THE IMPACT OF DELAYS ON CUSTOMERS' SATISFACTION: AN EMPIRICAL ANALYSIS OF THE BRITISH AIRWAYS ON-TIME PERFORMANCE AT HEATROW AIRPORT

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Abstract (200W)

Increased congestion at hub airports affects on-time airline performance to the detriment of customer satisfaction and may have substantially negative repercussions for airlines in a hypercompetitive environment. This paper concentrates on the on-time performance of British Airways (BA) at London Heathrow Airport (LHR) to identify BA's delays/disruption management; measure the passengers' expectations in case of a delay; and investigate the passenger satisfaction levels. A survey of 160 BA passengers based on a close-ended questionnaire was conducted, complemented by semi-structured interviews with four members of staff at BA's network operations department. The survey results show that BA has been able to satisfy its customers by matching or exceeding their expectations and that customers will travel with BA again. Interestingly, the results contradict the widespread belief that BA passengers are not annoyed by a service failure/delay at LHR, because they expect to experience such a delay anyway. On these grounds, the findings of this paper can be of strategic interest not only to academic scholars but also to airline and airport managers.

Key words: delay, on-time performance, customer satisfaction, airline, hub airport

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1. Introduction

Hub and spoke is the dominant method of transporting goods and passengers used by most Full Service Network Carriers (FSNCs) due to the efficiency of the model. Thus, concentrating their operations at few large hubs and exploitation of transfer traffic through coordinated banks of arrivals and departures enable airlines to reduce their costs, taking advantage of economies of density and offer higher frequency (Fageda and Flores-Fillol, 2016). Another method of transport for airlines, primarily used by Low Cost Carriers and offering a credible substitute to those passengers willing to avoid hub airports, is the point-to-point concept (Papatheodorou 2002). Traffic concentration at few hub airports on the other hand is increasingly recognised as the leading cause of congestion and delays and the complexity of airlines and airports operations owing mainly to connecting passengers (Baumgarten et al., 2014). Another factor contributing to congestion and delays includes infrastructure constraints such as lack of airport slots. British Airways' main hub of operation, namely London Heathrow Airport (LHR) is the UK's largest hub, handling 75.7 million passengers in 2016 with London Gatwick, the second largest airport handling 43.1 million passengers during the same period. For the summer 2013 schedule British Airways (BA) had 50.6% of all slots available at Heathrow Airport (CAPA, 2013).

Recent developments in airports have led to an increased interest in the cost of congestion and delays. Congestion affects on-time performance for airlines with the latter being closely monitored by airports, regulatory boards and prospective passengers. A congestion charge was under consideration by the UK government in 2013 and in 2017 to reduce congestion at Heathrow to encourage passengers to fly from other London airports like Luton and Stansted[2]. Such an action though would be a short-term solution to the capacity problem to

[2] See 'Passengers at Heathrow and Gatwick could face congestion charge to encourage use of quieter airports' – The Daily Mail Reporter, 2013, Jan 12 and 'Heathrow congestion charge Travellers overwhelmingly oppose toll, latest survey reveals' – Independent, 2017, Jul 17.

London multi-airport area. Wu (2010) suggests that major or minor delays are inevitable and airlines should invest into delay management, creating policies that will help minimise the impact of delays to customers and retaining as much profit as possible. Delays have also been shown to affect airlines' revenues and costs through increase fuel, staffing, maintenance and potential rebooking costs (Peterson et al, 2013).

With respect to passengers, a delay can be classed as either a *"Hard"* or *"Soft"* cost to the airline with a hard cost referring to rebooking, compensation and care for passengers; soft costs, while harder to identify, could be a loss of a disgruntled passenger travelling with the airline again in the future or the rebooking of a passenger onto a competitor's on-time flight (EUROCONTROL, 2011; Cook et al, 2009, 2012). In fact, passengers experiencing a delay and especially a service failure have usually an immediate emotional reaction. Negative emotions usually prevail. Displeasure, uncertainty, disappointment are some of the emotions the passengers experience that become stronger as the time passes and especially when there is lack of information about the reasons or the duration of the delay. The experience of emotions differs from person to person but is also context dependent.

