

## Abstract

- Defense Acquisition Programs (DAPs) often exceed original cost estimates, take longer than planned, and produce fewer units with fewer capabilities. The DOD is exploring new approaches for utilizing data and systems to improve reporting information on DAPs to Congress. This study uses three analysis methods to understand how the causes of cost variances differ among factors from Selected Acquisition Reports (SAR) affect cost variances within DAPs.

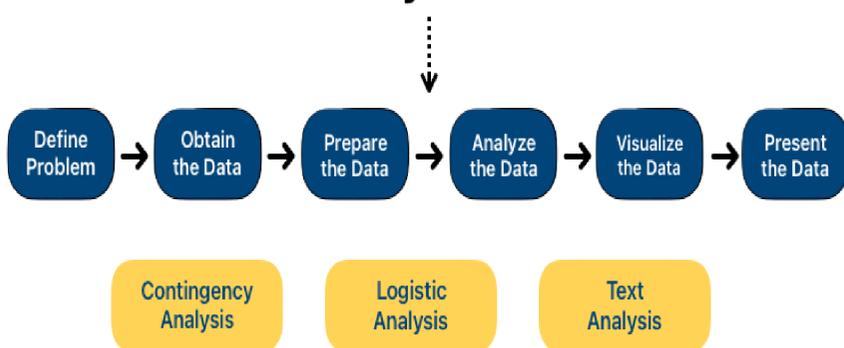


Project managers reviewing data on costs, schedule, and performance within DAPs

## Methods

- SAR data obtained from Defense Acquisition Visibility Environment (DAVE) web portal
- Data cleaned and prepared using JMP software
- Data analyzed using Contingency Analysis, Logistic Analysis, and Text Analysis
- Data visualized through Mosaic Plot Graphs, Logistic Analysis Graphs, and Text Analysis Word Clouds
- Findings organized by aligning analysis methods with respective factors analyzed

### Data Analysis Process

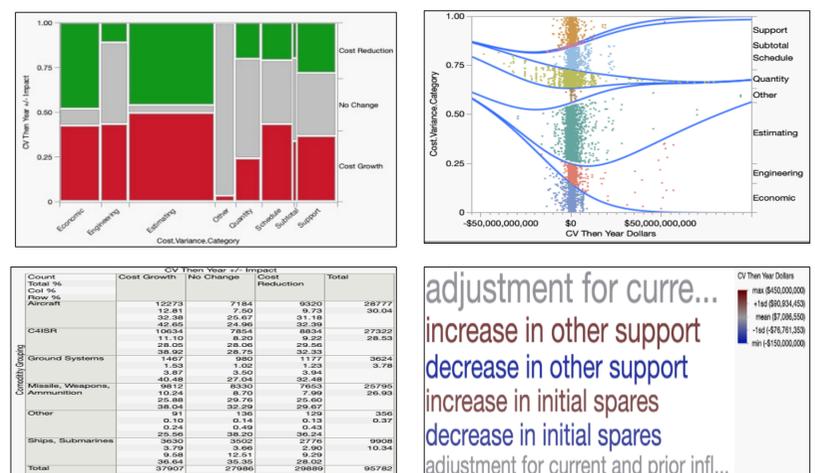


Data analysis process used for this research

## Results & Their Impact

The causes of cost variance in the historical cost variance dataset differ across the analyzed factors, including service component, commodity prime category, funding category, joint capability area, and cost variance category.

High-dollar variances were typically associated with quantity changes or revised estimates across categories, and specific cost variance trends were linked to unique attributes within each factor.



Sample of data visualizations from research

## Recommendations

- Enhance data entry standards through policy, training, and management oversight
- Expand dataset accessibility in ADVANA
- Collect data on a wider array of factors that directly impact cost, schedule, and performance.
- Increase implementation of text analysis and machine learning