kauffman 2012). Delays are among the most common forms of service operations failure. Service delays may lead to customer dissatisfaction, higher costs (Green et al. 2007), and are often associated with possible serious consequences such as damaging companies reputation. Therefore, understanding the negative impact of service delays on customer satisfaction is essential in service operations management and plays an
important role in service recovery process. There are few studies that discuss the relationship between flight delay and customer satisfaction. Among these studies, Anderson et al. (2009) find that the causes of the flight delay may have different impact on customer satisfaction. While weather condition has insignificant impact, other reasons may decrease customer satisfaction. Our study would extend their discussion by finding out the different impact of service operations failure on customer satisfaction among various categories of travelers.

3. Theoretical Foundations and Research Hypotheses

The Impact of Service Failure on Satisfaction of Asian and Western Travelers

Culture plays an important role in customer perceptions of service quality and reactions to service failures (Zhang et al. 2008). Collectivism and individualism are the most common studied constructs to compare culture (Ramesh and Gelfand 2010). Individuals in collectivistic culture consider themselves as being fundamentally connected with others. In contrast, individualists view themselves as independent elements to others and the individualistic culture emphasizes on the value of autonomy, competition, and independence. Generally, individualism is a characteristic shared more among western countries and collectivism is more common in Asian countries (Zhang et al. 2008). Collectivists are less likely to complain when facing service operations failure (Chan and Wan 2008). The main reason is because of their stronger belief in social harmony and this prevents them from confrontational responses like voicing out discontent publicly in service failures (Wan 2011). Therefore, we propose the following hypothesis:

H1: The impact of service operations failure on Western travelers’ satisfaction is more significant than that on Asian travelers’ satisfaction.

The Impact of Service Failure on Satisfaction of Travelers in Business and Economy Class

Travelers in business class are often charged more than travelers in economy class. The higher priced traveler in business class can be considered a signal of higher service level the airline would offer (Mitra and Fay 2010). Customers who paid more for the services have higher service expectations. The expectation-disconfirmation model conducted by Oliver (1980) describes the mechanism of individual cognitive process. A customer compares its expectation with the actual perceptions of the service performance and based on the fact that whether the performance meets or even exceeds the expectations (positive disconfirmation) or is lower than the expectations (negative disconfirmation), a customer is satisfied or dissatisfied. Negative disconfirmation of expectations plays a strong role in being the antecedent of customer dissatisfaction (Szymanski and Henard 2001). The relationship between disconfirmation of expectations and customer satisfaction is strong (Martinez-Tur et al. 2006). Since travelers in business class are charged
more and therefore they have higher service expectations compared with travelers in economy class. Given the fixed time performance of flight, travelers with business seats may suffer a higher probability of negative disconfirmation of expectations and therefore be more dissatisfied. Thus, we propose the following hypothesis:

H2: The impact of service operations failure on travelers in business class is more significant than that on travelers in economy class.

**Empirical Models and Results**

We collected data from SKYTRAX website, which is the largest third party website for airline reviews. Customers’ review and ratings towards their trip experience is posted on the corresponding airline’s bulletin board. Customer’s nationality and seat class are specified in each review. In our study, Western travelers are travelers whose nationality is from North America countries or European countries and Asian travelers are travelers whose nationality is from Asian countries. We randomly pick up 432 reviews from the four categories of customers (the sample size for each category of travelers is specified in Table 1). We then refer to their reviews and identify whether a flight delay is mentioned or not. Since Anderson et al. (2009) found that a delay from an external reason such as weather condition would not significantly negatively impact customer’s satisfaction, in this study, we only collect the data of flight delay by the internal reasons such as mechanical reasons or other reasons due to the airline companies’ operations. The data collection time is October 2013. Previous studies claim price, facility conditions, staff interactions, and food are among the most influential factors of traveler’s satisfaction (Anderson et al. 2009). Thus, we include all these variables as control variables. In addition, entertainment is another factor that is included as the control variable in our study. A flight delay is coded as “0” if it is not mentioned in traveler’s review and “1” if a non-weather delay is mentioned. According to the review system in SKYTRAX, the scale of traveler’s overall satisfaction is from 0 to 10; and the scales of control variables are from 0 to 5.