Recent evidence suggests that there is positive correlation between the length of the delay and the cost of the delay (Kohl et al, 2007). Thus, costs of delays for airlines are examined on '*short'* (15mins) and '*long'* (65mins) time basis scenarios with different cost implications (EUROCONTROL, 2004). Jovanović et al. (2009) based on a 2004 EUROCONTROL report argued that the findings did not reflect the Flight Delay and Compensation Regulation (EC) No 261/2004 that outlines common rules for airlines on compensation and assistance to passengers in the event of denied boarding, long delay to flights and ultimately cancellation. The 261/2004 Regulation applies to the departure delay and not the late arrival or missed connection.

Most studies in the field of delay and congestions have focused primarily on slot regulation and cost of delays (Daniel, 1995; Brueckner, 2002; Mayer and Sinai, 2003; Rupp, 2009; Santos and Robin, 2010; Ater, 2012) with little discussion about delay management. This indicates a need to develop an understanding of delay management and passenger expectations in case of a delay. The aim of this research is to assess delay management process of British Airways at London Heathrow Airport and the impact this may have on customer expectations and level of satisfaction from the airline. Any delay at Heathrow causes further interruptions in the entire European network since LHR is a major hub for connecting flights. Therefore, this paper makes a significant contribution to research on delays by identifying the expectations of the passengers in case of a delay as well as the expectation gaps resulting from a communication problem between the passenger and the airline.

This paper has been divided into four parts. Following the introduction, Section 2 gives an overview of the literature on delay, disruption management and passenger satisfaction. Section 3 is concerned with the methodology used in the study and section 4 presents the findings of the research, focusing of customers' experience and satisfaction and interview results. Finally, the conclusion (section 5) provides a brief summary, including limitations and areas for further research.

2. Literature review

2.1 Delays and disruption management

Wensveen (2015) defines a delay as a "*lack of timely movement that results in monetary loss to the shipper*". Delays may be at en-route or in terminal control area (TMA) level. Delays may occur due to bad weather conditions, technical problems, pilot and cabin crew

limitations, passenger handling issues, air traffic control restrictions and airport congestion (Graham, 2014; Bruce, 2011). They are categorised in codes ranging from air traffic management systems to reactionary[3] codes according to IATA's Airport Handling Manual. Airport issues accounted for 37.4% of all Air Traffic Flow Management (ATFM) delays in July 2015, mainly due to airport capacity problems (26%) and some weather constraints (6.7%) (Network Manager, 2015). Delays in the airport airside area can be mitigated by optimisation of demand management, improvement of existing runway capacity, usage optimisation and physical expansion of airside runway infrastructure.

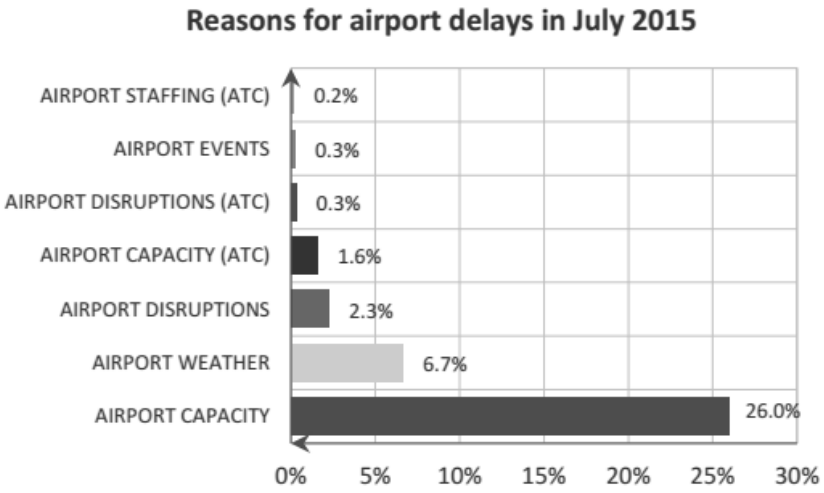

Figure 1: AIRPORT/TMA ATFM DELAY PER DELAY GROUP (Network Manager Monthly Report, July 2015)

Service quality is very important for the profitability of an airline and since punctuality is generally considered to be the industry standard indicator for air transport service quality, it is critical for an airline too. When a flight has a delay in the departure, it does not necessarily mean that it will arrive late. For instance, a flight from Milan Malpensa airport scheduled to depart at 06:30 and arrive at 08:00 in Brussels International airport that has a delay of 20 minutes in the departure might still arrive at 08:00 at Brussels.

Punctuality was a challenge for the US and Europe between 2005 and 2009 when around 82% of arrivals delayed by 15 minutes or less in 2009 (EUROCONTROL and FAA, 2016).

