# The Effects of Service Recovery Justice from Flight Delays on Value Perception and Satisfaction

Pape Alioune DIOP<sup>\*</sup> Allan Gueye Manė

School of Management, Wuhan University of Technology, Wuhan, Hubei, P. R. of China 430070

#### Abstract

As one of the most challenging disruption issues for Chinese airlines, flight delay and its influence on consumers' emotional and behavioral reactions are scrutinized in this current study. Service recovery justice, which is the keystone for alleviating the delay disruption, is selected as the main predictor of satisfaction. In fact, for marketers and consumer behaviorists, gaining new customers is likely more costly than retaining old customers. Thus, failures in the recovery service process cannot but generate more critical outcomes such as negative value perceptions and dissatisfaction. This is a window into the theory-based research that basically tackles the direct effects of perceived recovery justice on satisfaction. The purpose of the research is to explain these relationships and draw conclusions that might be useful for airline managers and customer behavior researchers. The study essentially emphasizes on Chinese passengers who have experienced delays in four domestic and international carriers that are Air China, China Eastern Airlines, China Western Airlines, and Shanghai Airlines. Thus, the investigation is conducted in an idiosyncratic way so as to better understand factors such as consumption emotions, negative value perception and satisfaction from the flight service delivery. A mixed-model research of data collection method was adopted and the data analysis was performed mainly with the use of structural equation modeling (SEM). The results show that most of the fit indexes are acceptable and all the hypotheses are supported in the structural model. Practical implications include a significant contribution of this research in demonstrating the relationship between the three dimensions of flight delays recovery justice that are interactional, procedural, distributive justice and other key constructs such as consumption emotions, negative perceived value, dissatisfaction, and eventually satisfaction. The research could be subject to different probability sampling techniques so as to be able to generalize the results and draw inferences from the model. Keywords: Service Recovery Justice, Flight Delay, Value Perception, Satisfaction, China.

#### 1. Introduction

In these recent decades, the organizations' capabilities to acquire and retain their customers have become determinant in winning comparative advantages over their rivals. With the recurrent emergence of new technologies and modern approaches, consumers are empowered with more choices and more opportunities to enjoy products and services that go beyond their needs, wants and expectations. A way to understand why companies always strive to surprise their customers with new experiences is by looking at how much problematic it has become for the customers to choose between two or several brands offering the same products or services. In other words, it has become less evident for a customer to buy a smartphone, a laptop, or branded equipments without comparing them with similar offers. The same rationale is observed in the service-marketing environment where there is a plethora of competitors whose customary goal is to provide value and satisfactory services in a sustainable fashion. As a result, drawing on a new consumer behavior and services marketing literature has become a must for researchers and practitioners in order to be a stickler for the most recent advances in this field.

In the context of civil aviation, it is more difficult even for the best airlines to provide zero-error flight services in order to maintain long-term customer relationships. The reasons for such permanent challenging situations is because mistakes and disruptions can occur at any time during the service delivery process. Actually, there is not a single airline company that can guaranty, at a hundred percent, a safe and satisfactory onboard as well as outboard travel experience to all of its passengers. Customers can easily switch service providers if the latter do not satisfy their demands. As a consequence, we witness a rampant deterioration of the customer relationship even in the air travel services where satisfaction is relatively high. Flight delays are somehow one of the major challenges for all airline companies whether they are local or international carriers. In emerging markets such as China, where there are more than 40 domestic and international passenger airlines, flight delays are still a recurrent impediment.

In the passenger perspective, flight delays have recently become the cause of numerous dramatic incidents in China involving infuriated passengers ranging from blocking moving aircraft to fistfights with the airport personnel. As a consequence to such disruption, domestic travelers have been switching to high-speed trains after experiencing or hearing the widespread delays, leading to severe overcrowding on main rail routes, especially in holidays and national celebrations such as the Chinese New Year, therefore, disturbing almost the whole transport system.

