



Investigating Reporting Culture Amongst Pilots: A Briefing Study

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Abbreviations

ASR	Air Safety Report
BALPA	British Airline Pilots Association
CAA	Civil Aviation Authority
CHIRP	Confidential Hazardous Incident Reporting Programme
EASA	European Aviation Safety Agency
MOR	Mandatory Occurrence Report
SESMA	Special Event Search and Master Analysis

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Introduction

This document results from a request from the Civil Aviation Authority (CAA) and the British Airline Pilots Association (BALPA) to undertake a briefing study reviewing the reporting culture of pilots. The document is intended for internal use, to help inform the CAA and BALPA of the issues and encourage debate. It is designed as the first stage of a potential larger, more detailed and representative review of the scale and reasons behind pilots' safety reporting.

The intention was to:

1. Provide value in terms of (a) generating rich qualitative data across a sample of pilots, (b) recruiting interest of pilots and airlines in safety culture and reporting, and (c) helping BALPA and CAA to develop stakeholder involvement;
2. Scope questions and issues potentially to be followed up in a larger survey;
3. Investigate variation between groups to inform decisions on sample sizes and sub groups for larger survey (e.g. do important variables differ by airline, stage of career).

As agreed, the research team has undertaken an exploratory study across a small sample of approximately 20 pilots to examine the following:

1. The reasons given by pilots for reporting or non-reporting of occurrences
2. Some indication of the extent of non-reporting
3. Pilots' awareness of and views of the current reporting procedures
4. Pilots' views about how to improve the system and improve reporting, for example, whether there is a need to raise awareness about reporting procedures and the need to report; how to increase confidence in the reporting system.

An important stimulus for the project, mentioned in early discussions of the proposed research, was the imminent application (from November 15th, 2015) of a new directly applicable EU regulation governing the reporting of occurrences in civil aviation and the co-ordination of resulting information.¹ There was also some concern within both the CAA and BALPA that there may be underreporting of some types of occurrence, and that this may relate to the existence or otherwise of a 'just culture' on safety reporting. For practical reasons the study was limited to pilots flying fixed-wing aircraft. The project's scope and focus was further defined during Phase 1.

Methods

The project proceeded in two phases. Phase 1 was designed as a preparatory phase during which the scope, focus and purposes of the project were clarified, and the method for drawing interview samples was established. Phase 2, the heart of the project, was a series of open-ended interviews pilots. These were recorded and transcribed. Questions were exploratory and adapted to directions the interview took with particular pilots.

¹ Regulation (EU) No 376/2014 of the European Parliament and of the Council of 3 April 2014 on the reporting, analysis and follow-up of occurrences in civil aviation, amending Regulation EU No 996/2010 of the European Parliament and of the council and repealing Directive 2003/42/EC of the European Parliament and of the Council and commission Regulations (EC) No 1321/2007 and (EC) No 1330/2007 (1).

The LSE team regarded confidentiality as of the highest importance, and the methodology was designed around protecting the identities of all those participating in the research. Assurances of confidentiality were given before pilots agreed to take part and were repeated at the actual interviews. In this briefing paper we protect identities by reporting in summary terms and not revealing gender or airline when referring to more specific comments.

Phase 1

Obtaining a pool of pilots from which to draw samples for interview

The project required a list of pilots who had consented to be contacted by the research team, from which a sample could be drawn for interview. During Phase 1 it became apparent that to protect information it holds about licensees, the CAA could not easily provide the research team with contact details for prospective interviewees. We also wished to ensure that the CAA could not know who had consented to be interviewed. It was agreed that contact with pilots should be made in two stages. The CAA would send out an initial email to just over 10,000 licensees, containing a letter from CAA/BALPA introducing the project and the LSE team (Appendix 1.1). Within the email a link to an anonymous questionnaire would invite pilots to provide the LSE directly with contact details if they were willing to join a pool of potential participants.² This procedure gave the LSE team sole access to responses to the questionnaire and to contact details provided directly by participants.

In February 2015, questionnaire materials designed by the LSE team (Appendix 1.2) were approved by the CAA and BALPA and the CAA selected a subset of licensees to whom the email would be sent. The aim was to cast the net sufficiently wide without including large numbers of pilots beyond the feasible scope of the project. The selection included pilots licensed to fly most planes flown commercially, but excluded single pilot aircraft (Appendix 2). The email was sent out by the CAA on Monday 2nd March 2015 and resulted in 10,268 successful deliveries. After cleaning of the data, this resulted in a pool of 504 potential interviewees.

Note:

Under the contract the CAA and/or BALPA were responsible for providing the necessary data from which a sample of pilots could be selected for interview, and no allowance was made within the budget for expenses associated with identifying a sample pool. For the above reasons, the LSE research team agreed to take on the additional tasks of designing and implementing the questionnaire to obtain a sample pool of pilots. The additional work was carried out within the original budget but it delayed the start of Phase 2 of the project and correspondingly extended the project time. A revised timeline was agreed with BALPA and the CAA in February 2015.

² After discussion with the CAA the team decided to use QUALTRICS online survey software, which is available under the LSE's license. A fully anonymous QUALTRICS survey meant that all contact data came solely from the details provided by respondents.