[3] Reactionary delays are delays that are caused by the late arrival of aircraft, crew, passengers or loads from a previous journey.

Airlines and regulatory authorities took measures to prevent costly delays and increase punctuality and the on-time performance of the flights. Nevertheless, much work needs to be done in that respect. When airlines are faced with delays, the Airline Operations Control (AOC) department or Operational Control Centre (OCC) tries to minimise the impact to the schedule following the airline recovery policy. The OCC consists of airline operations controllers, aircraft controllers, crew controllers, customer service representatives, maintenance controllers and flight dispatchers (Vaaben & Larsen, 2015). Dealing with the Integrated Recovery Problem of Aircraft and Passengers (IRPAP) attempts to minimise the costs associated with flight delays and cancellations as well as the additional cost of crew following a schedule disruption (Hu et al., 2016).

The airlines go through three stages to minimise and/or avoid delays, namely a) aircraft recovery; b) crew recovery; and c) passenger recovery (Rosenberger et al., 2003). Aircraft recovery refers to the rerouting of an aircraft to ensure it is at the point of departure for the particular flight. For instance, if a flight is delayed in Aberdeen after arriving from London Gatwick, the particular aircraft may be needed for a flight to Hamburg later in the day followed by Glasgow. However, the AOC may place the importance on the domestic passengers. Therefore, it may cancel the Hamburg flight to operate the Glasgow flight on time with set aircraft. The second stage is crew recovery. This means that the AOC may re roster flight crew onto flights from the cancelled flights onto alternative services and then may use reserve flight crew to operate flights later in the day. The final stage is passenger recovery and looking at the best way to carry the passengers onto their final destination - this may mean combining services depending on resources or making alternative arrangements.

In addition to IRPAP, buffering is another procedure that can be used to help minimise the impact delays have on aviation operations. EUROCONTROL (2004) highlighted that

buffering can be used by AOC to help in *"padding the schedule".* The AOC may look at flight historical data to identify any patterns in delays. Operators, for instance, may notice that a specific outbound sector may be constantly delayed, therefore the return sector could be set at a later time to accommodate for any historical delay rather than altering the arrival time of the outbound sector as this could be an undetermined delay and as such the extension may not be sufficient, resulting in a delay being logged against the airline. However, Wu and Caves (2002) argue that this can be hard to identify when looking at schedules since this is done in the planning and development process of the flight schedules and looks at routes on a case by case basis. Furthermore, this is also tied to other scheduling decisions such as the possibility of waiting for inbound transferring passengers. The buffers can also decrease the utilisation of aircraft and change the unit costs for each buffer allocated into the schedule that can be overlooked when measuring the true costs of delays. According to Cook et al. (2010) the higher level of buffer in an airline's schedule, the more punctual its operations and the lower the soft costs are likely to be. On the other hand, if too much buffer is added to any given turnaround, the consequence will be fewer flights per day resulting into an income decrease.

The Air Traffic Flow and Capacity Management (ATFCM) in the US is managed by the Air Traffic Control Systems Command Centre (ATCSCC) and the US National Airspace System (NAS). The ATFCM in European Civil Aviation Conference (ECAC) is controlled by the Network Manager of EUROCONTROL. The Central Office for Delay Analysis (CODA) of EUROCONTROL provides timely, consistent and comprehensive information on the air traffic delay situation in Europe. Collaborative Decision Making (CDM) can help the airspace users decide trajectories and departure times to achieve a better business outcome (Cook and Tanner, 2012). Kohl et al (2007: 152) state that '*Successful operation of an airline*

depends on coordinated actions of all supporting functions. However, each department works under its own directive, with its own budget and measures'.

2.2 Passenger satisfaction in service failure

As reported by Laming and Mason (2014), customer experience is based on the notion of a customer journey and that satisfaction is based on a series of stages of interaction that a customer has with a company. This is a concept adopted by British Airways (2015a) that created customer standards that reflect the customer's journey from making the booking, whilst at the airport and on-board the aircraft. It is a guide used to train BA staff on the customers' expectations throughout their journey aiming at creating a consistent level of service. British Airways overall passenger satisfaction score in 2005-2006 was 67%, 4 points below the target, whereas the likelihood to recommend BA was also 4 points below the target and was 61% (BA, 2006). For 2009/10 BA scored 65% for customer recommendation, lower than their target due to on-board catering changes, and significant operational disruption (BA 2010). According to BA (2005), the key issue for customers is making sure flights depart on time, especially at Heathrow. The overall customer satisfaction with flight departure was 43% in February 2006 (BA, 2006), i.e. the airline was facing serious customer issues ten years ago.