As a sum up of all these issues, we could state the problem-based research as a thorough analysis of the

challenges in service failure management (flight delays and failure in the service recovery) and the probabilities of negative perceived value and dissatisfaction as a customer's cognitive and emotional reaction to such failure depending on its magnitude and its negative effects on the relationships between passengers and flight service providers. We assess these insights by theorizing the direct and indirect effects of perceived service recovery on the risks of customer dissatisfaction. As a consequence, the study requires empirical analysis techniques that are susceptible of providing credibility to the main theory and bring contributions to the scarce related literature. This is the reason why we underpin the theory with a confirmatory factor analysis, which is the kernel of our analysis in this explanatory research.

The originality in conducting this current study lays on the fact that most of the literatures relative to flight delays in China put the stress on the enterprise perspective. In other words, most of the researchers and practitioners who have tackled the problems related to the recurrent delayed Chinese local and international carriers put the stress on simulation, modeling and optimization algorithm to solve or alleviate the delay disruptions (Yao Yun *et al.*, 2006; Li Shubo Hong & Guanxin Zhao Yifei, 2004; Luo Fan *et al.*, 2014). The related sources that focus on the customer perspective barely assess countermeasures to the level of negative reactions and disengagement risks generated by flight delays and irrelevant service recoveries (Wang Jun et al., 2014; LE Mei Long et al., 2012). We range the scope of this current research as a gap-reducing attempt by not only explaining the direct and secondary influences of flight delays on consumption emotions but also drawing proactive solutions to increase satisfaction through adequate service recovery actions.

We utilized a sample of 378 valid subjects that were scrutinized using SPSS 23 and AMOS 23. The analysis involved both measurement and structural models that were conducted with constructs indorsed through both self-administered items and previously validated items. The dependent variable namely satisfaction is scrutinized through the direct effects of service recovery justice and the indirect effects from two predictors that are consumption emotions and perceived value. The latter were first measured in the CFA to check the fit indices and implement significant modifications before running the actual SEM. There exist some alternative methods such as the American Customer Satisfaction Index (ACSI) or Parasuman et al.'s (1991) SERVQUAL, which is a widely used expectancy-disconfirmation paradigm consisting in measuring the extent to which consumers' preconsumption expectations of service quality match with the actual service delivery. Many other customer satisfaction measurements are available. However, we preferred to adopt our own satisfaction survey. The rationale for using our own questionnaire is that we wanted to stick exclusively to the context of service recovery with regard to flight delays. Therefore, it was necessary to form our own items and conduct construct reliability and validity tests in order to confirm the model's hypotheses and bring more originality to the study.

# 2. Literature Review

Academic and commercial airport managers usually make internal researches on the processes such as scheduling, check-ins, checkouts, complaints, etc. rather than focusing on customer perspectives that reflect more the quality of the services they provide (Yeh, C-H. and Kuo, Y-L. (2002). Starting with customer expectations about service quality, airport managers can gain a competitive advantage by what Dale Fodness and Brian Murray (2007) developed in a threefold dimensions as the service-scape construct, the service providers, and the services offered especially during the travelers' physical presence at the airport. Factually, the delivery of high quality services to travelers has become the core competitive advantage guaranteeing customer patronage and the airlines' profitability and sustainable growth (Archana & Subha, 2012).

# 2.1 The Positive Effects of Service Recovery Justice on Emotional Reactions and Satisfaction

As part of service quality performances, service recovery, sometimes referred to as perceived service recovery justice (SRJ) is a set of actions aiming at alleviating or transforming the negative impacts of a service failure into positive, satisfactory and long-term relationships with the customer. As a fact, customer service represents an important parameter in choosing an airline (Vasanthakumar N. Bhat, 1995). In the same vein, perceived justice is an important determinant of customers' cognitive and emotional responses, following service recovery management. Therefore, it is vital for firms to ensure successful recovery processes so as to maintain good relationships with customers (Gustafsson, 2009; Rio-Lanza et al., 2009) by generating satisfaction from the recovery service. By the means of cognitive appraisal theory, DeWitt et al. (2008) argue that individuals' justice perception of service recovery efforts affects emotional responses such as disappointment, happiness, and pleasure. While some companies do not find it necessary to implement a proactive SRJ process in the event of flight delays, others may fail to apply it effectively and efficiently. It is worth mentioning that service recovery is described as failure when it is not implemented as part of the service delivery process, when it is executed in a slow conduct or when it is performed incorrectly in accordance with the passengers' actual needs. Chebat and Slusarczyk (2005) suggest the same idea by concluding that negative emotions generated from a negative justice perception can cause more damages to the supplier-customer relationships by influencing loyalty. Given that, service recovery can be considered as social exchanges that can be realized, according to David Bamford and

