



# Case study: Aviation report example

## Structure of a case study response

Your response to the case study can be presented in a report format, but check your assignment instructions for any specific requirements. In this example we look at an abstract, introduction, conclusion and recommendations. For more information on how to write and structure a report, see the report writing handout.

## Sample abstract

<p>On 22nd May 2010, Air India Express Flight IX-812, a Boeing 737-800, on route from Dubai to Mangalore overshot the runway and fell into a gorge. Due to impact and fire, 152 passengers and 4 crew died. The Indian government established a Court of Inquiry to investigate the incident. This report presents a case study of the incident focusing on one major cause and its consequences. Drawing on the Court of Inquiry report and literature relating to human factors in Aviation, it reveals the accident was the result of the impact of sleep inertia on the Captain's decision making capacity. Further, it was found that at the time of the incident India did not have an independent Civil Aviation Safety Board. An analysis of the case study identifies the importance of having in place a robust Fatigue Risk Management System (FRMS) and a Crew Resource Management (CRM) system. In order to mitigate such incidences in the future, it is recommended that crew training includes a greater focus on the impact of sleep inertia on performance.</p>	<p>Set the scene</p> <p>Focus/aim of report</p> <p>Methods</p> <p>Main findings</p> <p>Conclusion, based on findings</p> <p>Recommendations</p>
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(Government of India Ministry of Civil Aviation 2010)

## Sample introduction

<p>The impact of sleep on a pilot's performance has attracted the interest of both aviation authorities and researchers for some time. One specific factor, sleep inertia which is the physiological state that immediately follows awakening has been found to impair mental and manual operations. Sleep inertia has been linked to a number of aviation incidents involving pilot error. This case study report will analyse the role sleep inertia may have played in the crash of Air India Express Flight IX-812 at Mangalore in India on May 22nd 2010. The report of the subsequent Court of Inquiry along with literature relating to sleep inertia will form the basis of the analysis. The first section of this report will examine research findings about sleep inertia generally and sleep inertia in aviation specifically. Next, an account of this particular incident</p>	<p>Set the scene</p> <p>Focus/aim of report</p> <p>Methods</p> <p>Outline of report</p>
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and the major findings of the Court of Inquiry will be provided. The report will then present a discussion of the impact of sleep inertia played in this incident and the lessons that can be learnt from this. Finally, recommendations are presented for how such incidents can be avoided in the future.

(Government of India Ministry of Civil Aviation 2010)

### Sample conclusion

This case study examined the role sleep inertia may have played in the crash of Air India Express Flight IX-812 at Mangalore in India on May 22nd 2010. Studies of human factors in aviation have shown that a variety of factors influence the severity and duration of sleep inertia. These factors include depth of sleep, timing of sleep and chemical influences. If a crew member is awakened from a deep sleep, then it is likely their reaction time performance will be adversely affected. This appeared to be the case for Air India Express Flight IX-812 where the Captain was in a long sleep during the flight. As a result, upon awakening, the Captain's judgment appeared to have been impaired, resulting in a series of poor decisions. This case highlights the need for an effective Fatigue Risk Management System (FRMS) and a Crew Resource Management (CRM) system, along with focused training to ensure crew are fully aware of the impact of sleep inertia on performance, particularly decision making.

Restated focus/  
purpose of essay

Sum up main points or  
findings from the body  
of the essay

Conclusion  
- links to  
recommendations

(Government of India Ministry of Civil Aviation 2010)

### Sample recommendations

Based on the main findings of this case study, it is recommended that:

- CRM training and refreshers for all flight crew should be conducted as required by DGCA vide Operations Circular No 2 of 2001
- CRM training must include both classroom and simulator training

Recommendations:

- Relate back to the issues discussed in the Conclusion.
- Are stated briefly but clearly
- Are expressed as action statements or directives to do something
- Use persuasive or firm language such as 'must', 'ought to' etc.

### References

Government of India Ministry of Civil Aviation (2010) 'Report on accident to Air India Express Boeing 737-800 Aircraft VT-AXV on 22nd May 2010 at Mangalore' Government of India, New Delhi.