Airlines need to look at the concept of service quality to monitor customer satisfaction. Delivering quality service is considered an essential strategy for success in today's competitive environment for business according to Zeithaml et al. (1996). It can, however, prove challenging. Kloppenborg and Gourdin (1992) argue that air travel is as an intangible service. Ford et al (2012) add that this is because guests' expectations are variable, and therefore state that the only person who can define service quality and value is the guest themselves. It has been proposed by Zeithaml et al (1993) that customers have three levels of

expected service; desired, adequate and predicted. Desired level refers to a service which is influenced by personal needs that build up through advertising, word of mouth or previous experiences. The adequate level refers to the minimum that a customer expects from a company and will accept with negative service encounters and would not have a negative repercussion for the brand. The predicted level is what the customer actually anticipates from the company and Zeithaml et al (1993) argue that this is what directly affects the customer experience.

Service failure is defined by Jones and Robertson (2012) as a service or product that cannot reach expected level because of mistakes occurring in the service delivery process. If service failure is not managed effectively then this can lead to customer dissatisfaction which may in turn result to customer complaints. Dissatisfied customers are unlikely to stay loyal to a company and are prone to spread negative comments about their experience. As a result, Prideaux et al (2006) introduced the concept that many businesses within the tourism and hospitality industry now empower their staff to deal with service recovery and to resolve customer issues quickly to turn around customer satisfaction levels when things go wrong. Service recovery can be defined by Hart et al (1990) as the action taken by a company to retain customer loyalty by a timely and appropriate response to a customer's complaints. They also outline three stages of service recovery, i.e. apology, compensation and the speed of the recovery.

2.3 British Airways at London Heathrow Airport

In 2013, 56.5% of ATFM delays in Europe (flights to/ from the main 34 airports in the Continent) took place at the airports, whereas in the USA the percentage reached exceeded 86% (EUROCONTROL and FAA, 2014). This does not mean that the USA has more delays than Europe. In 2010 24% of all flights in Europe and 18% of all flights in the US were

delayed more than 15 min (EUROCONTROL and FAA, 2012). The fragmentation of the European ATM is the main reason of the higher en-route delays in Europe and specifically the airspace availability (due to reserved/special use airspace) that makes it less flexible to manage traffic flows in the en-route airspace. Airport delays are still a serious problem for the airlines, the Air Navigation Service Providers (ANSPs) and especially the passengers.

An airport's dominant airline usually has stronger incentives to address congestion problems than smaller carriers and would therefore naturally internalize the costs associated with its self-imposed flight delays (Daniel, 1995; Brueckner, 2002). This argument focuses on the role of peak/off-peak allocation of flights and passengers at an airport to inspect the incentives to manage congestion and avoid flight delays by dominant carriers, such as BA (Mayer and Sinai, 2003; Ater, 2012). The internalization of costs of delays is determined by the strategic incentives of carriers when balancing the benefits from connections and passenger preferred times with the congestion costs, with evidence that strategic entry deterrence prevails at hubs (Bendinelli, et al., 2016).

The average delay per flight on arrival from all causes decreased to 9 minutes per flight in 2013. The average delay per delayed flight was 28.3 minutes. The percentage of delayed flights decreased by 0.8 percentage points to 33.7% in comparison to 2012 according to Central Office for Delay Analysis (CODA) of EUROCONTROL (2014). London Heathrow Airport as a departure airport had a 14.6 minute average delay per departure in 2013. The Average Delay per Delayed Departure was 26.5 minutes and the Percentage Delayed Departures was 49.5% in 2013. London Heathrow airport ranked the highest affected airport on arrivals with an average delay per flight delay of 14.1 minutes, with weather and reactionary delays affecting flights (EUROCONTROL, 2014).

Heathrow airport's annual ATMs are capped to 480,000 movements/ year with a global hourly capacity of 88 movements/hour. In terms of weather, the airport experiences 20 days/year low visibility for a few hours in the early mornings and typically around 60 days/year are impacted by strong winds to some extent (EUROCONTROL, 2017). Capacity at Heathrow can be reduced in strong headwind conditions but Time Based Separation (TBS) is now implemented which has reduced the impact of certain wind conditions (EUROCONTROL, 2017). Passengers at London Heathrow are classified as 30% business and 70% leisure. 35% are transfer passengers (EUROCONTROL, 2017). On-time performance for business passengers and transfer passengers is of critical importance.

