

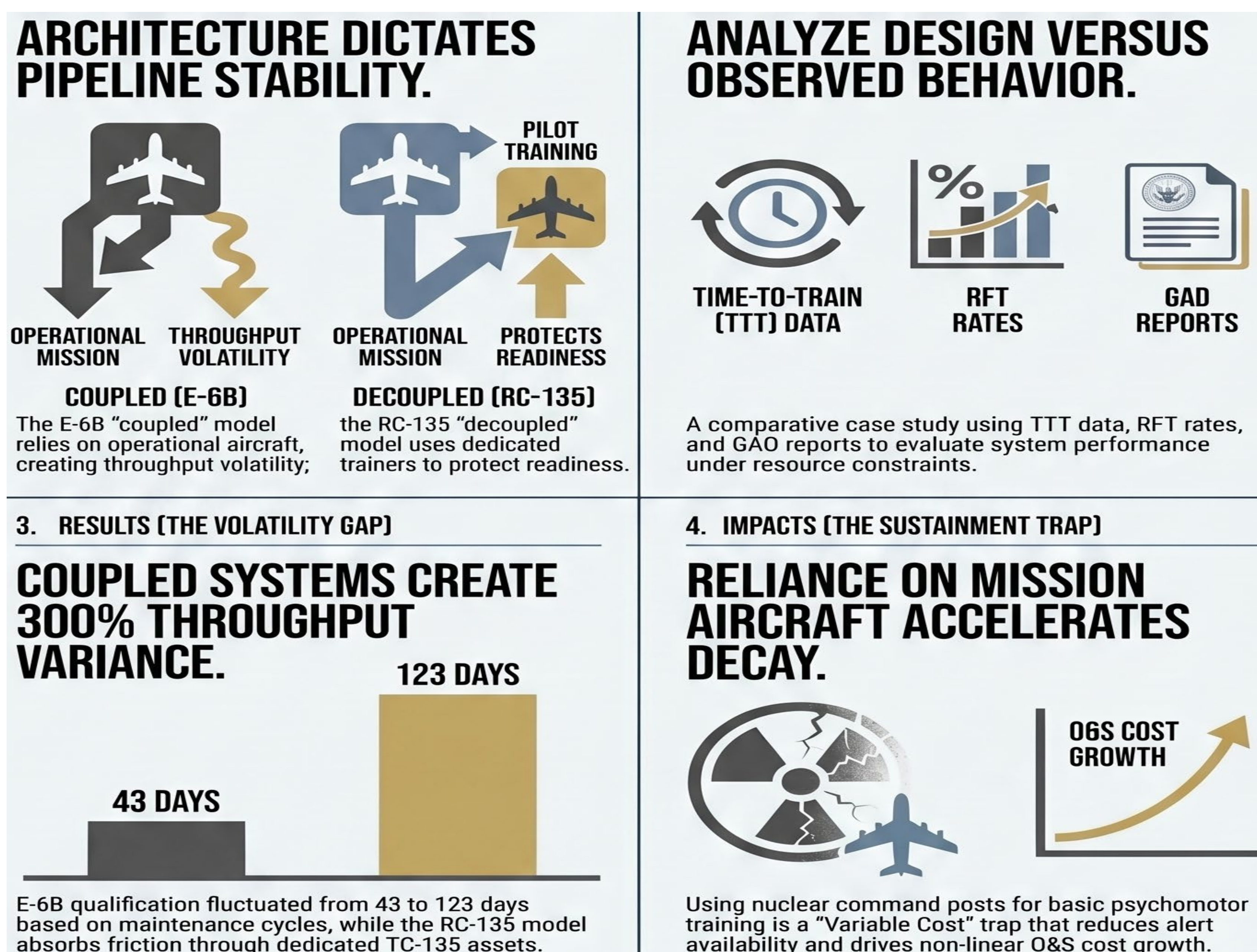
Abstract

The E-6B Take Charge and Move Out (TACAMO) community relies on operational mission aircraft for pilot qualification, creating a training architecture in which aircraft availability, operational tasking, and pilot production are tightly coupled. This thesis examines how alternative pilot training architectures influence training capacity, sustainment burden, and readiness as TACAMO prepares to transition from the E-6B to the E-130J. Using a comparative case study of the E-6B and RC-135 communities, the research analyzes training documents, historical Time-to-Train data, Ready-For-Tasking trends, and external sustainment assessments to compare operational-aircraft-based training with architectures that use dedicated training aircraft and higher-fidelity simulation. The analysis finds that the E-6B model produces recurring training volatility because pilot progression depends on operational aircraft availability, while the RC-135 model reduces this vulnerability by decoupling training from operational aircraft. The findings indicate that training architecture is a primary determinant of pipeline stability in low-density/high-demand fleets, not merely an administrative or syllabus design issue. The thesis recommends immediate E-6B syllabus flexibility, acquisition of an interim in-flight trainer, continued investment in higher-fidelity simulation, and a decoupled E-130J training architecture to protect pilot production and reduce sustainment risk.

Methods Comparative Case Study and System analysis

- Utilized “intended design vs Observed Behavior” framework
- Analyzed Time-to-Train data
- Ready for Tasking rates
- Official syllabi

Results & Impact



Future Research

- Examine possible correlation between training delays and proficiency decay
- Conduct a formal cost-benefit analysis of dedicated training aircraft.