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KEY INTERNAL FACTORS AFFECTING SAFETY PERFORMANCE IN THE AVIATION INDUSTRY

by

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Abstract

Continuously improving aviation safety and enhancing its performance at both the organizational and individual levels is always considered a high priority by the aviation industry in all sectors.

In addition, governments and aviation regulatory authorities have put significant efforts in creating a safety culture with clear safety practices at all levels of the organization.

Moreover, international aviation organizations and associations around the world have established safety standards, guidelines, and management systems that are essential to ensure the successful implementation of the safety practices set.

However, based on the reviewed literatures and the researcher knowledge in this area, there is a clear perception gap with regards to the approaches and methodologies required for the effective implementation of Safety Management Systems (SMSs). This suggests that there is a lack of robust standardized safety standard and safety framework that clearly defines a common and coherent safety factors, which is required to implement the Safety Management Systems. In addition, there's also a lack of identifying the key measurement indicators which is required to measure and enhance the safety performance in the aviation field.

Therefore, the main aim of this study is to develop a comprehensive framework model which identifies the key internal safety factors of effective safety management system that have a positive impact on safety performance, as well as identifies the best indicators that can significantly reflect the safety performance in the aviation field. The developed framework model will be tested using a quantitative methodology. Hence, a quantitative questionnaire will be developed to assess the impact of the selected safety factors on aviation safety performance and statistically test the research's hypotheses. In addition, qualitative interviews will be conducted with executive leaders and subject matter experts (SMEs) in the field to validate the proposed framework model. This framework model will be studied within the aviation sector by reviewing previous studies conducted on aviation sector, reviewing aviation safety standards & manuals, as well as validate and teste this model with different representatives from the aviation sector.

The selected representatives will be SMEs in the aviation field, either specialized in safety (Such as: safety officers and safety regulators), or operational employees (Such as: pilots, engineers, aircraft technicians), or those who works in support functions within aviation organizations (Such as: professions of supply chain, commercial, project management).

In this study, six key factors are selected to have a positive impact on safety performance in aviation industry. However, and based on the research results, five key factors out of the selected six factors have shown to have a significant and positive impact on aviation safety performance. And only one internal safety factor has not proven to have a significant impact on aviation safety performance.

Accordingly, this study will provide evidence-based recommendations to policy owners and decision makers in the aviation industry on the key internal safety factors and measurement indicators required for the development of an effective Safety Management System.

Keywords: aviation, safety, safety performance, key internal safety factors, Safety Management System (SMS), leading indicators, lagging indicators, measuring safety performance, effective safety management system.