Tatiana Xystouri (2005), only if the recovery incorporates both employees (internal) and customers (external) in the delivery of quality service. We strongly believe that implementing successful recovery justice actions can generate positive emotional and behavioral reactions. We hypothesize it as follows:

 $H_{1a}$ : Perceived justice in the service recovery process will have a positive influence on consumption emotions.

 $H_{lb}$ : Perceived justice in the service recovery process will have a positive influence on satisfaction.

# 2.2 The Effects of Consumption Emotions on Value Perception and Satisfaction

Airline companies regard flight delays as the most challenging service disruption management that may cause credit and economic losses (Olson and Wu, 2010; Niklaus et al. 2010). As a matter of fact, service failure is quite inevitable as it may occur occasionally in even the best customer service providers. In many cases, flight delays can weaken the customer relationships by causing negative emotions such as impatience, frustration, disappointment, and anger. It can generate more critical negative reactions such as negative perceived value and dissatisfaction, and in the worst case, customer churn (Mingang Gao et al., 2012). Emotions are regarded to be more spontaneous and less deliberate than attitudes (Richard L. Oliver, 2014). Most of studies on service recovery tend to focus on the effects of perceived justice on satisfaction, which then has consequences on consumer loyalty (Catherine Ngahu et al., 2016; Lin et al., 2011; Ha and Jang, 2009). However, few researches have tackled the downsides of a nonexistent or inefficient SRJ and its effects on perceived value and dissatisfaction. As stated by Beomjoon Choi, Beom-Jin Choi (2014), service recovery efforts should not be limited to just solve temporary emotions and dissatisfaction behaviors but it should aim to recover relationships with customers in the long run. Customers tend to patronize an organization because it satisfies their expectations, in the opposite case they simply get dissatisfied (Satish Mehra Sampath Ranganathan, 2008), which may result in negative value perceptions, negative word-of-mouth (WoM), or other forms of disengagement behaviors. The problem is whether those negative emotions are temporally and can fade away without generating 'active avoidance' (Sven Tuzovic, 2010), or whether they can affect the overall passenger value perception of the flight service. In addition, Richard L. Oliver (2014) highlighted that there might be disappointment at first hand and then dissatisfaction. This means that dissatisfaction is always preceded by negative emotions. Therefore, there exist a causal effect between the intensity of emotions and the outcomes from the customer's satisfaction level and their propensity to perceive lesser value in the relational exchange between service providers and consumers. This relationship is hypothesized as follows:

 $H_{2a}$ : Consumption emotions will have a negative influence on value perception.

 $H_{2b}$ : Consumption emotions will have a positive influence on satisfaction with service recovery.

# 2.3 The Direct Negative Effects of Value Perception on Satisfaction

Perceived value has been defined as the consumer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zeithaml, 1988). Perceived value is the customer's view about the service received, where all the perceived benefits and sacrifices are processed simultaneously in the customer's mind, which leads to an overall assessment" Martin et al. (2004). Their study associates consumers' emotional responses with a consumer value that delivers satisfaction and loyalty. The consumer value and emotional responses are subjective constructs that vary between consumers and between situations (Hyun, Kim, & Lee, 2011; Sánchez, Callarisa, Rodríguez, & Moliner, 2006). A buyer's satisfaction after a service delivery or a product purchase depends on the offer's performance with regard to the customer's expectations and interpretation of any deviation between the two (Michael Tsiros et al., 2004). In general, satisfaction is a person's feelings of pleasure or disappointment resulting from that comparison on whether the performance was poor or matching the expectations, or even exceeding them when the customer is highly satisfied or delighted (Richard L. Oliver, 2006; Susan Fournier and David Glenmick, 1999). Dissatisfaction, on the other hand, is defined as the negative satisfaction state when the consumer's level of fulfillment is unpleasant (Richard L. Oliver, 2014). Results from J. Joseph et al. (1997) suggest that, much like consumer satisfaction, service value may also be an integrating decision-making construct for consumers. However, J. Joseph Cronin et al., (1997) confirm that up to now an empirical investigation of the extent to which service value is related to consumer decision making and the form of the process by which consumers develop their perceptions of service value cannot be found in the literature. Therefore, the linkage between service quality, consumption value, customer satisfaction and customer loyalty need further examination. As various studies in the service marketing have argued, the more consumers perceived value from their consumption, the greater satisfaction they are probably experiencing (Hyun et al., 2011; S. S. Jang, Ha, & Park, 2012; Ryu et al., 2010; Tam, 2004). In other words, consumers who perceive value from their consumption are more satisfied than consumers who do not perceive value. Thus, we hypothesize that:

*H*<sub>3</sub>: *Value perception will have negative influences on satisfaction from service recovery.* 

# 3. Research Methodology

This current research has adopted an explanatory approach aiming to provide a clear-cut understanding of the causal relationship between variables such as service recovery and satisfaction. However, this research includes a portrayal of accurate profiles of the participants, their attitudinal and behavioral characteristics and situational endeavors towards flight delays. This means that the descriptive aspect of this research is just a threshold to the explanatory position we undertake. Usually, strategies associated with a descripto-explanatory research approach include case studies and experiment strategies. However, an experiment strategy, predictably, will not be feasible for many business and management research questions due to the ethical reasons akin to the experimental and control group (Kotler et al., 2009). Yin (2003) refers as explanatory studies the case studies that are designed to determine 'how' or 'why' events occur. It is on this basis that we make use of case studies (especially embedded multiple case study) as the main research strategy. The rationale for using embedded multiple cases deems to focus on the need to establish whether the findings of the first case occur in other cases. Data were collected from respondents of delayed flights from Chinese domestic and international flights. The airlines involved in the case studies include Air China, China Eastern Airlines, China Western Airlines, and Shanghai Airlines.

# **3.1 Research Data Collection Choices**

As the relevant research choice for this current study, mixed-methods of data collection techniques are applied. Also known as 'mixed-model research', the combination of qualitative and quantitative data collection techniques is generally used with associated analysis procedures (Tashakkori and Teddlie, 2003). Furthermore, the mixed-model research can facilitate the data analysis and interpretation by providing flexibility to the researcher in using different tools for research strategy and data collection method. This approach can guarantee an in-depth analysis of all the findings related to the customer's viewpoints and their reactions to flight delays. The quantitative data were collected using both questionnaires and structured observations and the data was analyzed with statistical procedures precisely known as structural equation modeling (SEM). The qualitative data retrieved from the targeted interviewees served as backup to the quantitative data analysis.

#### **3.1.1 Research Sampling Choices**

It is likely clear that the nature of the research determines who should be surveyed and which sampling methods are most prone to be utilized. Since the problem-based research is mainly concerned with the passenger's emotions and behavioral reactions to flight delays, the researchers accordingly tried to retrieve the maximum information from their perspectives. In this prospect, determining the accurate sample frame was quite improbable because the number of delayed flights can vary from one day to the other and the number of passengers can also vary from one airline to another. Therefore, selecting a non-random selection of Chinese travelers who have encountered a flight delay seemed the most relevant sampling choice for this study. The rationale for using a non-probability sample method, especially convenience sampling, is the fact that there is little variation in the population; the investigators actually do not have enough resources; a sampling frame for conducting probability sampling was quasi inexistent; and the purpose of this study is explanatory rather than just exploratory. Another incentive for using convenience sampling is that it enables us to choose a sample size that is dependent on the research questions and objectives, on what will have credibility, and what can be done with the available resources (Patton, 2002). Accordingly, the findings and implications apply to the sample collected but not effectively to the population.

# 3.1.2 Research Sampling Size

There are different techniques for determining which sample size should be adequate for a research. The one that was chosen is based on the total latent variables and number of observed variables, which is a suitable method for SEM research (Westland, J. C., 2010). The process consists in setting a relevant (a) anticipated effect size, (b) the desired statistical power level, along with the number of (c) latent and (d) observed variables, in (e) a probability level of .05. These parameters were used in a SEM sample size calculator (Soper D. S., 2017) and the software generated a minimum sample size for model structure of 116 with a recommended minimum sample size of 177. Actually, after checking all the assumptions and handled the biases and violations, the data at hand could produce a remaining valid cases of 378 for the whole analysis process.

