DEVELOPMENT OF A RISK ASSESSMENT MODEL TO MEASURE VENDOR PERFORMANCE IN SURVEILLANCE AND AUDITING OF AIRCRAFT MAINTENANCE

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Proposal presented to the committee members

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ABSTRACT

Elimination of aviation accidents is one of the primary goals of the Federal Aviation Administration (FAA) and the airline industry. A leading cause of aviation accidents is lack of oversight of various organizational aspects, in particular, the organization's maintenance operation performance. The technologies used in the industry generate multiple risks, mostly from three domains: systems, hardware and people (Zimolong, 1992). Maintenance performance analyses identify the inherent risk in distributed, large-scale systems. Analysis of existing aviation maintenance data is a crucial step in meeting the aviation industry's need to improve aviation safety. Presently, we lack suitable tools to analyze large bodies of maintenance data. In this study, we generate risk models responsive to airline operation requirements using hierarchical logistical regression analysis based on historical auditing and surveillance data. These models will help to determine the organizational factors underlying aviation maintenance errors, ultimately helping airline personnel to manage the surveillance and auditing functions of aircraft maintenance.

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