Each European airline has its own policy and procedure for dealing with customers experiencing a delay, which depends on the company size and the length of the delay. Nevertheless, each airline should have a section on its website which highlights the procedures in case of a delay. British Airways (2015) outlines three key information areas for its customers: a) rebooking travel arrangements; b) seating changes; and c) refunds and how to make a claim for disruption expenses.

BA highlights in the conditions of carriage that all reasonable measures for customers will be taken to ensure they prevent delaying customers longer than necessary. This may include arranging a flight operated on a different aircraft type other than outlined on ticket or arrange carriage by another airline. If, however, there is a delay in excess of five hours or the flight is cancelled, then British Airways will allow customers to exchange the ticket to travel on another BA service; carry passengers on the service outlined on the ticket at a later date based on validity of the ticket; alternatively, the customers will be entitled to a full refund as well as other compensation as outlined in the flight delay and compensation Regulation 251/2004.

However, depending on the severity of the situation, customers may be unaware of the reason for delays unless otherwise published prior to travel such as ATC strikes in France. Likewise, customers may not even be aware they are delayed until either on-board or shortly before the boarding process. This is supported by evidence conducted by ORC International (2015), which surveyed passengers travelling from UK airports and found that when passengers whose flights were delayed, over 80% were informed at either the boarding gate or the aircraft.

3. Methodology

The purpose of this research is to evaluate the reasons for delays as well as identify which delay is deemed acceptable and the possible impacts on British Airways customers' loyalty. Therefore, explanatory research was used. For this study, a mixed method approach was adopted where both qualitative and quantitative data were collected. To identify the BA's point of view about delays, interviews with four senior experts from the network operations department of British Airways were conducted. Interviews are frequently used in qualitative research as they can draw on an individual's experience of events, processes and systems (Cohen et al., 2007). In fact, a visit at the networks operations department of British Airways Headquarters was conducted in February 2016. The questions were open-ended so that it would give the interviewee the freedom to input their own experiences and examples to support the information given. The semi-structured interviews, investigated the reasons of British Airways' delays as well as the measures taken by the airline. In addition, the interviewees were asked why BA in the case of disruptions cancels its short haul flights first and usually proactively cancels domestic flights. Notification of customers and recovery services were also areas investigated through the interviews. Finally, the interviewees were asked about the BA's cost per each minute of delay.

The passengers' opinion about delays was researched quantitatively using a questionnaire distributed online via a frequent flyer website, Business Traveller and also via social media. According to Cohen et al. (2007) the advantages of conducting a questionnaire is they allow collection of large unbiased information from a sample size of a whole population allowing the researcher to undertake solid hypothesis testing.

After the pilot survey, the revised questionnaire consists of two sets of questions. The first set examined the demographics of the passengers, their satisfaction level in terms of staff, flight schedules, safely levels of BA, value-for-money and actual arrival and departure time. The second set of questions related to any delay they experienced when travelling with BA to and from LHR. Passengers were asked about the minutes of delay departing and arriving at LHR. They were also asked if they expected a delay and about its duration. Emphasis was given to their expectations from BA about the time scale of being informed about the delay they experienced and about their expectations regarding a recovery service. Moreover, the participants were asked if they would travel with BA again and if they would recommend BA to others. The replies were either based on multiple-choice and in many cases a Likert scale was used ranging from 1-5, where 5 represented the maximum points given to the statement in question.

SERVQUAL model contributes to the identification of the gap between the expectations and the quality of service. According to Parasuraman et al (1988) there are five dimensions of service quality which include tangibles, reliability, responsiveness, assurance and empathy. Hence, the last question was based on SERVQUAL model and the participants were asked to rate with a Likert scale the above dimensions plus the image of BA. SERVQUAL model has been used in the airline industry by several researchers. Ostrowski et al (1993) researched airline punctuality/timeliness and found that in the case of airlines with similar fares and

matching levels of FFPs, the airline with the higher perceived service quality attracts more passengers. Clemes et al (2008) used SERVQUAL model to evaluate the dimensions of perceived service quality. Timeliness was ranked as the least important dimension among timeliness, assurance, convenience, helpfulness, comfort, meals, and safety and security. In this case, all the dimensions set by Clemes et al (2008) are granted for the BA's passengers.

