

RESILIENT AIRCRAFT MAINTENANCE CONSTRUCTS: ENHANCING REPAIR NETWORK DESIGNS TO EFFECTIVELY MANAGE RISKS AND SUPPLY CHAIN DISRUPTIONS

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ABSTRACT

This research aims to extend the understanding of supply chain resiliency by utilizing a simulation model of a U.S. Air Force aircraft engine repair network to evaluate the degree of resiliency built into the system. The study compares the recovery time of the disrupted current system to that of a fully-integrated repair network; the objective being the quantification of resiliency in the current network's design and gauging the effectiveness of various strategies in reducing recovery time. This contributes to current literature by bridging the explicit gap on how to quantify, measure, and compare resilient supply chain strategies and also provides an objective means for basing managerial decisions.

Keywords: Resiliency, Repair Network Integration, Simulation, Network Disruption