

## Logistics lessons - Disaster relief efforts show how military and commercial logistics planners have learned from each other.

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When a truckload of fresh lettuce pulled up unannounced at a Salvation Army distribution center shortly after Hurricane Katrina devastated the Gulf Coast, workers had to think quickly how to manage the perishable donation. They transferred it to another volunteer group that was preparing salads for hurricane survivors.

Surprises such as that make the logistics of humanitarian relief more akin to military logistics than the more routine, comparatively straightforward supply chains in everyday commerce. But while military, commercial and relief logistics pose singular problems, professionals said the supply chains are as similar as they are different. They also say each offers **lessons** for the other to use.

Steve Geary, a partner in Supply Chain Visions, a consulting firm that works with the Defense Department, said commercial and military supply chains do the same things for different missions. The private sector's goal is to profit by delivering goods to customers. The military supply chain delivers war-fighting capability to the war fighter. "The thing that's different about the military isn't in the supply chain, it's the mission we support," he said.

Gus Pagonis, chairman of RailAmerica, a short-line railroad operating company, has seen it from both sides. He learned about logistics in the military, where as a three-star general he won praise for managing the Army's logistics in the first Persian Gulf war. In 1993, he became senior vice president for logistics at Sears, Roebuck and Co., a post he held for 10 years.

"There's really no difference between military and civilian logistics," Pagonis said. "The principles are basically the same. The only difference is that in the military, somebody is shooting at you, and you may get blown up.

"The reason that I'm successful in the civilian world is because the military taught me how to handle crises," Pagonis said. If there's one major difference, commercial supply chains normally focus on the orderly movement of goods along well-established pathways. "A crisis in the military becomes a way of life," he said. "A crisis in the civilian sector can send people through the roof, and they panic a little bit."

Whether it's bullets to Baghdad or baby clothes to Biloxi, managers agree that any kind of logistics requires good planning. Pagonis said the Pentagon develops and maintains contingency plans for all possible theaters of operations. Each plan contains assumptions about an enemy's plans and capabilities. Military contingency planning is a matter of reducing the number of what-ifs a commander may face, and being mindful that the assumptions may change: The enemy may deploy more troops or weapons.

"Crisis management is little different from manning day-to-day operations. Even when you're manning day-to-day operations, crises will occur," Pagonis said. He developed contingency plans for Sears for business disruptions ranging from hurricanes to labor unrest. The company had a crisis-management center set up and ready to go, and

Pagonis designated two managers to be in charge of the crisis team.

"You have to have a single point of contact from the moment the event begins," Pagonis said. He thinks that was one of the big breakdowns in relief efforts after Katrina. "Everybody thinks they're in charge. Clearly, there can only be a single point of contact."

In humanitarian logistics, the Salvation Army does much the same thing, said Dalton Cunningham, a major in the organization. "It's very organized. We set up an incident command team instantly, and as soon as donation flows started coming, we connect communication links with all the front-line people, and ask, 'What do you need, how much do you need, when do you need it?' " As donations begin to come in, the organization matches supplies and demands.

"You start thinking about the capability you require. Any retailer worth his salt has some ability to do this," Geary said. Consider an auto parts chain. "I guarantee you that these guys have contingency plans on how to react in the wake of a natural disaster. They know that they have to bring in small-engine motor oil, gas cans, spark plugs, two-cycle engine oil for power tools, cleaning supplies." Their records from previous crises tell them what people want to buy. "You may not know where the hurricane is going to hit, but you know the hurricane is going to hit somewhere. You need the capability to flow materials into an area, even though you don't know where the area is. That's some of the methodology that the military applies: capability-based thinking."

Geary and Pagonis said the military is quick to adapt civilian ideas when it makes sense to do so. The Defense Department uses the same machinery as commercial operators to lift and carry supplies, and tries to use off-the-shelf logistics technology developed by the private sector.

Pagonis said that before 1995, the military was the leader in supply-chain innovation. "We did a lot of innovative things in the Gulf war: outsourcing, coordinating and integrating," he said. Now the civilian side is ahead in the use of information technology, such as radio-frequency identification or bar-code technology. "The civilian sector seems to have taken the lead in that, but the military, like any good organization, is stealing any good thing that someone else develops," Pagonis said.

Geary said the military is expeditionary by nature, so its supply chain must have agility and flexibility. Commercial operators may have those qualities, even if they're not always as quick and nimble as the military. The military also learns from civilians. "Our relentless pursuit of RFID is an example," he said. "How do you maintain control over your materiel in an environment without any infrastructure? That's what we have to do." If supply-chain managers cannot rely on physical infrastructure, they can use RFID to create a virtual infrastructure to track cargo. "We started deploying active RFID over a decade ago. That's an agility play."

Military logisticians say their job differs from distributing goods for Wal-Mart, because the stores move 50 miles every night, and the customers change, along with their wants and needs. Col. John D. Turlip, head of the Marine Corps Logistics Vision and Strategy Center, said the military cannot attain the same level of efficiency as a civilian supply chain, but the trade-off is greater flexibility during times of war or civil emergency.

"This means having more warehousemen, ammunition technicians, or refuelers in peacetime, because you know when the crisis arises, you'll need every one of them," Turlip said. "This is admittedly a luxury that businesses may like to have, but really can't in a for-profit environment."

Turlip completed his master's degree at Penn State with a critique of Marine Corps logistics in the first phase of the Iraq war. Traditionally, the military tried to use the maximum amount of space in whatever container, ship or aircraft was being deployed, and let rear-echelon supply depots sort it out for delivery to the front.

"This was clogging the distribution channel, and pushing the problem out to units that were least equipped to do the sorting and repacking required to move the supplies on to the ultimate consumer," Turlip said. One of the **lessons**-learned from the commercial world is the "pure pallet," the idea that shipments are packaged for the end user as early as possible in the supply chain. This now is common among large importers, which sort and label U.S.-bound goods overseas, so that they can be taken directly to the import distribution center or retail store. The military has discovered that the process works just as well for them. "By spending the extra time up front, we've greatly accelerated the movement of supplies through our distribution channels," Turlip said.

The lack of such a system is a chronic problem in every humanitarian-logistics effort. "When donations come in unsolicited, it's generally a mix-match of multiple items that people believe are needed," the Salvation Army's Cunningham said. "All of it has to be sorted, separated, and then it can be palletized, shrink-wrapped and distributed to the areas where the need is." Sending unsorted truckloads into the field is not efficient. "You don't have masses of people who have nothing to do but sort and separate stuff."

To handle unsolicited but well-intentioned donations, the Salvation Army relies on volunteer labor and donations. "We have warehousing that's been donated in almost all the areas now, so we can stage the contributions and start receiving more of the trucks that may not be palletized," Cunningham said.

Cunningham said Katrina differed from previous storms in its magnitude. It has attracted more national attention, and more disaster professionals are a phone call away to help find the most efficient way to get help to people.

"We try to coordinate our efforts to make the best response we can to people in need," Cunningham said. "This is all I've ever done my whole life, and I don't know how to do it any other way. We train our officers to respond immediately without thought to personal comfort. And be passionate about what you do and the people you serve. For us, it's a high calling, and it's motivated out of a love for God. That's all we're supposed to do every day. It's a natural response for us to do this without question, without concern."