We set up the multiple regression model for each category of travelers. The model is specified as

\[ Y^i = \alpha^i + \beta_1^iD^i + \beta_2^iP^i + \beta_3^iF^i + \beta_4^iS^i + \beta_5^iC^i + \beta_6^iE^i, \]  

(1)

where \( D^i \) denotes the flight delay status travelers from category \( i \) met. \( P^i, F^i, S^i, C^i, \) and \( E^i \) denote the ratings of price, facility, staff, catering, and entertainment from the travelers of category \( i \). \( i = 1,2 \) represents Western travelers in economy class / in business class; and \( i = 3,4 \) represents Asian travelers in economy class / in business class. The results of multiple regressions are in Table 1. The model fit is good since adjusted r-square is larger than 0.75 and no VIF values exceed 10.0, which shows there is no multi-collinearity (Zhang et al., 2010).
Table 1 – Multiple Regressions of the Four Categories of Travelers

<table>
<thead>
<tr>
<th></th>
<th>Western Traveler in Economy Class</th>
<th>Western Traveler in Business Class</th>
<th>Asian Traveler in Economy Class</th>
<th>Asian Traveler in Business Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>-0.69</td>
<td>-1.25***</td>
<td>-1.69***</td>
<td>-1.13***</td>
</tr>
<tr>
<td></td>
<td>(0.50)</td>
<td>(0.53)</td>
<td>(0.46)</td>
<td>(0.50)</td>
</tr>
<tr>
<td>Delay</td>
<td>-1.84***</td>
<td>-0.97***</td>
<td>-0.32</td>
<td>-0.92***</td>
</tr>
<tr>
<td></td>
<td>(0.31)</td>
<td>(0.27)</td>
<td>(0.27)</td>
<td>(0.33)</td>
</tr>
<tr>
<td>Price</td>
<td>0.87***</td>
<td>0.71***</td>
<td>0.96***</td>
<td>0.92***</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.13)</td>
<td>(0.15)</td>
<td>(0.17)</td>
</tr>
<tr>
<td>Facility</td>
<td>0.45***</td>
<td>0.25*</td>
<td>0.51***</td>
<td>0.61***</td>
</tr>
<tr>
<td></td>
<td>(0.14)</td>
<td>(0.14)</td>
<td>(0.14)</td>
<td>(0.14)</td>
</tr>
<tr>
<td>Staff</td>
<td>0.65***</td>
<td>0.74***</td>
<td>0.55***</td>
<td>0.42***</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.15)</td>
<td>(0.16)</td>
</tr>
<tr>
<td>Catering</td>
<td>0.02</td>
<td>0.31**</td>
<td>0.21</td>
<td>0.19</td>
</tr>
<tr>
<td></td>
<td>(0.15)</td>
<td>(0.13)</td>
<td>(0.15)</td>
<td>(0.14)</td>
</tr>
<tr>
<td>Entertainment</td>
<td>0.09</td>
<td>0.20**</td>
<td>0.12</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>(0.10)</td>
<td>(0.09)</td>
<td>(0.09)</td>
<td>(0.10)</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.83</td>
<td>0.80</td>
<td>0.80</td>
<td>0.86</td>
</tr>
<tr>
<td>Maximum VIF#</td>
<td>3.47</td>
<td>2.52</td>
<td>2.64</td>
<td>2.77</td>
</tr>
<tr>
<td>Sample Size</td>
<td>135</td>
<td>120</td>
<td>62</td>
<td>115</td>
</tr>
</tbody>
</table>

(Values in Table 1 without parentheses show the corresponding coefficient of each variable and values with parentheses show the corresponding standard error.)

(***, **, * corresponds to p values significant at the < 0.01, 0.05, and 0.10 levels, respectively.)

( # Maximum VIF is obtained from the maximum value of the VIF for each independent variable.)

Next, we would like to conduct the pairwise comparison tests to find out whether the impact of flight delays on satisfaction for each two different categories of travelers are the same. Since the impact of flight delays on satisfaction for the Asian traveler with economy seat is not significant, we only conduct the pairwise comparisons for the other three groups of travelers. Using the method in Cohen’s (1983) study, we calculate the difference of the standard deviation of coefficient for delays in the model of each category of travelers and based on the difference of the standard deviations, the results of hypotheses tests are shown in Table 2 on the next page.