Background discussions of issues and scope

In late 2014 and early 2015 we held a series of discussions and interviews with representatives from the CAA and BALPA. The purpose was to clarify what expectations they had of the project, and determine the issues that would guide design of the interviews and the scope of this briefing paper. Phase 1 discussions were also preparatory to selecting a sample of pilots to interview.

High level expectations were that the study would give some insight into the effectiveness of reporting systems and in particular, any factors that might discourage reporting. Accepting the limitations of a small exploratory study, it was hoped the project would put discussion and potentially further investigation on a firmer footing, and indicate ways in which reporting systems might be improved. It was particularly important to explore the extent to which airlines operated an effective just culture, and it was hoped that an independent study would be viewed as unbiased and give pilots confidence to speak openly. Besides trust in the protection provided by a just culture, more practical factors that it was suggested might be explored were knowledge and understanding of what should be reported; ease of reporting; seniority within an airline; the perceived utility of filing a report; and awareness that some reportable occurrences would be recorded by inflight monitoring systems.

Questions and sample

The opportunity for pilots to discuss these factors and also to take the interview in the direction of other factors was provided within very broadly framed interviews. (A fixed schedule was not appropriate for the open-ended, exploratory purposes of the project.) Interviews broadly covered: knowledge of reporting systems; how pilots learned what/how to report and what they saw as the purposes of reporting; what factors made reporting more likely and what factors inhibited reporting; their airline's attitude and support in response to reports; whether they thought there was underreporting and if so of what kinds of things and why; and their views about safety reporting systems, how well they work, and how they might be improved.

Expectations put to us of what we would find in the study indicated some criteria for sampling the pilots to be included in Phase 2 of the study. A number of key characteristics were identified as important. These centred around (i) characteristics of the pilots themselves (notably their rank, experience and type of work they are engaged in; possibly their gender) and (ii) characteristics of the airlines (such as the size and economic health of the airline, the nature of its business, and whether there had been recent major changes such as merger).

It was understood that we would talk to a very limited number of pilots, and that systematic sampling of numerous permutation was impossible. All those we spoke to expected important differences according to airline to emerge. The consensus was that we should select pilots of different ranks and flying both long and short/medium haul from two larger airlines; and should also talk to pilots employed in examples of some smaller and charter airlines. The sampling questionnaire therefore included questions enabling these selections to be made (Appendix 1).

Phase 2

Selecting a sample of pilots for interview

The pool of 504 pilots from which the interview samples were drawn was self-selected and not expected to be representative. Appendix 3 indicates the characteristics of the 504 and gives some indication of how they correspond with characteristics of the 10,000 plus pilots who received the sampling email.

A cursory comparison with industry statistics³ suggests the sample pool was weighted towards more senior and experienced pilots. Approximately a quarter of the sample pool were flying for small airlines such as corporate jet companies, ferries, freight etc., including a number who described themselves as freelance – a reminder that there is a large number of such pilots, often combined into a category ‘other’.

The interview phase started with two group interviews (with a total of eight pilots) to lay the ground and help optimise the individual interviews. These were followed by interviews with 25 further pilots. An additional six British Airways captains were interviewed as a group towards the end of the interviewing phase.⁴ This weighted our total sample towards experienced British Airways pilots. In total we spoke to 39 pilots.

Interviews took place in five locations and were conducted by the core research team of Sally Lloyd-Bostock, Bridget Hutter and Paz Concha. Eight of the individual interviews were conducted over the telephone; otherwise all interviews were face to face.

The sample included captains and first officers from 11 different airlines, differing in rank and flying experience. The distribution of airlines, rank, distance currently flying and commercial flying experience for the 39 pilots interviewed (including group and individual interviews) was as follows⁵:

³ Sources for a rough comparison were provided by the CAA.

⁴ The meeting was arranged by one of our 504 pilots who was invited for interview and offered to arrange a group interview with five additional pilots.

⁵ Finer details are not given to protect identities.

Airline	Frequency
British Airways plc	13*
Easyjet Airline Co. Ltd	5**
BA Cityflyer Ltd	Less than 5
Flybe Ltd	"
Monarch Airlines	"
Thomas Cook Airlines Ltd	"
Thomson Airways Ltd	"
Jet2.Com Ltd	"
Three other small airlines	"
Consultant and freelance	"
Total	39

* Includes 9 interviewed as part of a group

** Includes 1 interviewed as part of a group.

Rank	Frequency	Percent
Captain	28	71.8
First Officer	11	28.2
Total	39	100.0

Commercial flying experience	Frequency	Percent
1-5 years	3	7.7
6-10 years	6	15.4
Valid 11-20 years	13	33.3
More than 20 years	17	43.6
Total	39	100.0

Long/short haul	Frequency	Percent
Short haul	23	59.0
Long haul	11	28.2
Medium or both	5	12.8
Total	39	100.0

Results

In order to maintain confidentiality we provide aggregated results. We give only a general indication of the numbers of pilots making various points to avoid any spurious impression of precision or generalisability. In total we spoke to 39 pilots. We draw on all of these discussions. The paper is based on what pilots told us; we make no judgement as to whether their perceptions are accurate. We were alert to the interviews possibly being coloured by topical discussions and events (such as the German Wings incident), and to the possibility of being seen as a channel for particular messages.