

Outsourcing Aircraft Maintenance Activities of Airlines: Ascertain- ing the Safety Hazards

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Extensive Summary

Increasing strong competition with globalization has made it increasingly difficult for enterprises to maintain their assets. Nevertheless, the liberalization of air transport has made the airline market more liberal and low-cost carriers have entered the market. Airline operators are looking for ways to reduce costs in order to survive in a changing economic environment and achieve competitive advantage. In this context, outsourcing has become one of the management strategies frequently resorted to by airlines. Outsourcing is both an increasing quality and diversity. Aircraft maintenance activities are one of the most important services provided by airline companies from external sources. Airline operators outsource their aircraft maintenance activities for different reasons, primarily cost advantages. However, aircraft maintenance activities are one of critical activity that have the greatest impact on aviation safety. The question of whether the provision of such critical processes from outside sources has the potential to threaten aviation safety is an important research question. The study investigates whether the fact that airlines outsource the aircraft maintenance activities from other maintenance organisations and do not handle them within their own organisation, poses any potential threats. It aims to determine how outsourcing process specific safety hazards may arise, and why and how these mentioned hazards will arise. In this regard, recommendations are provided to improve the Safety Management System (SMS) effectiveness and thus safety performance. In the case of hazards affecting safety, it will not be possible to take advantage of the air transport activities. The understanding of why and how aviation safety will be affected will reveal what measures can be taken. Thus, increasing the aviation safety is targeted.

In this study, it is aimed to ascertain potential process-specific hazards occurring as the outcomes of outsourcing in aircraft maintenance activities. In this way, it is also aimed to contribute to the aviation safety. To achieve these purposes, qualitative

research design is preferred. In this context, LinkedIn, a social networking media preferred by the professionals for business purposes, is used to create a sample and collect data. A sub- discussion group is created in the “Aviation Quality & Safety Information Exchange

Group”, whose members are the subject experts in LinkedIn. The qualitative data collected from this purposeful sample are analyzed by using an inductive method. The discussion group which was formed on the basis of purposeful examples, consisted of aviation professionals who were involved in outsourcing processes and were knowledgeable in the matter. There are thirteen people in the participant group. Looking at the occupational positions of the people in this group, it is seen that the participants are mostly middle and top level managers.

The qualitative and quantitative data from the discussion group was analysed, and the perception of the experts included in the study with the method of purposeful examples, regarding the research question was discovered. Researchers have adopted Patton's method of inductive analysis in qualitative data analysis. The data collected in qualitative data analysis were analyzed in the context of Creswell's proposed steps. The researchers first coded the debate they had obtained in the context of the inductive approach, then came back and compared the code lists and agreed on a final code list after mutual persuasion tours. Then they again found the existing patterns by associating these codes with each other and found the categories and they went to the themes with the same analysis approach. At the last stage, the researchers came back together and reached a common decision on categories and themes as a result of mutual negotiation and persuasion processes about going to category and theme. Seeking compromise analysis separately and then seeking compromise has become the preferred method to increase the validity and credibility of the study.

When the data from the discussion group is analyzed, seven different categories have emerged that carry outsourcing aircraft maintenance activities with the potential to influence on aviation safety. These; "The fact that the airline's control function on the MRO is reduced, that MRO's have viewpoint on aviation safety is secondary priority, that airline and MRO organizations do not integrate SMS into the outsourcing process, airline companies have to use representatives, airline companies are willing to perform time pressure on MRO, MRO has problems with the technician in terms of quality and quantity, the lack of maintenance facilities in MROs ".

The above findings; The Safety Management System, which is a product of the new generation of safety management approaches and which is obligated to be applied to many aviation organizations, mainly airline companies, is based on the determination of potential hazards. The survey, as the article highlights, shows that airline companies mainly resort to outsource to reduce costs. This situation causes MRO organizations to resort to additional measures to reduce their costs. The pressure that airline companies are under in order to offer lower prices is causing issues regarding the technician input, and the facilities and equipment required for maintenance.

The airline also creates a very strong "time pressure" on MROs. The MRO management also has to reflect this pressure on its employees. However, time pressure is a potential factor that may cause mistakes and violations by affecting human performance negatively. All of these factors present the potential risks of creating undesirable events in outsource applications. Another conclusion from the study is that

outsourcing the maintenance activity and production function of outsource poses various potential threats. The decrease in control function on maintenance activities of airline service, MRO services' seeing the responsibility for ensuring their aviation safety as a secondary issue, that airline service and MRO services cannot integrate SMS in the outsource process, the obligation of airline service's using a representative are the categories in this context. On the other hand, the rapid growth of the MRO market in different geographies, which has become an increasingly large sector reduces the aviation authorities' impact on the outsource process. These include potential hazards that will affect aviation safety negatively. We believe that it is in great interest of airline companies and authorities to investigate the potential threats to determine if they are in their domains, and to take risk mitigation measures in their domains. On the other hand, the outsourcing in maintenance activities, a frequently resorted method, can threaten aviation safety.