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Maintenance and service managers’ role in providing for emergencies serves day-to-day operations as well.

The attack on U.S. soil in 2001 and ensuing national security alerts around the world drove home the need to improve contingency planning, business continuation, and crisis management. The unexpected continuously taxes the resources of governments and enterprises, yet those organizations are still poorly prepared to respond to such incidents because they focus almost exclusively on cost and efficiency rather than agile response to unplanned events. The ability to respond quickly and effectively in emergencies is the best measure of our readiness to absorb a sudden loss.

By virtue of training and skills, managers responsible for property, plants, technology, fleets, and public infrastructure are well suited to play a central role in managing the risk associated with unexpected impairment of assets and production capacity. How? By focusing on the agility of their business processes, and not just their cost and efficiency.

Enterprises and government agencies must re-examine five core maintenance processes for their ability to recover quickly from unexpected disruptions. Otherwise, those organizations assume additional operating risk most can ill afford. The prescriptions offered not only help to ensure business continuation in emergencies, they can enhance day-to-day operating performance as well.

Managing failure is managing risk
Asset managers know that everything fails and that their role is to manage failure at minimum cost. Preventing all failure is no more likely than eliminating all risk. Accomplished maintenance and service managers understand that planning, predicting, and responding quickly to the unexpected is the surest way to achieve the service levels expected of them.

An often-overlooked component of effective asset life cycle management is contingency planning. Managers plan for and try to predict equipment failure before it happens. They squeeze supply and contracting budgets to eliminate waste. They train personnel to make them more efficient. They prolong effective asset life without undue disruption to operations. It is a tremendous balancing act and much more than a necessary evil the way it is sometimes treated.

Delivering service, whether in-house or as a business, involves the same five core processes. To be fully optimized, those processes must be cost effective, efficient, and agile. Here we look at how to make them more agile—that is, better able to respond quickly and effective when the unexpected happens.

Process 1: Asset documentation
No company operates effectively without extensive information about the technical and financial attributes of its assets including documents such as process maps, system hierarchies, and physical layouts. Engineering bills of material and spares catalogs are needed for troubleshooting and repair.

Asset information is presented by way of drawings, schematics, instructions, checklists, and specifications. Equipment manufacturer and engineering design information is supplemented in time by service and safety bulletins and fault histories. The terms of equipment warranties and service contracts and budgets and operating costs complete the asset documentation picture.

Agile asset documentation insures that such information is available on demand. At a minimum, this means secure asset information in one place, accessible by anyone in the organization. When production capacity is disrupted, asset information in one place means that an organization can quickly assess its loss as well as its ability to re-allocate resources and recover. In daily operations, globally available asset information gives rise to sharing best practices among geographically dispersed locations.

Process 2: Service supply chain
Supplying a maintenance or service organization requires accurate demand forecasting, a streamlined requisition and approval process, and effective sourcing and procurement of indirect materials and services. Efficient in-bound logistics, materials stores, replenishment, and reconditioning also are needed, not to mention supplier performance measurement.

The agile service supply chain is not dependent on fragile, sole sources of supply. When a supplier is affected by the unexpected, maintenance and service operations are disrupted and revenue may be lost. Even when it means sacrificing some bargaining leverage or additional capital investment, agility means having choices in a pinch. A few years ago, rolling power outages in California left many operations without enough

energy to deliver their products and services. Strong supplier relationship management, sophisticated indirect materials sourcing strategies, and optimized stores stocking policies are required for a truly agile service supply chain.

Process 3: Service network management
Nobody does all their own maintenance because it is no more cost effective to hire every technical skill than it is to stock every spare part that might ever be needed. Every maintenance organization, as well as every equipment service business, must occasionally procure services and manage those third parties. Managing such a service network requires not only good service sourcing, procurement, and vendor performance measurement capabilities but also seamless contractor dispatching and tracking of work status, time, expenses, and claims. Ideally, in-house and service provider operations intertwine in ways that allow them to share resources such as tools and stores to minimize costs.

Managing a service network for agility is about responsiveness and accuracy. When disruptions occur, what is your ability to switch providers quickly without errors? For example, electric power companies have a very sophisticated service network that extends well beyond their immediate locale. When four hurricanes hit Florida in a single season last year, electric grid operators from over a thousand miles away responded to restore power according to standing arrangements. Considering the health and safety issues associated with the loss of public services, service network management may be one of the most critical processes of all for a utility.

Process 4: Service incident processing
Whether raised by a call center, a device alarm, a schedule, a meter, or a technician’s report, service requests raise a host of questions that must be answered efficiently.

