

Human factors in aviation essay sample

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Above seventy percent of airline accidents get attributed to human error. This error has developed to become a vital worry in airline management and maintenance performances (Graeber, 2006). Where there is a human factor one, cannot avoid human error hence precautions should be taken to prevent accidents. Human Factor

Human factor involves information collection on human limitations and abilities, and application of the information to machines, tools, tasks, system, environment and jobs to generate effective, comfortable and safe human usage (Graeber, 2006). Human factors in aviation emphasize on integrating themselves with the latest technology. This knowledge then gets transformed into policies, training, design, and procedures in the effort to better the performance of the human factor. Aviation is doubtfully a highly dangerous and unforgiving work environment. The so far represented weakest joint among the equipment edge is the human factor. As used in aviation, human factors envelop system analysis, control, design, automation, human capabilities, skill acquisition, processing of information, plus crew work load, display, and interaction of human and machines.

It further covers the environmental factors, psychological, accident prevention and physiological influence. According to the study of NTSB, Human factors also checks on the age of the pilots. The elderly above 50 years have a record of more air accidents than the young. This is so following the reduction of memory capacity (Graeber, 2006). Fatigue represents a significant physiological factor making one to give a slow reply to an effect. One can get fatigued from different factors including; overwork, stress, less sleep, and personal problems.

The state of the body affects one's capability to comprehend the surroundings plus the entire conditions of a flight. The crashing of Air flight 1008 belonging to Dan Air crashed in 1980 at Mt. La Esperanza represents a brilliant example caused by human factor. Human negligence solely caused this accident. The pilot executed wrongful a pattern which was unpublished in a surrounding of quite high land. The casualties counted to 146 on board. This remains one of the most destructive aircraft accidents in Britain (Fly baby accident reports, 2007).

Psychological Versus Physiological Factors

Factors that contribute into the human error several ends like diverted attention, poor judgment, in adequate preparation. Sometimes the pilot enters into a dilemma struggling to correct the situation, because enough training was not given. The flight crews require being attentive to details and all the required instructions. Other psychological factors involved in regard to aviation safety include; experience, knowledge, attitude, emotional state and training. Despite the speedy changes in technology, the responsibility, to keep safe aviation industry gets best held on humans. As a result, human have to remain flexible, efficient, knowledgeable, and dedicated with sound judgment. The industry can hardly rely on experience in guiding human performance decisions. Consequently, such organizations are investing heavily on training, design and procedures (Leland, 2007).

The other factors that cannot be ignored include the weather and other personnel like the maintenance team, traffic control team, and flight crew. Unsound judgment forms a factor involving the focus on single issues when

many others lie unattended. For example, a pilot can get much distracted by a faulty landing gear to extent of running out of energy without noticing. The experienced pilots also have a possibility of falling victims of getting diverted. One can take keen of a faulty system forgetting other factors like wires, resulting to wire strike. Another error can arise when the pilot interprets the problem differently or wrongly, leading to incorrect decision.

Alternatively, one can interpret the problem right, but the wrong solution get taken (Fly baby accident reports, 2007). Accidents resulting from inadequate preparation for the flight form those hardest to comprehend. During the preflight operations, a key attention to details is rewarding, and this involves checking of any maintenance differences. Investigators need to note incase the pilot faced a situation that pushed him to react beyond his experience, leading to a crash (Leland, 2007). Physiological Factors

Physiological factors are including health, lifestyle, nutrition, fatigue, alertness and dependency on chemicals. These factors get easily identified for they always leave some clues. They are responsible for making the pilot's brain divert into additional dispensation factors hence weakening his ability to function fully. Health and nutrition may involve dehydration, effects of alcohol, sickness like low blood sugar, pilot on drugs, among others. It is easy to rule out such conditions as the contributing aspect to an accident, since they involve the body. In the military, the condition of G-LOC occurs when blood gets drawn from the brain. However, there has to be a towering G maneuvering experienced. Mental state forms crucial factor and

contributor to aviation accidents. They come in form of poor attentiveness or alertness, or fascinating environment.

These and more, sufficiently distract the pilot to slow down a crucial reaction leading to panic, unsound judgment and serious uncertainties (Leland, 2007). Fatigue represents a significant physiological factor leading one to give a slow reply to an effect. One can get fatigued from different factors including; overwork, stress, less sleep, and personal problems. The state of the body affects one's capability to comprehend the surroundings. Studies show that, such disorientation and lack of state consciousness results to up to 17 percent of aviation accidents. These accidents are fatal, especially in night flights (Leland, 2007). Fatigue degrades the consciousness of the pilot affecting his capability to manage his attention to issues. External Factors Involved In Regard To Aviation Safety

External factors involve environmental aspects like weather. Others include maintenance induced factors and darkness. Environmental factors are responsible for lowering the available information, especially, visual, which is naturally available for the pilot throughout a flight. Such aspects include, overcast and water surface blending, night vision, haze, and fog (Human factors in fatal accidents, 2006). Environmental factors leave the horizon impossible, or difficult to differentiate, forcing the pilot to relapse to the instructions of the flight in the effort to keep a leveled flight. It is reasonable to note that, the functionality of the human eye is different during the night than the day and people have limitations in their perceptions.

Snow and ice form some of the factors causing plane accidents. For example, Airline Flight 1248 of Southwest in 2005, slipped off the runway end, just after landing on condition with heavy snow, causing the death of one child (Human factors in fatal accidents, 2006). The airport design in some areas can stand as a factor to aircraft accident. A clear example is the Chicago O'Hare International Airport that got developed at first to handle the propeller crafts. Other airports got developed in congested areas, hard to expand or develop to the new policies. Objects or debris, which can be on the runway or in the plane, are responsible for damaging engines and or interfering with the flight. Flight 4590 belonging to Air France experienced a crash because it had hit some part, which had detached from another plane, Other accidents get caused by the negligence of the air traffic controllers.

For example, the crash involving the International Airport of Los Angeles, where air traffic controller negligently caused the aircraft of US Airways to land on that of SkyWest (Human factors in fatal accidents, 2006).

Maintenance induced factors also contribute to the deterioration of aviation safety. Aviation errors, committed by the human factor should not always get blamed on the flight crew. Maintenance team has their part of errors contributing to failures. Badly off, in certain occasions, the maintenance team is responsible for placing the pilot in unexpected circumstances.

However, it is particularly crucial to have an effective communication among the operation departments and the maintenance. Conclusion

The range of human factors in aviation is widely stretching to involve the aircraft manufacturer, flight crew, and passengers among others. Never the

less, the customers have much faith of the flight crew to get them to their destinations safely. On the other hand, the pilots lean heavily on manufactures skill to construct a brilliant aircraft, the team in maintenance for proper and effective maintenance of the plane, not to forget the traffic controllers on the air to watch them over in the sky.

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