

Data Analytics Can Improve DoD Decision Support

Given today's complex challenges, it's time for government to modernize decision making.

You don't need to tell government organizations twice that they have limited resources—or, for that matter, that they have big decisions to make. And those decisions, each an irrevocable allocation of resources, must be made carefully using all available information.

There was a time when decisions made by leaders in government and defense organizations were more straightforward than they are today. But with the rapid evolution of information, technology and global interdependencies, the complexity of federal decisions has doubled many times over, creating the need for a new posture.

"Missions and capabilities are now so complex that decisions aren't just about a single platform or a single system anymore," says Raymond L. Coutley, Senior Consultant at Coutley Consulting, LLC and former Technical Director within the Naval Aviation System Command (NAVAIR) Department of Warfare Analysis and Integration. "They're about systems—and systems of systems delivering a wide range of effects. Decisions today are being made across multiple objectives and metrics."

For years, the federal government and the Department of Defense (DoD) have used decision support techniques by using tools that help either validate or challenge a decision maker's instinct, analyzing alternatives in light of their potential value. For federal

decision making, value is especially difficult to measure, since government is driven not by profit but rather by a set of organizational objectives. The increase in complexity that comes with technological advances has served as a wakeup call for leaders across government that traditional decision support methods and analytical tools need an upgrade.

"It's time to modernize our decision support activities," says Dennis M. Buede, President and Executive Principal Analyst at Innovative Decisions, Inc. (IDI). "We need to have analytical tools, techniques and processes in place that make sure data is available in the right way at the right time."

Though complexity and uncertainty present decision makers with a formidable challenge, the innovative forces complicating high-level decisions also herald a great opportunity in the form of data analytics. Access to data—the information that has always been generated simply by human activity—is now exploding everywhere around us. By partnering with MarkLogic, IDI enables decision makers in government and defense organizations to leverage new types of information, such as cyber analytics, social media, and geospatial data, to make informed, value-driven choices.

"Leaders are now searching for newer technologies to process all information supporting a decision," Buede says. "It's changing everything from acquisition

decisions to tactical, wartime decisions—but you cannot outsource major decisions to new technology. Decisions are social and technical processes. The value is found in tailoring proven decision methods with analytics technologies to support decision makers.”

As a partner to decision makers and analysts, IDI brings to the process decades of experience with different problem domains. Coutley says this represents the processes and awareness that act as the foundation of government decision analysis.

Amid this increasingly complex data landscape, however, even the deepest knowledge of military operations is not sufficient on its own—it needs situational context.

“Analytics and visualization technology are changing in a way that enables informed context-building

through the disciplined management of data,” Coutley says.

That’s where MarkLogic’s NoSQL database comes in, creating a unified view of all data. With the ability to process and search mass quantities of both structured and unstructured data, the MarkLogic database integrates data from silos to help leaders ultimately make sense of the information behind their decisions. Together, Buede says the companies have made great progress in helping defense organizations analyze alternatives and make evidence-driven decisions using all-source data.

“That, to me, is the keystone in the arch,” Coutley says. “Leaders don’t need to be mystified by big data and confused by complexity. We know how to use analytics to generate better insights and, ultimately, better decisions. That’s what all analysts should strive to do in support of decision makers.”