On the move

Advancing military logistics toward sense-and-respond

In most developed nations, the military moves far more people, equipment and supplies than the average commercial enterprise. The very nature of military operations makes logistics a defining capability. To accomplish missions – whether military or humanitarian – the delivery of troops, machines, supplies and more must be synchronized to arrive in the right quantities at the right place at the right time.

Speed and accuracy are paramount. Defense organizations are being asked to respond to multiple operations – such as military, peace-keeping, nation-building or disaster relief efforts – at any given time. Unexpected events can upset standing plans at any second. Logistics must somehow keep pace with ever-faster operational execution.

Military agencies worldwide have found it increasingly difficult to meet these challenges with traditional logistics operations; as a result, many have launched initiatives to develop sense-and-respond capabilities. By that, we mean the ability to sense events or situational changes in realtime and respond rapidly and effectively.

But are defense agencies focused on the most important dimensions of logistical change? And how far have logistics operations progressed toward sense-and-respond objectives? We believe that emerging technologies and techniques currently being vetted in the commercial arena open a new realm of possibility for military logistics. These advances allow defense organizations to move their logistics operations much closer to a true sense-and-respond environment.

What does the journey involve?
The transition to sense-and-respond is evolutionary – but it is also urgent. To be most successful, we believe militaries must evolve along two trajectories at once – becoming increasingly collaborative and increasingly adaptive (see Figure).

A maturity model provides logistics organizations with a roadmap for building improved sense-and-respond capabilities.

Improvements in logistics begin with having realtime visibility into what is happening across the entire organization: where inventory sits at any given moment, what equipment is working and what is not, what is being consumed and what is sitting idle.

With a realtime visibility foundation in place, defense organizations can begin to move horizontally across the maturity model – responding rapidly to what they see, and eventually adapting their operations in realtime based on what they are learning. Organizations should also be simultaneously maturing along the vertical axis. At the outset, realtime visibility allows collaboration within the bounds of a particular organization. Then, organizations begin to share information and coordinate activities with other organizations. Eventually, this collaboration deepens to the point that information is interpreted with a collective mindset and decisions are made jointly.

As logistics organizations reach the upper right cell of the maturity model, interrelated organizations are all optimized and adapted collectively as an integrated network of operations. For the military, this is the heart of sense-and-respond logistics. It is the point where logistics operations, as a whole, are fully optimized and adaptable – and can contribute most significantly to successful missions.

We believe sense-and-respond manifests itself within a military organization in several key ways:

- **Shared situation awareness**
- **Better decision support**
- **More effective collaboration and coordination**
- **Self-synchronization capabilities**

- **Faster speed of execution**
- **Dynamism**

For defense organizations today, logistics is, quite literally, a mission-critical function. Military missions simply cannot be effective without adequate logistical support. Unfortunately, for many organizations, lagging logistics capabilities hamstring operational execution.

We believe that emerging technologies and techniques hold great promise for military logistics. These advances can help defense logistics organizations become increasingly collaborative and adaptive, and ultimately reach a state where they can take action as soon as conditions change. In turn, these new sense-and-respond logistics capabilities can offer military leaders the information and decision-making superiority that they sorely want to accomplish their missions efficiently and effectively.

Given the nature of modern warfare, it becomes imperative to address logistical and procurement issues with an enormous sense of urgency. The good news is that the insights needed to accomplish that task are understood and feasible.

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