# **3.2 Data Collection Methods**

For data collection methods, interviews, questionnaires and observations were used as primary data. And as for secondary data, a literature search and archival analysis were conducted. According to Churchill & Iacobucci (2005) the literature search consists in three main categories namely conceptual literature, trade literature, and published statistics. This study involves all three types of literature search since they generally cover significant management theories and concepts, enterprise case studies, articles in international journals, conference papers, and any other related source that may help contribute in answering the fundamental research questions and objectives. It is worth mentioning that the collected data were not treated separately in a dichotomous fashion such as quantitative data on one side and qualitative data on the other. On the contrary, both were used

simultaneously in the analysis process. The research involves three main collection methods for quantitative analysis; close-ended questionnaires, Internet mediated questionnaires through customized survey links, and mail questionnaires. The questionnaire was mostly a 5-point Likert scale type. Each question is equivalent to one item and for every latent variable there are at least three items determining the unobserved variable. The scale questions prevail the other types of questions namely descriptive and demographical questions because not only do they match with the processing and analysis of the data in AMOS, but they also enable us to design the right models in the overall structural equation modeling. The data were then computed in SPSS and AMOS for the design, analysis, and interpretation of the conceptual model.

# 4. Explanation of the Conceptual Model



Figure 1. Conceptual Model of the Research

We designed the conceptual model according to our own conception of the phenomenon with regard to the related literature. In their quest for investigating service recovery justice, Biyan Wen and Christina Gengqing (2014) claimed that among the three dimensions of service recovery, perceived justice (PJ) along with consumption emotions are important elements affecting customers' evaluation of the service. The difference between our research and theirs is that we put the stress on the determinants of satisfaction namely consumer emotions and value perception whereas their research include satisfaction outcomes such as customer trust and their repurchase intentions and word-of-mouth recommendations. This current study is very consistent with the theory developed in the work of Biyan Wen and Christina Geng-qing (2014). In addition, they share similar concepts such as service recovery justice, negative emotions, and satisfaction with service recovery. However, the conceptual model designed for this study includes a new variable that is value perception (NPV) which is believed to be pivotal in determining customer satisfaction. As a consequence, the two researches differ in their purposes of doing the investigation on customer satisfaction with service recovery.

Regarding the conceptual model's core constructs, we have a set of 7 latent variables among which three are first-order variables for Recovery Justice. These are the main independent variables predicting Satisfaction through two other factors that are Consumption Emotions and Negative Value Perception. Hence, the path diagram involves direct arrows representing the direct effects of Consumption Emotions on Satisfaction for instance. Mediators such as in the relationship  $CE \rightarrow NVP \rightarrow SSR$  represent the indirect effects.

# 5. Assessment of the Structural Model

It is worth mentioning that the whole process for running a correct Structural Equation Modeling has been conducted. All the assumptions regarding univariate and multivariate analyses were well conducted. The data screening process was successfully performed and actually there is not a single bias in the data we used to make the analysis of the structural model. There are neither missing values nor outliers. The assumptions of normality and multicollinearity have also been tested before engaging into the proper SEM. In the same vein, we conducted composite reliability tests for each construct as well as validity analyses. Convergent validity and discriminant validity issues were solved before running the CFA, which is a prerequisite for completing the SEM.



### Figure 2. Path diagram of the structural model

As demonstrated in Figure 2, the model successfully ran on AMOS 23. This graphical representation is the final structural model, which was realized after all the relevant modification indices were imputed in order to improve the fit characteristics. The figure shows the standardized regression weights for every latent variable along with their factor loadings. Nevertheless, it is worth mentioning that the modification indices did not affect the hypotheses of the conceptual model. Indeed, the parameters included in the final model are correlations between error variances of observed variables that are from the same latent variables. The rationale is that it eventually brings a clearer understanding of the relationships between some unobserved variables that share similar information that have not been taken into account by the hypothesized theory-based model.

