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Transforming Enabling Processes: The Next Step in Logistics Reform

Colonel Arthur B. Morrill III., USAF

When it comes down to the wire and the enemy is upon you and you reach into your holster, pull out the pistol and level it at your adversary, the difference between a click and a bang is logistics.¹

—Editors of *Loglines*

Introduction

In the early to mid-1990s, the Air Force introduced Lean Logistics and its key elements—two levels of maintenance, shorter repair cycles and rapid delivery.² While Lean Logistics initiatives significantly altered Air Force logistics, much remains to be changed. Today, the Air Force needs like innovation in all processes *affecting* (enabling) logistics to realize a dramatically better performing warfighter support system.

Lean Logistics: The Air Force Weight Loss Program

The application of Lean Logistics concepts and initiatives made Air Force logistics resources and processes leaner. It was a necessary transformation. The Air Force was carrying the fiscal burden of inventories that were too large, which drove opportunity costs. Maintenance cycles were too long. Distribution pipeline segments were lethargic and plagued with bottlenecks.

In response, the Air Force reduced its inventory, its logistics population and its intermediate-level maintenance locations. Lean Logistics initiatives did result in cost savings, cost avoidance and the reduction of inventory and infrastructure. However, the Air Force increased its use of contractor field teams, its in-garrison and deployed optempo and its per capita reliance on a shrinking workforce. Significantly, the Air Force neither notably nor concurrently reformed processes enabling logistics success. The result: logistics initiatives did not significantly improve customer satisfaction.

Reengineering selected Air Force logistics processes under the aegis of Lean Logistics or, recently, Agile Logistics is not enough if we do not simultaneously reform enabling processes. As a complementing activity, we must also develop customer-oriented metrics to assess our performance, quantify our progress and predict future supportability states. Ideally, these should largely be leading indicators derived from independent variables. Dramatic improvements to enabling processes and performance indicators are central to this needed breakthrough in logistics, the object being to significantly improve the warfighter support system's performance.

There are three major activities in the warfighter support

system. Foremost is the customer, otherwise known as supported activities. From an Air Force perspective, they include Air Force major commands (MAJCOMs) and joint theater commanders-in-chief. Second are supporting activities, such as Air Force Materiel Command, selected MAJCOM activities (for example, engine regional repair centers) and the Defense Logistics Agency (DLA). Third in this warfighter support system are logistics enabling activities, such as headquarters staffs, staff support activities and, importantly, major functional areas—information technology, comptroller and policy.

"Unfortunately, today, our Acrobat® and PowerPoint® presentations have better technology than our logistics [enabling processes]."³ Fortunately, in an era of process reengineering and reform, enabling activities offer the greatest possibility for dramatic improvement to Air Force logistics performance and, therefore, customer support. Lon Roberts, writing on improving organizational performance, cited ten tenets of process reengineering in his book *Process Reengineering: The Key to Achieving Breakthrough Success*. Tenet 3 is operative: "Business processes—the domain of the so-called white collar worker—hold the potential for quantum leaps in improvement."⁴ Roberts continued:

As important as product improvement and productivity enhancements are to a company's competitive position, an additional area of concern deserves equal, sometimes more, consideration: the effectiveness and efficiency of the business processes that support the development and delivery of the organization's products and services.⁵

Transformed Enabling Processes: Air Force Muscle Toning

To dramatically improve operations support, enabling processes must be transformed. Like many areas of the private sector, they must become real-time data delivery systems; incremental improvement is insufficient to the task. Radically transformed processes must be the result, supported thereafter by prudent, holistic continuous improvement. Foremost among the enabling activities requiring this dramatic transformation is the information technology (IT) arena. The reason is clear:

The requirement for timely management information will increase dramatically . . . as time becomes a critical factor in competitiveness. Unfortunately, most companies are not prepared for the challenge. To be a world-class manufacturer in the twenty-first century will require superior communication and information management capabilities designed to carry information both vertically and horizontally throughout the organization. Goals will include real-time data transfer and

information enhancement through artificial intelligence-based communications.⁶

This approach presumes the pursuit and timing of technology specifically support strategic goals and objectives. Therefore, it directly facilitates achieving of quantifiable logistics outputs—the effectiveness of which can only be determined by the customer (warfighter).

Unfortunately, the pursuit of information technology improvements is often disconnected from user and customer satisfaction. Technology becomes an end in itself instead of a means to an end. Franklin S. Reeder, head of a Washington-based consulting firm, points out IT “managers must overcome their fascination with technology and show how . . . [they specifically] contribute to organizational effectiveness”⁷ Lieutenant General (Ret) William P. Hallin, a former Air Force Deputy Chief of Staff for Installations and Logistics, echoes the need for information technology to better support logistics outcomes by observing, “Improved logistics data reliability and total asset visibility must be accomplished in the development and enhancement of information systems.”⁸

The Air Force must radically improve IT enabling systems and processes that were considered optimal or state-of-the-art when they were first introduced so they continually surpass their initial capabilities. Failing this, two undesirable results occur. First, those producing value (logistics goods and services) will be constrained in achieving their output potential and, therefore, providing customer support and satisfaction. Second, the IT community will be relegated to housekeeping functions vice deploying IT systems giving strength to those in the conference rooms and, more importantly, to those on production floors and flight lines.⁹

Toward that end, the Air Force must simplify its information systems, make them user-friendly and ensure they are customer focused. Second, the Air Force must divest itself of outdated legacy systems and duplicative systems in favor of lean, agile systems that provide producers of goods or services what they need from the information technology arena—when they need it.