In 2016, more than 42.1 million passengers were uplifted by British Airways Plc in the United Kingdom (Statista, 2017). The research's target population were passengers who had travelled with BA from LHR and experienced a delay any time in the past. Purposive sampling was used from 01 February 2016 to 20 March 2016. A total of 160 participants took part in the questionnaire. The sample is relatively small to make generalisations. Nevertheless, it is an indicator of a possible overall perception of BA's performance at LHR. Another key link that the researchers explored, was between frequent flyers and passengers' intentions to travel with BA again in future, and as such passengers who are also members of the airline's Executive Club (FFP) were targeted. It should be highlighted that passengers were not approached at the time they were experiencing a delay, because their answers would be primarily based on the emotional tension they would encounter at that time.

The data gathered from the questionnaires were summarised and analysed using Statistical Package for Social Sciences (SPSS). Cross-tabulations were used to find the distributions of the categorical variables simultaneously and therefore provide more information about the participants and their replies. For hypothesis testing, the Pearson Chi-Square test was performed with 95% confidence level. Calculating the Chi-Square statistic and comparing it against a critical value from the Chi-Square distribution allows to evaluate whether there is a relationship between the variables. Despite the small sample, Exploratory Factor Analysis (EFA) was conducted to identify the dimensional structure of the customer expectations.

Varimax rotation was used, but the correlation matrix determinant was 0, so EFA results did not offer any value to the discussion.

4. Empirical results

With regards to the demographic information of the participants, from the 160 participants 97 were men and 63 women. Around 44% were between 18 to 34 years old and 42.5% were between 35 to 54 years old. 21.25% of the participants have travelled with British Airways more than 15 times during the last 12 months, whereas only 9% travelled 10-14 times. Around 40 participants travelled 5-9 times and 75 out of the 160 travelled 1-4 times with BA in the previous year. 36% of the participants travelled for business purposes, 49% for tourism and the remaining 15%, i.e. 23 out of 158 participants, falls in the category Visiting Friends and Relatives (VFR). Out of 159, 108 are a member of the Frequent Flyer Programme of British Airways known as the Executive Club.

Table 1: Cross tabulation of 'age categories' and 'gender'

Gender / Age Categories		18 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65 to 74
Male n=(97)	% within gender variable	10.3%	19.6%	27.8%	23.7%	15.5%	3.1%
	% within age variable	38.5%	43.2%	75%	71.9%	78.9%	100%
	% of Total	6.3%	11.9%	16.9%	14.4%	9.4%	1.9%
Female (n=63)	% within gender variable	25.4%	39.7%	14.3%	14.3%	6.3%	0%
	% within age variable	61.5%	56.8%	25%	28.1%	21.1%	0%
	% of Total	10%	15.6%	5.6%	5.6%	2.5%	0%
N		26	44	36	32	19	3

Furthermore, the participants were asked to evaluate the overall experience based on several factors. 158 valid responses were collected in this question. On average, all the factors

received points that represent the selection ‘equal or better than expected’. Most of the passengers consider British Airways safer than they expected it to be. Only 10 passengers out of the 158 evaluated BA’s safety performance lower than their expectations. In terms of value for money, 75% stated that BA is equal or above expectations. With regards to the on-time performance, 17.09% of the participants reported that their perceived service of actual arrival time below expectations and 20.25% marked the actual departure time below expectations. It should be noted that the above expectation mark for the actual arrival time was given by 4.43% more people compared to the actual departure time.

Table 2: Customers’ Satisfaction Rates for British Airways

Factors / Scales	Much worse than expected (1)	Worse than expected (2)	Equal to expectations (3)	Better than expected (4)	Much better than expected (5)	Weighted average
Safety performance of British Airways	2.53%	3.80%	32.28%	35.44%	25.95%	3.78
Convenience of flight schedule	0.63%	10.13%	36.71%	37.34%	15.19%	3.56
Appearance & attitude of staff	0.63%	11.39%	48.10%	27.22%	12.66%	3.40
Time & consistency of inflight service	3.16%	16.46%	38.61%	27.85%	13.92%	3.33
Anticipating your needs as a customer	4.43%	13.92%	40.51%	28.48%	12.66%	3.31
Actual arrival time	2.53%	14.56%	44.94%	27.22%	10.76%	3.29
Value for money	5.06%	20.25%	36.08%	25.32%	13.29%	3.22
Actual departure time	4.43%	15.82%	46.20%	25.32%	8.23%	3.17

One very interesting point is that there are correlations among many of the variables. Correlation was not found with the FFP variable, reason for travel or frequency of travel.