Table 1. Summary of the fit indices of the structural models						
Fit statistics	Initial Model	Final Model	Significance Level			
$X^2$	704.411	427.673				
df	340	240	$\geq 10$			
X <sup>2</sup> /df	2.072	1.782	<30			
Goodness of Fit Index (GFI)	.878	.913	>.90			
Adjusted Goodness of Fit Index (GFI)	.855	.891	>.90			
Normed Fit Index (NFI)	.876	.912	>.90			
Relative Fit Index (RFI)	.862	.899	>.90			
Comparative Fit Index (CFI)	.931	.959	>.90			
Incremental Fit Index (IFI)	.932	.959	>.90			
Tucker Lewis Index (TLI)	.924	.953	>.90			
Root Mean Square Error of Approximation (RMSEA)	.053	.046	<.05			
Root Mean Residual (RMR)	.087	.079	$\pm 0$			
Standardized RMR (SRMR)	.064	.060	<.05			

As an evidence for supporting the model's accuracy, we scrutinize the model's estimates (see table 1). In fact, this is the most relevant method to confirm whether the structural model can be subject to generalization as an acceptable model that relates the hypotheses of the research. Minimum was achieved with a Chi-square of 427.673 with a minimum discrepancy of 1.782. As a rule of thumb,  $X^2$  to degrees of freedom ratios in the range of 2 to 1 or 3 to 1 are indicative of an acceptable fit between the hypothetical model and the sample data" (Carmines and McIver, 1981). The results of the fit indices show a Root Mean Square Error of Approximation equal to .046), which is a very good result since it is within the range of the typical acceptable level of model fit (RMSEA <.05). In the same perspective, GFI has scored 0.913. In addition, CFI (.959), IFI (.959), and TLI (.953) have all generated satisfactory fit indices. The only indices that still stem the model from being a perfect model are the AGFI (.891) and RFI (.899), which are slightly below the threshold of good fit index. As a conclusion, the hypothesized structural equation model is reasonable and acceptable and its fit indices are better-off with the relevant modifications indices we included in the initial model to boost their scores.

# 6. Research Findings

Hereafter, are tackled the hypotheses results of the direct effects of the independent variables on dependent

variables.

Table 2. Results of the model's regression weights							
			Estimate	S.E.	C.R.	Р	Result
CE	<	SRFD	.763	.147	5.199	***	Significant
NVP	<	CE	407	.096	-4.229	***	Significant
SSR	<	NVP	095	.035	-2.696	.007	Significant
SSR	<	SRFD	.771	.187	4.116	***	Significant
SSR	<	CE	.214	.098	2.187	.029	Significant

Firstly, let us discuss the research hypotheses summarized in Table 2. The latter describes path coefficients of the relationships between latent variables indicating how much effects every independent variable has on their respective endogenous dependent construct. The level of significance is determined by the *p*-value, which is significant at <0.001 for the effects of Service Recovery Justice for Flight Delay (SRFD) on Consumption Emotions (CE) and Satisfaction from Service Recovery (SSR); the effects of Consumption Emotions on Negative Value Perception (NVP); and eventually the effects of SRFD on Satisfaction with Service Recovery. The causal relationships between Consumption Emotions and Satisfaction are significant at p<0.05. This means that for this construct to have a probability of getting a critical ratio as large as 2.187 in absolute value is 0.214. Thus, the regression weight for CE in the prediction of SSR is significantly different from zero at the 0.05 level two-tailed.

The path coefficient of Service Recovery for Flight Delays to Consumer Emotions implies that for every one unit increase in SRFD, its effects would contribute 0.763 unit increase in CE. In other words, the effect of service recovery on consumption emotions is significant. Consequently, hypothesis 1  $(H_l)$  stipulating that Service Recovery for Flight Delay has strong and direct positive effects on Consumer Emotions is supported. The results of all the research hypotheses are summarized in Table 3 along with their beta values. Table 3: Results of Hypothesis Testing for the Respected Paths

