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the factors influencingeffective airline crew communications and inflight decision-making. IntroductionCommunication is so essential to all human endeavors.

ithelps us to regulate the achievement or disappointment in accomplishing goalsas they are attached to high stakes. There is no doubt that operational intoday’s aviation industry is a high-risks profession since our lives and costlyassets are invested in the industry. As a simple, social-technical structures, communication plays a vital part in achieving objectives, directing entities, and participating responsibilities. Actual communicationis a significant procedure in daily life. People need be able to communicate efficientlyby each other on both an individual as well as occupational level. Failures inthe communication procedures can lead to misinterpretations, or worse, a majordisaster like Pan Am and KLM.  In this report I would like to focus on theimportance of communication in harmless and effective flight processes, drawingprevious aircraft collisions as result of communication errors.

Throughout its short history, aviationindustry has proven to be a deadly invention due to aircraft failure, humanerror, weather, sabotage, and others. As result, the industry invested heavilyin understanding and coping with the human factor which is the main cause of todays’aircraft accidents (Alcorn, 2010). We understand that human error is something which cannot be eliminated, but we can minimise through learning from previous experience and trainingstaff involved in the aviation. This will prevent future possible human errorand reduce accident rate down. The growth of commercial aviation has increasedsince World War II. Thisalso increase the probability of aircraft accident prorata since 1970s.

Following the Tenerife accident in 1977, theaviation industry has recognized the need for thedevelopment of Crew Resource management CRM (Goeters, K.-M. 2002). The airline passengernumbers have extremely increased sine 1980s; however, the number recordedaccident per flight hours has reduced over this period.

We can nowstatistically assume that flying is safer than any time before. This because ofthe development of Cockpit Resource management, now known as Crew ResourceManagement.  CRM is aimed to changestaff’s attitudes towards communication and decision making (ICAO, 1998). CRMhas been an overwhelming and widespread implementation to increase in today’saviation safety.  Accidents occur forvariety reasons, with the most prominent ones being human error.  HumanError: Human factors play a vitalrole in safety in the aviation segment. One minor fault triggered by poorprocedures or miscommunication can result in disastrous events as well as theloss of life. As part of Humanerror, captains sometimes make decision in the presence of an incomplete rangeof data (Burdekin, S.

2004). This is due to an asymmetric data which mayconstrue different meaning according to the perception of the captain (Flin, R. 2006). This happens when captain is psychologically confronting with anambiguous situation (Kanki et al., 2010).

Therefore, an effective training isimportant to recognise early warning signs to avert any accident. This includeSituation awareness, communication, Team work and stress management, all ofwhich support for fast, accurate and efficient decision making (Davis, L.(1990).

Situation awareness: is to understand the environmental condition and forestallpossible danger that might occur. It is also essential that captain avoidsself-satisfaction as s/he watches the system and environmental changes bycommunicating all staff member involved in the flight operation (Hormann, J., 2001). An awareness to the situation is often influenced by the perception andthe stress one can find him/herself in, which is mainly referred to the conceptof ” Theory of the Situation” that developed by Dr. Lee Bolman, (1979).

Thefollowing phases are definitively referred to his theory. Theory Definition Theory of the Situation What one assumes to be true based on his/her perception of the situation at any given time. Reality The situation as it is in reality Theory in Use One’s predictable behaviour in a given situation that has been developed since birth. Espoused Theory An individual’s account or explanation of his/her behaviour Theory in Practice The set of skills, knowledge, and experience according to one’s theory of situation.

One ofthe reasons for self-disagreement between one’s perception and the reality isthat a vast function of the human perceptual system reduces his/her decision to respond thesituation appropriately (Hagen, J. 2013). This is because our perception of visualinformation is consistent. However, our perception of situations which we obtain through our senses is notconsistent. Bolman’s theory shows how other factors interact as we attempt togain an awareness of the situation. Therefore, effective communication skills arevital (Kanki, B et al 2010).   Communications meanshaving good skills that enable an open and active participation of all teammembers. This is also to use clear and effective language when responding orgiving feedback particularly in the events of ambiguities (Klein, G.

2001). Inthe Tenerife disaster, it was clearly evident that a communication ambiguityoccurred during the KLM preparation for take-off and even after releasing thebreaks. The flight engineer had strong suspicions that Pan America jet wasstill taxiing on the active runway. He failed to communicate with the captainand make his suspicions aware to the captain.

One of the most important keys toan effective cockpit management is communication among crew members. Information must be offered and exchanged freely to support the captain to makeaccurate and effective decisions (Alan, D. 1994). In recent CRM trainingdeveloped there are variety of elements are essential to effectivecommunication.

One moreexample of obstacles to actual communication can be initiate in the crew joinup process, and precisely the racial differences among crewmembers. In thisworld of cultural variety, it is not unusual to have two pilots with a totallydifferent cultural background flying as a crew. Verbal and nonverbalcommunications may be understood in a different way, and this may have consequencesduring flight, particularly in high-workload conditions. The followingelements, but not limited to, are viewed to be important for airline crewcommunication.

These include: Inquiry: seeking information and asking for clarifications arethe beginning step to decide. Advocacy: is the need to state what you know or believe in a directway. Listening: Active listening which requires more than passive attention.

Conflict resolution: Conflicts are critical when the disagreement isover how is accurate rather than what is right. Such conflicts can affect thequality of decision making.  Team work: is torely on the authoritative response captain as sole skills can result a hugeaccident as it was evident at time of the KLM flight engineer stresses hissuspicions that the Pan America jet was taxiing on the active run way. Thedisaster occurred due to human error when the captain made a sole decision thatrunway was clear for take-off without a clear permission from Air TrafficControl. The consequence was a disastrous accident at speed of one B-747accelerating down the run way collided another B-747 taxing.

For this instance, a cooperation from allmembers of cabin crew and the captain is necessary.            Decision making: isto be effectively judgmental is often related to the mental process used by thecaptain to decide based on the availability of relevant information and theexpected outcome (Kayes, 2004). With all the above elements in place, thecaptain can make a reliable decision and avoid decision error. Decision faults canrise within the two main mechanisms of the aviation decision model (Salas, E. etal, 2006): (a) pilots might advance an incorrect clarification of thesituation, which can effect to an unfortunate result, or they might form an exactpicture of the situation, but indicate an unsuitable course of action.

Inaddition, they might not properly evaluate the risks inherent in the situation. These aspects are all unignorably while making a decision which affects all. Conclusions: EffectiveAirline crew’s communication is viewed as vital when making decisions. TheTenerife air disaster is found to be an example for failing to act upon when adisaster is fairly predictable by communicating effectively. Airline accidents aredue to equipment failures by just three to five percent of its all causes. Theremaining accidents are linked with human error in which is mainly attributedto poor human communication.

Pilots and air traffic controllers must know thelimits of communications and work toward the common objective of making theskies safer and easier to “ understand!” Research studies continue todevelop ways to reduce the chances of another Tenerife disaster.       ReferencesKanki, B.; Helmreich, R.; Anca, J. (2010): Crew resource management.

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