

## **Developing an Operational Framework for the Strategic Integration of Charter Air Cargo in Supply Chain Management**

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### **Abstract**

The increasing frequency of global disruptions, including public health emergencies, geopolitical instability, climate-related events, and transportation bottlenecks, has challenged organizations to adopt more resilient and adaptive supply chain strategies. Although charter air cargo has traditionally been utilized for urgent or exceptional shipments, its potential as a strategic logistics capability has received limited scholarly attention. This study investigates the contribution of charter air cargo to supply chain resilience, examines the operational factors that influence its effectiveness, explores industry practitioners' perspectives on its strategic application, and develops an operational framework to support its integration into supply chain management. An explanatory sequential mixed-method approach was employed. During the quantitative phase, survey data were collected from supply chain managers, logistics managers, freight forwarders, cargo operators, and aviation professionals with experience in charter air cargo operations. Descriptive statistics, correlation analysis, and multiple regression analysis were used to determine the relationships between operational characteristics and supply chain resilience. The subsequent qualitative phase consisted of semi-structured interviews with selected industry experts to validate the quantitative findings and provide deeper contextual insights. The findings demonstrate that charter air cargo strengthens supply chain resilience by improving organizational flexibility, operational responsiveness, redundancy, and recovery capability. Among the operational characteristics evaluated, speed, routing flexibility, reliability, and dedicated capacity exhibited significant positive relationships with supply chain performance, whereas cost efficiency exerted a comparatively moderate influence. Participants likewise emphasized that charter air cargo should be regarded as a proactive strategic resource that enhances business continuity, mitigates operational disruptions, and supports consistent customer service during periods of uncertainty. Organizational capability, infrastructure readiness, environmental uncertainty, and operational priorities were identified as key considerations for successful implementation. Based on these findings, the study presents an operational framework that integrates charter air cargo into long-term supply chain strategy. Anchored in the Supply Chain Resilience Framework, Dynamic Capabilities Theory, Sense making Theory, and Contingency Theory, the proposed framework offers practical guidance for organizations seeking to improve resilience, strengthen strategic decision-making, and sustain competitive advantage in an increasingly dynamic logistics environment.

**Keywords:** *Charter Air Cargo, Supply Chain Strategy, Supply Chain Resilience, Logistics Management, Operational Framework.*

