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Defense Supply Chain Availability Case Study

Service — Executive Analytics, Modeling, & Decision Support

Client Context

A government/defense organization responsible for supporting operational units was experiencing **persistent system downtime** above acceptable limits. Field availability averaged **80%**, below the required **90% minimum threshold**, creating mission risk and increasing pressure to add staffing and resources.

Due to the sensitive nature of the work, client details and system specifics are intentionally omitted.

The Problem

Leadership believed the performance shortfall was primarily a **staffing and resourcing issue** and was considering adding labor to improve availability. However, there was limited clarity on:

- where downtime was being introduced in the end-to-end supply chain process,
- which process steps were driving the greatest impact on availability, and
- whether additional staffing would materially improve performance.

Decisions were being made largely on experience and intuition rather than validated data tied to how the process worked.

What Was Done

While working within a consulting engagement, Mark led a team to first **document the high-level current-state supply chain process** supporting operational units. This process view established a shared understanding of how work flowed, where decisions were made, and where delays and handoffs occurred.

Analytics and modeling were then **explicitly built on top of the process**, using historical operational and supply chain data to quantify how different process factors affected system availability. The work included:

- linking performance data to specific process steps and decision points,

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- developing a **predictive model** to identify and prioritize the true drivers of downtime,
- running scenario and sensitivity analyses to test the impact of staffing changes, cycle-time reductions, and other interventions.

This approach grounded the analytics in the reality of operations rather than abstract metrics.

The Outcome

- Identified **three primary process-related factors** that explained approximately **70% of the variability** in field availability
- Demonstrated that a **10% reduction in field staffing** would have **negligible impact on system performance**, contradicting leadership's initial assumptions
- Freed approximately **\$1M annually** to reinvest in higher-impact supply chain process drivers
- Showed that a **25% reduction in two key cycle-time factors** within the process would raise availability from **80% to the 90% target level**

Leadership gained clarity not only on **what to change**, but **where in the process those changes would matter**. By anchoring analytics in a clear understanding of the current-state process, leadership was able to replace assumptions with facts, avoid unnecessary labor increases, and make targeted, evidence-based decisions that improved field availability and reduced cost.