Rapid and reliable distribution support is important for Army forces deployed into theaters of operations. This report describes algorithms developed by the authors that monitor the U.S. Army’s logistics distribution system and automatically detect distribution problems (or potential distribution problems) that might affect equipment readiness.

RESEARCH QUESTIONS

• What is the best way to monitor the distribution system and automatically detect distribution problems (or potential distribution problems) that might affect equipment readiness?
• What data visualizations could assist Army managers and analysts to determine the root causes and potential corrective actions related to the detections?

KEY FINDINGS

• Current Army distribution metrics are lagging indicators of problems because they focus on requisition wait time, which requires the receipt of the shipment, and require manual monitoring to detect problems.
• In several historical case studies of distribution performance degradation, the detection algorithms and metrics could have automatically detected actual or potential distribution problems several months prior to when they were realized by the Army units.

continued on back
RECOMMENDATIONS

- Implement the detection algorithms and visualizations in an Army analytics platform for continued use and to inform corrective actions.
- Expand the metrics beyond requisition wait time and provide open shipment data in the analytics platform so that the algorithms can identify potential distribution problems earlier.