Hypothesis Statement	Path Coefficients (β Values)	Results
$H_{1a}$ : Perceived justice in the service recovery process will have a positive influence on consumption emotions.	.556	Supported
$H_{1b}$ : Perceived justice in the service recovery process will have a positive influence on satisfaction.	.507	Supported
$H_{2a}$ : Consumption emotions will have a negative influence on value perception.	250	Supported
$H_{2b}$ : Consumption emotions will have a positive influence on satisfaction with service recovery.	.193	Supported
<b>H<sub>3</sub>:</b> Value perception will have negative influences on satisfaction from service recovery.	140	Supported

# 7. Conclusion

The SEM conducted to test the research hypotheses which were formulated as the main theories relative with customer satisfaction prediction by the means of service recovery for flight delay have revealed to be satisfactory. The full structural equation model was considered and the regression paths leading to the construct of satisfaction have been estimated. As a result, we can notice that Service Recovery for Flight Delay, including all the three recovery dimensions namely interactional, procedural, and distributive justice, is the main predictor of satisfaction through different paths. As a consequence, the research findings have revealed that the direct effects of Service Recovery for Flight Delay, Consumption Emotions, and Negative Value Perception on Satisfaction are all significant. Negative Value Perception is predicted by Consumption Emotions, which is, in return, influenced by SRFD (the main exogenous construct that represents service recovery from flight delay disruption management).

As limitations to the current study it is important to keep in mind that the entire research was performed by only the two authors in different cities in China to collect the whole data, which was not easy to complete in terms of availability of financial resources. On the other hand, there are many issues that remain unsolved or unexplored. For instance, we did not succeed in gathering data from the airline companies. As a consequence, there are some flows of information regarding the airlines' service recovery policies and disruption management schemes which would more significantly contribute to the research.

In a nutshell, this research can be considered to be beneficial for both researchers and practitioners. It developed a conceptual model explaining the antecedents of satisfaction with regard to service recovery for flight delays, consumption emotions, and value perception. The conceptual model is originally the authors' own

design even though it was made on the basis of the literature search. It reduces the gap in the body of knowledge because there are seemingly very few works that have tackled the relationships between these variables such as in this research. Eventually, this study has revealed to be of broad spectrum but is still insufficient to cover all the issues connected to the topic. This is enough a reason to leave the topic open to further research. There are some other factors such as Purpose of Travel (POT), Cultural Distance, and Consumer Trust that need to be included in the model so as to better explain the causal relationship between flight delays and negative outcomes such as dissatisfaction and churn.