Table 3: Correlation of customer satisfaction variables

	FFP Member	Staff's Appearance & attitude	Actual Departure Time	Actual Arrival Time	Time & consistency of Inflight Service	Anticipating customer needs	Flight Schedule Convenience	Safety Performance	Value for Money	Travelling Frequency	Reason for travelling
FFP Member	1										
Staff's Appearance & attitude	0.072	1									
Actual Departure Time	-0.025	.426**	1								
Actual Arrival Time	0.046	.451**	.810**	1							
Time & consistency of Inflight Service	0.11	.607**	.387**	.431**	1						
Anticipating customer needs	0.056	.625**	.445**	.486**	.679**	1					
Flight Schedule Convenience	0.111	.552**	.361**	.422**	.386**	.470**	1				
Safety Performance	-0.015	.422**	.258**	.319**	.270**	.352**	.448**	1			
Value for Money	0.038	.424**	.466**	.427**	.415**	.421**	.458**	.367**	1		
Travelling Frequency	-.313**	-0.011	0.022	0.057	-0.033	.158*	0.024	0.036	-0.067	1	
Reason for travelling	.159*	0.046	0.03	0.062	0.093	-0.061	-0.033	-0.025	.207**	-.386**	1

** Correlation is significant at the 0.01 level (2-tailed)
* Correlation is significant at the 0.05 level (2-tailed)

As illustrated in Table 2 the average grades are better than expected in almost all categories of performance (>3 weighted average). Safety performance and flight schedule score the highest among the others. While the actual departure time scores the least at 3.17/5.

According to Table 3, traveling frequency and frequent flyer programme membership was the least correlating factors with other factors, rarely exhibiting a statistically significant relationship. Satisfaction on departure time is highly positively related to satisfaction on arrival time (+0.81). Other strongly correlated factors are inflight service and staff appearance & attitude and anticipating customer needs, with each pair correlation > +0.6. Other performance and value for money are generally positively correlated to each other ranging from +0.36 to +0.55.

Hypothesis Findings

It was found that there is no strong evidence at the 5% level of significance to suggest a relationship between a passenger being a FFP member and recommending British Airways to family and friends and/or choosing to travel with British Airways again.

The following Hypothesis was also tested:

- H0: Passengers, who feel their needs were not met by BA, would not choose to travel with BA again in the future.
- H1: Passengers, who feel their needs were met by BA, would choose to travel with BA again in future

Table 4: Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	58.455[a]	16	.000
Likelihood Ratio	42.995	16	.000
Linear-by-Linear Association	25.349	1	.000
N of Valid Cases	153		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is .05.

Table 4 shows that there is a very strong evidence of a relationship at the 5% level of significance to suggest that if a customer's needs are met with BA then the customer will travel with BA again in future. Therefore Hypothesis H1 is accepted at level 5% significance. This is also confirmed by the SERVQUAL Model by Parasuraman et al (1988) who articulates that if airlines are able to close the gap between expected service and perceived service, then this will also increase customer satisfaction scores.

Interview results

According to the interviewees there are many reasons for delays at British Airways. The most common are due to ATC restrictions and strikes, as well as crew limitations - either a shortage of them at a given time, or available operating hours. BA allows for buffers into scheduling their services to help cushion the operation to have as little impact on the operation as possible. BA also advised that they make tactical cancellations of flights to ensure that they have the right resources in the right places in order to protect the overall flight services. Rosenberger et al (2003) refer to three stages of recovering from disruption; however, they suggest that airlines place more importance on the domestic services. The findings from the interviews suggest that cancellations are based more on flight frequency and commercial importance; this could simply be a BA policy and other airlines follow a different approach based on their business model and network.

One of the key questions was about service recovery and how customers are usually informed of the delay. The feedback from the interviews suggested that the information BA provides its customers is usually time dependent as to when the company is informed about the delay. When BA learns about the delay only within two hours of the departure time, then it is down to the airline staff at the airport to manage the situation. Otherwise, customers are contacted via a dedicated communications department within BA. Whilst the survey results suggest that

the customers would like to know prior to arrival at the airport, the interviews state that this is not always possible and therefore referring back to the SERVQUAL model, managing the expectations and perceived needs of the customers is crucial for the airline.