Discussions

The coefficients of flight delays are negative for all categories of travelers. This shows the negative impact of flight delays on traveler’s overall satisfaction. From the result in the last section, generally speaking, Western travelers care more about delays than Asian travelers although the impact of delays on traveler’s satisfaction is not significant between Asian business travelers and Western business travelers. Cultural norms and values influence service encounter evaluations, service quality expectations and evaluations of service recovery in a high level (Suh...
et al. 2013). National culture influences organizational culture, which impacts the individual’s actions and perceptions (Naor et al. 2010). Collectivism that emphasizes on harmony is more prominent in Asian countries and therefore Asian travelers would have less dissatisfaction facing the service operations failure. In contrast, Western travelers are more likely to express their feeling, either gratification or complaint (Suh et al. 2013). This supports our first hypothesis.

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>Difference of Standard Error</th>
<th>t Value</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Traveler in Economy Class</td>
<td>-1.84</td>
<td>0.31</td>
<td>Western Traveler in Business Class</td>
<td>-0.97</td>
<td>0.27</td>
<td>0.29</td>
<td>3.00</td>
</tr>
<tr>
<td>Western Traveler in Economy Class</td>
<td>-1.84</td>
<td>0.31</td>
<td>Asian Traveler in Business Class</td>
<td>-0.92</td>
<td>0.33</td>
<td>0.32</td>
<td>2.88</td>
</tr>
<tr>
<td>Western Traveler in Business Class</td>
<td>-0.97</td>
<td>0.27</td>
<td>Asian Traveler in Business Class</td>
<td>-0.92</td>
<td>0.33</td>
<td>0.30</td>
<td>0.17</td>
</tr>
</tbody>
</table>

However, our second hypothesis is only partially supported. Although the impact of service operations failure on travelers in business class is more significant than that on travelers with economy seats for Asian travelers, it is not the case for Western travelers. Part of the reason is that in Western countries, travelers in business class are often business travelers while travelers in economy class may have different travel purposes. The greater differences in identity and travel purposes for travelers in economy class cause the phenomenon of personal dissimilarities and travelers would attribute more blame to the service provider when meeting service failures (Wan et al. 2011). In Asian countries, due to the relatively low flight ticket price, business travelers are more likely to choose business class while the leisure travelers take the main proportion of the travelers with economy seats. Therefore, the phenomenon of personal dissimilarities is alleviated in Asian countries.

The pairwise comparison study generates interesting results. Both of the Western travelers in economy class and in business class strongly care flight delays and the negative impact of delays on satisfaction is more significant for the Western travelers in economy class. Travelers in business usually travel more often than travelers in economy class since a majority of them are business travelers. Therefore, their anxiety caused by the feeling of travel uncertainty is less and this leads to a more enjoyable service experience (Harris and Baron 2004). In contrast,
travelers in economy class would feel more anxiety due to the relatively crowded environment and this would more negatively affect their satisfaction when facing service operations failure (Johnson and Grier 2013). In addition, a large proportion of travelers in economy class are leisure travelers. Different from tourism industry in Asian countries like China in which hotel room and other related reservations are usually made without guaranteed fees and could be cancelled or changed with no penalty, leisure travelers in Western counties like United States often make online reservations and pay the third party website in advance for hotel rooms and other travel packages. The flight delays would affect their trips and potentially cause them to lose their reservations. Business travelers are usually sponsored by companies and thus the personal loss may be much less. Also, leisure travelers usually have higher involvement than business travelers and thus their service expectation is higher (Shao et al. 2004). It is no surprise when service operations failure happens, leisure travelers would be more dissatisfied.

However, Table 2 shows that although the Western and Asian travelers in business class strongly care about flight delays, the levels are not significantly different. Today, global business is under rapid development and many foreign companies open branches in Asian countries. Travelers in business class from Asian countries are often characterized by high income, high ability, high level of knowledge business employees and their ethics are influenced much by the influx of Western culture (Koehn 2013). Employees in global business, in which different culture meet with each other, now engage in commensurable practices and the culture differences are mitigated (Koehn 2013). Therefore, culture doesn’t play such an influential role among Western and Asian business travelers as among general travelers from Western and Asian countries.