Real-Time Information: The Lifeblood of the Warfighter Support System

Many organizations have elaborate control systems that collect more information than the organization can absorb. Often the information collected is needed information but not timely to production activities generating goods and services. Many do not feel notable pressure to significantly alter this situation. Fortunately, others realize they must do something or go out of business. Suffice it to say, the Air Force must transform itself so it does not find itself pushed by some role- or mission-threatening force to change in ways that do not improve productivity and profitability.¹⁰ Instead, the Air Force should move forward voluntarily, internally leading dramatic reform in the area of enabling processes—the focus being improved warfighter support.

According to organizational behavior experts, this approach fits well with what employees want. Whether they are in an environment of change or a stable workplace, employees expect:

- Management to tell them what it will take for the

company to succeed and how they fit into the puzzle.

- The organization to provide the financial, physical and human resources needed to do their jobs. [Among the resources expected is a tool box of dynamic IT tools.]
- Honest feedback about their own performance, the performance of their work unit and the performance of the company.¹¹

These employee expectations, combined with simplified and dramatically improved information systems focused on helping production activities create value, suggest the need to meld IT with manufacturing technology (MT) to provide timely, sufficient, flexible and cost-effective life-cycle support for military aircraft and engines. In this sense, MT embodies five *interdependent* dimensions:

- **Physical Production Processes:** Design and layout, type and mix of equipment, movement and flow of people and materials, degree of automation, computer hardware, inspection and simulation.
- **Product/Process Design:** Planning software to facilitate the design of products, including materials, parts, components and features as well as design processes and their interconnection with products.
- **Information Systems:** Software for communication, integration and coordination, intelligence and production control.
- **Management Technology:** *Orgware* that supports the transformation process, including administration, communications, integration, coordination, knowledge capture, learning, process control and rewards systems.
- **Product Materials Technology:** Core materials, attributes, part interconnection and function.¹²

Value Stream: Activities Increasing Customer Fitness

Enabling communities supporting the logistics community must measure their performance in light of their contribution to their logistics customer’s desired outcome. In short, they must map the *value stream* and increase its effectiveness and efficiency. The value stream comprises those specific actions required to bring a specific product (for example, goods, services or both) through any business’ three critical management tasks: problem-solving, information management and physical transformation. This includes achieving specific cost, schedule and performance targets and eliminating waste (*muda*).¹³

James P. Womack and Daniel T. Jones, authors of *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, observed:

Our initial objective in creating a value stream “map” identifying every action required to design order and make a specific product is to sort these actions into three categories: (1) those which actually create value as perceived by the customer; (2) those which create no value but are currently required by the product development order filling or production systems (Type One *muda*) and so can’t be eliminated just yet; and (3) those actions which don’t create value as perceived by the customer (Type Two *muda*) and so can be eliminated immediately.¹⁴

In outlining his views on Agile Combat Support, Lieutenant General Hallin wrote of the need to make such value stream improvements, observing that a responsive logistics system required efficient business-based management and accurate and timely data.¹⁵

Mr. Marvin Runyon, for 10 years the Postmaster General of the United States, had a complementary vision, which he successfully deployed in the United States Postal Service. Despite the Postal Service's business and operational successes resulting from his leadership, he was "criticized for creating too much of a bottom-line-driven organization."¹⁶ Runyon responded,

It's not necessarily the bottom line we're driving at. That is one factor. Employee satisfaction is one factor. Customer satisfaction is another factor. We have three voices—the voice of the business, voice of the employee, voice of the indicator [customer] . . . and we measure all of those factors.¹⁷

The Air Force has these three voices as well.

While employee-indicator development is in its infancy, the effort to develop *customer-focused metrics* was central to a DLA research project by the same name. This effort applied the Pareto principle,¹⁸ which "states that 20 percent of a given product line or population represents 80 percent of an organization's business and impact."¹⁹ This study found "readiness-driving spare parts tend to have very similar logistics characteristics. They are generally higher demand, higher cost parts, with relatively longer procurement lead times."²⁰ When combined with improved enabling processes in IT and fiscal areas applicable to logistics, this approach can improve warfighter support and satisfaction.

Changing the Status Quo: Curing What Ails You

We often cause our greatest obstacles. We do many things, have numerous IT systems and preserve multiple, if not redundant, IT processes past their useful life. Why? Because they were there when we first got here and now we are comfortable with them—not because they best support future, let alone current operations. Unfortunately, history suggests that we are predisposed to the status quo despite being in an environment in which operations, logistics and business dynamics are moving the Air Force rapidly forward.