Does the request represent a revenue opportunity or entail a contracted service-level requirement? Can it be resolved immediately or must we commit additional resources? Does it fit a known fault profile, require reverse logistics, an appointment, or a subcontracted resource? What are my technical skills and depot capacity constraints? All of these questions and more must be answered before any repair, inspection, replacement, or recovery action can be scheduled.

Agile incident processing is the ability to handle any kind of request at any entry point.

Rather than a hodgepodge of call centers, help desks, maintenance dispatchers, and property management offices (or their self-service equivalents), the agile maintenance enterprise can profile, resolve, and/or dispatch the full gamut of service, support, and maintenance requests. Like asset documentation, agility of this kind requires necessary information in one place, secure but readily accessible by everyone. When operations are disrupted in one department or location, others can quickly pick up the slack. In daily operations, a 360-deg view of service requests, resources, and commitments also facilitates outsourcing and efficient dispatch.

Process 5: Workforce management
Once dispatched, efficient and cost-effective workforce management entails planning, estimating, and approval either on a job-by-job basis or with more involved project management techniques. Prior to issuing the first work order, we must address safety, hazards, permitting, and regulatory compliance. We must identify specific resources, often in crews that may include specialized equipment, tools, and contractors.

After the make up of labor and materials requirements is determined, we must coordinate the work with plant operating schedules, occupancy constraints, and public access needs. All the while, supervisors must attend to technician training and certifications tracking to insure work quality and compliance. And when work is finally completed, extensive reporting is required.

We facilitate workforce agility by enhancing technician knowledge on the ground. A tremendous amount of experience is locked up in workers’ heads. Capturing that information and reporting it out as useful, context-sensitive business intelligence gives supervisors much more flexibility in choosing specific resources. When the most qualified technician is not available, another will do because he is supported by excellent information.

This is not the business intelligence of the off-line, data-warehouse variety but real-time information. Workforces benefit most from knowledge of events and patterns that may have occurred only days or hours ago. Knowledge delivered daily to the shop floor or field makes a service workforce agile.

Foster agile maintenance and service practices
There are three initiatives that every maintenance and service organization can

undertake which will improve its ability to handle operational threats and the unexpected:

• Consolidate and secure asset information in one place
• Develop an inside-out view of resources and commitments
• Enhance service supply chain resilience

Consolidate and secure asset information in one place. Aside from making it much easier to disseminate and enforce maintenance best practices, consolidating asset documentation in online repositories makes it possible to secure and replicate important documentation so that it is available when critically needed. Companies that rely too much on what is in people’s heads are ill prepared to replace that knowledge quickly.

Replacing a single piece of equipment is one thing. Re-constituting an entire plant process is quite another. If either the people or the information has been lost, such a task can be lengthy, costly, and painful to the business.

Develop an inside-out view of resources and commitments. Knowing your resources and the commitments against them, not only for in-house but also throughout your network of service providers, does not just improve service levels generally. It also allows you to divert work quickly back and forth between network and in-house resources when disruptions occur in one or the other.

Even in the best of times, you cannot go it alone. In an emergency, there may be nowhere else to turn besides the service network. Make certain that they are engaged in and familiar with your operations. Best of all, manage the service network with self-service and collaboration capabilities so that service providers can swing into action on their own, accurately and effectively, when your own operations have been disrupted.

Enhance service supply chain resilience. Rather than being satisfied with the lowest nominal cost, seek the best value from suppliers including those times when supply lines are unexpectedly compromised. Sacrifice a little bargaining leverage to insure back-up sources, not only to deal with temporary shortages, but also to insure reliable supplies when needed.

Rather than potentially fragile sole-sourcing, rotate preferred providers regularly. Cultivate multiple suppliers’ familiarity with your operation and unique needs. Develop contingency labor and materials sourcing agreements with key vendors including terms and conditions for emergency as well as everyday response. That way, you will always be in a position to adjust quickly when either you or an individual supplier is affected by an unexpected event.

How agile are you?
How would you assess your current level of agility? Do you focus on cost and efficiency at the expense of improving your ability to adjust quickly in emergencies? Is your business vulnerable to security threats and unexpected events either in-house or in your service network and supply chain?

Is asset information consolidated, replicable, secure, and accessible quickly from any part of the organization? Do you have a complete view of both in-house and service provider resources and commitments? Is your service supply chain robust enough to withstand the loss of a key supplier or to support your operation in the event that critical stores were suddenly lost?

Agility is not free. But the cost of agility is a reasonable hedge against disruptions caused by unexpected events. Purchasing agility requires balancing its cost against the production margin, occupancy, and public access that it insures.

A nation is as secure as the ability of its enterprises and government agencies to absorb catastrophe with minimum disruption. Are you doing your part in that effort?

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