Finally, in terms of service recovery, the interviews show that this is regulated as per the EU standards, and again although service recovery is a way to improve customer satisfaction scores, survey results reveal that when experiencing a delay particularly within an hour, then service recovery is not something that is expected from the customer.

5. Conclusions

This study was an attempt to understand delays management at BA, measure passenger expectation in case of a delay and investigate the overall passenger satisfaction levels. Moreover, it set out to reveal the reasons of delays, the airline's reaction to delays, customers' expectation and dissatisfaction when a delay happens. Questionnaires and interviews were employed to extract information from British Airways' staff and passengers. Questionnaires reached customers by airline's frequent flyer website, Business Traveller and also social media, asking about the demographics, travel pattern, expectation and reaction.

60% of the respondents are male. Samples of 160 BA passengers and 4 BA airline staff were included in the analysis. The largest cohort in the age group comprised respondents in the age basket of 25 to 44, with 49% report themselves traveling for tourism. Among them, more than 2/3 were FFP members.

According to airline staff interviewed, delays are usually a consequence of ATC restrictions, strikes or crew limitations on which BA has little control, although tactic cancellations were sometimes made due to resource concerns of the overall network. Airlines mitigate delays by introducing buffer in scheduling, resolving minor interruption with no cost to airline but

generally longer travel time of customers; however, based on the interviews, no operational resources are employed to tackle structural failure in the network.

When a delay is informed within two hours prior to the departure time, extra airline staff will be present in the airport to manage the situation, otherwise the communication department of BA will handle the rapport with affected customers.

Passengers' expectations were measured by a means of a 5-point Likert type scale ranging from much worse than expected to much better than expected. Over 60% of the respondents stated that BA safety performance was better or much more better than expected. More than 50% of the respondents perceived convenience of flight schedule as better or much better than expected.

A strong correlation was found between staff's appearance/attitude and time/consistency of inflight service; staff's appearance/attitude and anticipating customer needs; staff's appearance/attitude and flight schedule convenience; anticipating customer needs and time/ consistency of inflight service; actual arrival time and actual arrival time.

In general, study results indicate that the passengers of British Airways expected a delayed departure from London Heathrow Airport, therefore, their expectations are matched. Nevertheless, a delayed departure does not necessarily damage the on-time performance of BA as the company has taken operational actions to amend the flight schedule in such a way that delays at the arrival level are avoided. As surprising as it may seem, if properly informed about a delay, passengers accept it without causing soft costs to the airline.

6. Limitations and recommendations for further research

As expected in any research undertaking, a number of limitations may have influenced the results obtained. Whilst the study can be replicated for full service network carriers (FSNC)

and all business class carriers, it might not be applicable to airlines with different business models (e.g. Low Cost Carriers) due to the difference in their operations and the different passenger characteristics. This is supported by Belobaba et al (2016) who outline that the traditional LCC operate from secondary airports with no congestion issues and less airport delays than in the main airports. Moreover, LCCs passengers have different customer service expectations from FSNCs passengers (Gross and Luck 2013).

In addition to the airline business model limitation, the results cannot be generalised for all the airports because they largely depend on the capacity of the airfield itself. For instance, BA operates flights to and from Manchester Airport that does not face the same constraints and congestion. It could also be argued that Manchester Airport is not a hub airport for BA; therefore, it does not rely on passengers transiting through the airport system and that any delays experienced for passengers travelling to and from Manchester could be only due to the airline operator.

Another limitation, but also the most interesting finding of this research is the fact that a FSNC operating from one of the busiest hubs, suffers from its own success and in contrast to the literature, passengers are accustomed to the possibility of not being on-time. Another limitation of this research was the sample size, which was rather small. Further data collection would be needed to investigate passengers' expectations in case of a delay. It would be interesting to have a study about all the London airports and evaluate the different approached in the same (but different scale) problem.

Future studies might consider partitioning the sample into different groups and using a structural equation modelling to examine whether satisfaction differs between groups who for example experienced delays associated with external sources versus those who witnessed delays associated with internal sources and versus those who experienced no delays. This

could also be extended to include other service components of customer satisfaction such as physical attributes of the service and staff-customer interaction and then assess whether the weights that different groups assign to service elements differ.

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