Several years ago *Reader's Digest* ran an interesting story about a woman who, before baking a ham, always trimmed a small amount off each end of the ham. When her young daughter inquired one day as to why she did this, the woman, thinking for a moment, stated that she wasn't certain why, but that she had learned the technique by watching her own mother. She thought it had something to do with making the ham cook more evenly throughout, but she would need to verify this with her mother. When the woman later posed the question to her mother, she was surprised to learn that her mother was not certain either why this was done, but that she likewise had learned the technique by watching her mother, the young girl's great-grandmother. When the occasion arose at a family gathering to ask this question of the great-grandmother, she replied, "The only pan I had available was too small for an entire ham . . . I always had to trim both ends of the ham to make it fit the pan."²¹

Clearly the young daughter needs to stop unnecessarily trimming the ham. Likewise, the Air Force must cease

limiting its logistics value stream because its IT enabling processes and tools do not satisfy today's logistics production requirements. Air Force enabling processes need to change at a rate and to an extent necessary to help logisticians deliver better goods and services to operational customers. As one writer observed:

Things are moving so fast that if you hold onto your experience too long, you'll get trapped into old ways of looking at things. When you have a paradigm shift, everything goes to ground zero. What does that mean? It's not what you've been taught that matters. It's how fast you can learn. Can you learn faster than the person next to you?²²

Summary

The Air Force has the capability to dramatically improve the output of its logistics value stream. To do so, it must acknowledge that logistics effectiveness and efficiency are increasingly dependent on high-performing and timely enabling processes. These enabling processes must be designed to best support logisticians who provide value in the form of goods and services delivered to warfighter customers. Once this paradigm shift occurs and bold steps are taken to transform enabling processes to facilitate extraordinary logistics performance, warfighter capabilities will directly benefit from the logistics community's use of these dramatically improved support multiplier processes.

Notes

1. Editors of *Loglines*, *Loglines*, Vol. 3, No. 4 and Vol. 4, No. 1, 3.
2. Morrill, Arthur B. III., "Lean Logistics: Its Time Has Come," *Air Force Journal of Logistics*, Vol. XVIII, Nos. 2 & 3, 8-9, 15.
3. Address by Brigadier General Thomas A. O'Riordan (USAF), Vice Commander, Ogden Air Logistics Center, to the 1998 Maintenance Officer Association Annual Conference.
4. Roberts, Lon, "Process Reengineering: The Key to Achieving Breakthrough Success," Milwaukee, Wisconsin: ASQC Quality Press, 1994, 21-22.
5. *Ibid.*, 2-3. See also Michael Hammer, "Reengineering Work: Don't Automate, Obliterate," *Harvard Business Review* 68 (Jul-Aug 90), 104.
6. Giffi, Craig, Aleda V. Roth and Gregory M. Seal, *Competing in World-Class Manufacturing: America's 21st Century Challenge*, Foreword by Thomas J. Murrin, Deputy Secretary, U.S. Department of Commerce, Homewood IL: 1990, 16.
7. Reeder, Franklin S., "IT Managers Missing Their Cue," *Government Executive: Government's Business Magazine*, May 1998, 59.
8. Hallin, William P., "Agile Combat Support—The New Paradigm," *Air Force Journal of Logistics*, Vol. XXII, No. 3&4, 2.
9. "Competing in World-Class Manufacturing," 16, 73.
10. *Ibid.*, 45, 224.
11. *Ibid.*, 257.
12. *Ibid.*, 303.
13. Womack, James P. and Daniel T. Jones, *Lean Thinking: Banish Waste and Create Wealth in Your Corporation*, New York: Simon & Schuster, 19, 37-49. "Kaizen is a system of improving processes and activities up and down the company hierarchy by involving everyone from top managers to the lowest level employee, working together in a team. It is the Japanese term for continuous-improvement activity and is considered by many observers as a modern total quality management philosophy. This philosophic approach consists of applying small but continuous incremental efforts to improve any activity. In contrast to business process reengineering, the results from developing and implementing a kaizen system are not major reorganizations nor replacements of processes by new ones but are steady incremental improvements to existing processes. The goal of kaizen is to eliminate the three M's. Muda means useless, excess or any activity that does not add value; for instance, a worker looking at an automatic machine does not add any value." Nia, Myriam. "Kaizen"

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- n. page [Online], Available: <http://mansci2.uwaterloo.ca/~msci723/KAIZEN.html>. (26 Feb 99)
14. *Ibid.*, 37-38.
 15. "Agile Combat Support—The New Paradigm," 2.
 16. Yoder, Eric, "Time For Change," *Government Executive: Government's Business Magazine*, May 98, 55.
 17. *Ibid.*
 18. For an extended discussion on the subject, see *The 80/20 Principle: The Secret of Achieving More With Less*, by Richard Koch New York: Doubleday, 1998.
 19. St. Thomas, Robert L., Laurence G. Kohler and David K. Peterson, "Focusing on Weapon Systems," *Loglines*, Vol. 4, No. 1, 18.
 20. *Ibid.*
 21. Chessher, Melissa, "Executive 2000," *American Way*, 1 Aug 98, Vol. 31, No. 15, 13.
 22. *Ibid.*, 117.

Colonel Morrill is presently the Director of Propulsion, Oklahoma Air Logistics Center, Tinker AFB, Oklahoma. 
