

Human error

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Human Error Case Study On December 8, 2005, a Boeing 737-7H4, N47WN- operated by Southwest Airlines- was involved in an accident at Chicago Midway International Airport. The airplane went through the perimeter fence and blast fence of the airport and knocked an automobile on the adjacent road before coming to a stop; the airplane was substantially damaged (NTSB, 2005). This case study applies the data analysis tools of the Human Factors Analysis and Classification System (HFACS) to this accident to analyze the human error aspects of the accident.

HFACS framework embodies four levels of human failure (unsafe acts, preconditions for unsafe acts, unsafe supervision and organizational influences) that lead to an accident (Harris, 2011). Errors correspond to human activities that fall short of producing intended outcomes (Wiegmann and Shappell, 2012). In this accident, the captain made a skill-based error by failing to prioritize his attention; he told the investigators that the use of the autobrake system diverted his concentration from thrust reversers. Violation refers to willful discount for safety rules and regulations (OConnor & Cohn, 2010). Violation committed in this case is failure by the pilots to adequately familiarize themselves with the autobrake system; they were using it for the first time. They both resulted into delayed response.

Preconditions for unsafe acts refer to incident resulting into unsafe acts (Wiegmann and Shappell, 2012). In this case, the pilots lacked effective communication/coordination. This can be seen when the first officer took away the captain's hand from the thrust reverser levers rather than directing him to engage thrust reversers. Under unsafe supervision, the pilots were not allowed sufficient brief time as they departed without the latest updated weather information and dispatch documents and only evaluated and

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analyzed the procedures for autobrake system while en route.

Southwest airlines failed to provide precise landing calculations to her pilots; all of the landing calculations were completed by the On Board Performance Computer (OPC) which wrongly completed the calculations. Hence, organizational influence level error.

In summary, the accident was caused by divided attention, insufficient preparation, lack of communication/coordination and unclear landing calculations. The autobrake system distracted the pilot's attention and unfamiliarity with such system, together with inappropriate communication, hampered the response time. Inaccurate results provided by the OPC also contributed to the accident.

References

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