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Importance of Communication in Aviation Maintenance and its Relationship to Human Error

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Effective communication is a very important factor when it comes to the aspect of aviation safety. The major means of communication between air traffic controllers and pilots is via radio communication. Therefore, since these two major players communicate via the radio, verbal communication skills become important to the future of aviation safety. Aviation communication is not only conducted between the air traffic controllers, pilots, and copilots, but it also involves some other important team players <sup>1</sup> such as airport operators, ramp workers, security personnel, airline staff, construction workers, cabin crew, ground handlers, and other aviation specialists (Patankar & Taylor, 2003). Since communication is an essential factor in determining safety <sup>1</sup> in the aviation industry, all players have a huge responsibility to keep on improving their level of communication and understanding to minimize the chances of there occurring catastrophic aviation accidents.

### **Safety and Aviation Communication**

Better communication within the aviation industry is meant for reducing the level of safety as well as reducing the number of accidents that could be prevented by better communication. Poor communication in the aviation industry has contributed to several fatal plane crashes. Due to poor communication, there has occurred human error which has led to fatal airplane accidents (Yiannakides & Sergiou, 2020). Therefore, accidents might take place since pilots and the mechanics failed to communicate effectively.

### **Communication across Different Professionals (Mechanics and Pilots)**

There are different personnel who are responsible for ensuring the safety of air travel. Communication should be beefed up within the maintenance area of the aviation sector. This is

because there are always different shifts taking care of the airplanes which might not be in good condition. Therefore, since there will be shift handovers, there should be effective communication between the mechanics so that the incoming shift can pick exactly from the point where the outgoing shift reached. Such a case is reasonable after looking at the consequences that might end up taking place in case of poor coordination from one shift to another (International Conference<sup>3</sup> on Safety Management and Human Factors, In Arezes,<sup>2</sup> & International Conference on Applied Human Factors and Ergonomics and the Affiliated Conferences, 2019). Therefore, the majority of communication training should be channeled to the maintenance section of the aviation industry.

Besides, there should be communication that is tailored for each section within the aviation industry. Therefore, this means that communication taking place between the pilots and copilots should be different from that taking place between the hanger and the line maintenance.

People working within the different sections or professions within the aviation industry might pose a problem. For instance, the mechanics are supposed to communicate or interact with pilots and this is where communication across a professional boundary takes place. This might pose a challenge and this needs to be adequately catered for. In the past, there have occurred several accidents where the cabin crew has had difficulties while communicating with the pilots. Therefore, it can be asserted that human error can be related to communication in that there might pop up communication issues between people working in the different aviation industry. According to the UK Civil Aviation Authority, most airplane maintenance technicians seem to have a good understanding of how human factors impact them in their everyday activities at the workplace (Yiannakides, et al., 2020). However, they might not entirely understand what the pilots

might be thinking and this causes issues while the two professionals engage in communication. It is such issues that might lead to human error taking place and which ultimately might cause catastrophic aircraft crashes to occur.

### **Different Perceptions**

The people who are working within the different subsections within the aviation industry might have different perceptions or understandings of an issue or communication. If the pilot's comments about a certain part that might seem to be malfunctioning are not well understood by the mechanics, there might arise issues between the two employees. When the mechanics start to work on the aircraft they might not work on the parts that the aircraft's pilot might have pointed out. Before the mechanics leave the maintenance area they might indicate in the logbook that they have repaired the part that was earlier on mentioned by the pilots to be malfunctioning (Patankar, et al., 2003). Therefore, once the pilots pop in and go through the logbook they might note that the part was not rectified and will engage the mechanics in a quarrel. On the other hand, the pilot might not be keen enough to note that the part was not rectified as he or she anticipated and therefore will fly-off the aircraft which might end up crashing. But, despite there being evidence that communication between pilots and mechanics is not effective, there is not much research carried out to study and find out why there exists such a case.

The mechanics and the pilots do communicate primarily through the logbook. This is the reason why most of the research studies have been focused on the logbook and the frustrations that the pilots and the mechanics have been going through. The communication has been through written words and most of the pilots and mechanics have been expressing their frustrations as they

strive to pass what they are thinking. Following on previous data collected in the United States and Australia, it has been found out that both the pilots and mechanics have been experiencing varying understanding or perceptions of each other's ability to communicate effectively (Yiannakides, et al., 2020). For example, it has been noted that the pilots and the mechanics have been viewing or perceiving each other's logbook details as insufficient to communicate effectively about the defects that need to be dealt with. Therefore, in such a case there leads to issues concerning the effectiveness of the repairs that might have been made by the mechanics. It is unfortunate that each of these groups, the pilots and the mechanics, believes that their own logbook communication is effective and therefore satisfactory and fit for the purpose. Therefore, this is an indication of the disparity between the actual detail needs of the mechanics and pilots.

#### **Lack of Teamwork**

Different people work together to ensure safety within the aviation sector. The pilots do communicate with the mechanics or crew members whenever there appears to be an issue or a part that needs to be fixed. However, inefficient communication between the major players within the aviation industry such as the pilots and mechanics leads to errors in aircraft maintenance. Communication is closely related to teamwork since all partners involved within the aviation sector need to be very careful while taking care of any maintenance tasks that are to be done on the airplane. The parties involved in maintaining the aircraft such as the technicians, cabin crew, and pilots need to communicate effectively so that troubleshooting and testing of the aircraft can be carried out successfully (Dhillon, 2007).

The technicians, mechanics, cabin crew, and pilots need to work together so that they can successfully execute repairs on the aircraft. The way that these groups should work is like the way the different parts of the machine are supposed to work or function so that the machine ends up serving its purpose. Therefore, for there to be safe within the aviation sector, the parties involved need to work as a team and understand each other. This will ensure that the person will understand each other and agree on the actions that are to be undertaken. Therefore, this will be of great help as it will bring understanding between the people who will be working together as a team to ensure the success of their endeavors which will ultimately lead to a decrease in errors during the maintenance process.

Various technicians put their competencies and efforts together towards a single outcome. However, in the case that these different technicians happen not to be communicating effectively a consensus will not be reached and this might lead to the persistence of maintenance error. These maintenance errors will be a direct result of ineffective communication between the parties who were supposed to be taking care of the technical issues that might have arisen within the aircraft.

Conclusively, communication is an essential part of the maintenance of aircraft. Various parties are involved in the maintenance of the aircraft. The different technicians, mechanics, and pilots need to communicate with each other effectively so that the issues facing the aircraft can be resolved. The multiple technicians contribute to the effort to ensure that they have attained a single outcome, making sure that the safety of the airplanes is ensured (Dhillon, 2007). However, if these groups of technicians are not communicating effectively, they will end causing errors that might lead to fatal aircraft crashes. Due to a lack of effective communication, the technicians will not be

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able to function as a single team. Therefore, they will not be sharing the information that needs to be shared so that they can ensure that all issues or parts that appear to be malfunctioning in an aircraft are being fixed to avoid the aircraft from crashing.

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