Asian travelers in economy class are the only group that isn’t significantly affected by flight delays. Asian customers view the services in an extended time period and they consider that being hurry is an indication of impatience (Geertz 1967). Instead, Western customer’s time commitments are more important and must be kept (Reisinger and Turner 2002). Thus, the negative feeling of service operations failure is mitigated for Asian customers. The relatively low price paid for the economy seat indicates lower service expectation and thus delays are tolerable in a higher level for economy class travelers. In addition, as mentioned above, the penalty cost for leisure travelers and other self-sponsored travelers in economy class is less when facing flight delays in Asian countries due to the lower or free advanced booking fees. The lower service failure cost brings less blame from Asian leisure travelers, most of who are in the economy class. Therefore, there is least influence of flight delays on satisfaction for Asian traveler in economy class compared with other categories of travelers.

For the control variables, we find the staff performance significantly influences the overall satisfaction for all of the travelers. Interaction between the employees in hospitality industry and the customers are essential to raise customer satisfaction (Anderson et al. 2009).
This happens especially in the flights since communicating with airline staffs on flight would efficiently alleviate the customers’ feeling of uncertainties (Harris and Baron 2004). Price is another influential factor on traveler’s satisfaction. Generally, travelers would like to get higher level of services with the worthwhile amount of money paid. In addition, facility conditions like the seats also play an important role in customer’s overall satisfaction. This result matches the results from Anderson et al. (2009). Travelers except Western travelers in business class don’t care about catering and entertainment in flight. In general, flight trip is a short-time lasting experience and thus the food and entertainment like television may not be so appreciated by the travelers. This can interpret the phenomena that most of domestic flights in U.S. even don’t offer free catering services. Leisure travelers may even prefer to look at the views outside instead of watching small screen of television. However, for Western travelers in business class, due to their job requirements, these business people may travel a lot during the whole year and therefore food and entertainment may alleviate their boring feeling during the frequent flight trips. Therefore, they care more about the food and entertainment.

Conclusions and Extensions

Conclusions
Our study discusses the impact of service operations failures on customer satisfaction among different categories of customers. We collect data from flight travelers and find out the different level of dissatisfactions caused by flight delays among Western and Asian travelers in economy and business class. The empirical results demonstrate the significantly negative impact of service operations failures on customer satisfaction except for Asian travelers in economy class. In addition, Western travelers in economy class care most about the flight delays, compared with all business class travelers. Furthermore, airline employee performance, price, and facility condition significantly impact the overall satisfaction of all of the travelers while catering services and entertainment generally do not.

Managerial Implications and Extensions
Understanding the geography of travelers that care most of the service operations failure as flight delays would have tremendous impact for airline companies. First, price discrimination policy such as lowering down the flight ticket price could be applied to Western travelers in economy class to decrease their service expectation and therefore alleviate their blame for the service operation failure. In this way, the airline’s reputation would be strengthened and this can lead to better corporate performance. Second, service failure recoveries play an important role in the service process. Obtaining recovery satisfaction when dealing with service operations failure is
influential to keep the consumer’s loyalty. Therefore, by offering various types and levels of compensations to the specific category of travelers according to the different level of negative impact of flight delays on their satisfaction would make the service recovery process more efficient and save costs for airline companies through market segmentation strategy. Third, operations management could be applied in a higher level to the flight route that Western travelers (especially the leisure travelers) take. For example, United States airline companies that operating domestic vacation routes should take more actions on alleviating the probabilities of services operations failure. Thus, traveler satisfaction would be kept in a high level, which positively influences airline companies’ reputation and performance.

There are many extensions based on our study. First, more types of service operations failures could be explored and their influence could be discussed in the hospitality and tourism context. In addition, traveler’s identity could be categorized in other ways such as gender, age, education level and their perceptions towards service operations failures could be identified. Lastly, service operations failure risk management and the corresponding service recovery process could be discussed. This would provide a more thorough understanding of the benefits and costs of service operations management.

References