# References

- 1. Archana & Subha M. V. (2012) A study on service quality and passenger satisfaction on Indian airlines. *International Journal of Multidisciplinary Research*, 2(2), 50-63.
- 2. Beomjoon Choi, Beom-Jin Choi & Rohini Ahluwalia, (2014). Determinants of brand switching: the role of consumer inferences, brand commitment, and perceived risk. *Journal of Applied Psychology*, 43, 981-991
- 3. Biyan Wen and Christina Geng-qing Chi, (2014). Examine the cognitive and affective antecedents to service recovery satisfaction. *International Journal of Contemporary Hospitality Management*, 25(3), 306-327.
- 4. Carmines, E.G. & McIver, J.P. (1981). *Analyzing models with unobserved variables*. In Bohrnstedt, G.W. & Borgatta, E.F. Social measurement: Current issues. Beverly Hills: Sage.
- 5. Catherine Ngahu, Francis Kibera, Peter Kobonyo (2016). Influence of interactional justice strategy on recovery satisfaction among customers of mobile money services in Kenya. *Journal of Marketing and Consumer Research*, 27, 55-61.
- 6. Chebat, J.C. and Slusarczyk, W., (2005). How emotions mediate the effects of perceived justice on loyalty in service recovery situations: an empirical study. *Journal of Business Research*, 58(5), 664-673.
- 7. Churchill & Iacobucci (2005). *Marketing Research: Methodological Foundations*. Cenguage Learning Inc. South-Western Cenguage Learning, 10, 1-538.
- 8. Dale Fodness and Brian Murray (2007) Passengers' expectations of airport service quality. *Journal of Services Marketing*, 21(7), 492-506.
- 9. David Bamford Tatiana Xystouri, (2005). A case study of service failure and recovery within an international airline. *Managing Service Quality: An International Journal*, 15(3): 306-322
- 10. DeWitt, T., Nguyen, D.T. and Marshall, R., (2008). Exploring customer loyalty following service recovery: the mediating effects of trust and emotions. *Journal of Service Research*, 10(3): 269-281.
- 11. Gustafsson, A., (2009). Customer satisfaction with service recovery. *Journal of Business Research*, 2009, 62(11): 1220-1222.
- 12. Ha, J. and Jang, S. (2009). Perceived justice in service recovery and behavioral intentions: the role of relationship quality. *International Journal of Hospitality Management*, 28(3), 319-327.
- J. Joseph Cronin, Michael K. Brady, Richard R. Brand, Roscoe Hightower Jr, Donald J. Shemwell, (1997), A cross-sectional test of the effect and conceptualization of service value, *Journal of Services Marketing*, 11(6) 375 – 391.
- 14. Kotler, P., Keller K. L. and Tai Hong Lu, (2009). *Marketing Management in China*. 1st ed., Pearson Education South Asia, 96-119.
- 15. Lawrence, S. et al. (2001). Persistence of Web References in Scientific Research. *Computer*. 34, 26-31. doi:10.1109/2.901164, http://dx.doi.org/10.1109/2.901164.
- 16. LE Mei-long, HONG Nai-jun (2012) Recovery of the abnormal flight by considering passengers' itinerary. Logistics Research Center, Shanghai Maritime University, Shanghai 201306, China.
- 17. Lin, H.-H., Wang, Y.-S. & Chang, L.-K. (2011). Consumer responses to online retailer's service recovery after a service failure: a perspective of justice theory. *Managing Service Quarterly*, 21(5), 511-534.
- 18. Luo F., Liu z. p. and Yang Z, (2014) Pre-warning Decision-making Model of Air Traffic Control Safety Risk based on System, System Engineering, 32(1), 139-144.
- 19. Mingang Gao, Xueyan Shao, Mingliang Qi, (2012) A risk analysis model of flight operations based on region partition. Kybernetes, 41(10): 1497-1508.
- 20. Parasuraman, A., Berry, L.L. and Zeithaml, V.A. (1991) Refinement and Reassessment of the SERVQUAL scale, *Journal of Retailing*, 67(4), 57-67.
- 21. Rio-Lanza, A.B., Vazquez-Casielles, R. and Diaz-Martin, (2009) A.M. Satisfaction with service recovery: perceived justice and emotional responses. *Journal of Business Research*, 62(8), 775-781.
- 22. Satish Mehra & Sampath Ranganathan, (2008) Implementing total quality management with a focus on enhancing customer satisfaction. *International Journal of Quality & Reliability Management*, 25(9): 913-927.
- 23. Susan Fournier & David Glenmick, (1999) Rediscovering Satisfaction. Journal of Marketing, 5-23.
- 24. Sven Tuzovic (2010). Frequent (flier) frustration and the dark side of word-of-web: exploring online

dysfunctional behavior in online feedback forums. Journal of Services Marketing, 24(6), 446-457.

- 25. Tashakkori, A. and Teddlie, C. (2003). Handbook of Mixed Methods in Social and Behavioral Research. Thousand Oaks, CA: Sage.
- 26. Vasanthakumar N. Bhat, (1995) A multivariate analysis of airline flight delays. International Journal of Quality & Reliability Management, 12(2), 54-59.
- 27. Wang Jun CHEN Long (2014). The consumers' loss and remedial measures of the flight delay. Journal of Xi'an University of Finance and Economics.
- 28. Westland, J.C., (2010) Lower bounds on sample size in structural equation modeling [J]. *Electronic* Commerce Research and Applications, 9(6), 476-487.
- 29. Yao Yun, Zhu Jin-fu, Bai Ming-guo (2006), Extension early warning model for irregular flight management. *Operations Research and Management Science*. Civil Aviation Soft-science Research Institute, Nanjing University of Aeronautics, 210016, China; 2006-01.
- 30. Yeh, C-H. & Kuo, Y-L. (2002) Evaluating passenger services of Asia-Pacific international airports. *Transportation Research Part E*, 2002, 39-48.