

Where have all the spare parts gone?

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Not long ago I received a call from a gas producer that produced oxygen for a large paper mill on the West Coast. The caller said that a 3000 HP electric motor had hiccupped and caused the fuses, in their 5000 V rated motor starter to blow. They had no spares and he was hoping we had the rated fuses. I replied that we had three I could send out that day. He added that the manufacture had promised to ship him three new units in three days. What he did not say, but their driver did, was that this paper mill was about to lose \$1 million dollars per day that the oxygen supply was delayed. Our fuses got them back up, just before their stored oxygen ran out. So, the fuses we supplied saved, this mill, at least a million dollars.

This article is not about our fuses or about saving a million dollars, but why there were no spares. This event had me seriously looking at how the companies handle spare parts inventory and how long it takes to get the needed components in this new internet age of business. Also there are two other parts of the story that need to be mentioned before we get to the causes. During my follow up calls I was informed that the spare units coming from the manufacture were delayed and arrived 21 days from when the order was placed (not three days, so that is \$20,000,000 saved). Secondly, one year after these events took place, the same purchasing individual that bought the fuses, asked if I was willing to take the never installed new fuses off their hands. When I asked if they had shut down the process, I was told no it was still in operation. They had not used or needed the fuses during the year, and therefore it was determined that they were expendable, even though they would be in the same dire situation if the same scenario played out again.

To understand why the spare parts sourcing was being dealt with in such a manner; an understanding of the history of four business developments and their affects on today's business operations is necessary. In 1799, Eli Whitney the inventor of the cotton gin also developed an interchangeable parts system. This is recognized as the beginnings of the Lean Manufacturing movement. In 1910 Henry Ford was credited with taking all the elements of a manufacturing system (people, machines, tooling and products) and arranging them in a continuous system for manufacturing the Model T automobile. Ford is considered by many to be the first practitioner of Just-In-Time and Lean Manufacturing. Between 1949 and 1975 the Toyota Production system brought the Just-In-Time model into today's modern era. In 1977, our second paradigm starts up; the U.S. de-regulates air cargo allowing Fed Ex to expand and fly large jets allowing for our modern Next-Day-Air delivery systems. Our third new tool is Outsourcing. According to Dr. Handfield's research book "Current Trends in Production Labor Sourcing" since the Industrial Revolution, companies have grappled with how they can exploit their competitive advantage to increase their markets and their profits. Outsourcing can be defined as "the strategic use of outside resources to perform activities traditionally handled by internal staff and resources." Sometimes known also as facilities management, outsourcing is a strategy by which an organization contracts out major functions to specialized and efficient service providers, who become valued business partners. Finally our last paradigm, I call minimal inventory model. As the tools of Next-Day-Air and Just-In-Time delivery became accepted practices, the accountants began to re-think the inventory model for storerooms. In 1997, a

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large industrial facility in Beaverton Oregon chose to Outsource their facilities maintenance functions to an engineering company called Morrison-Knudsen (now called The Washington Group). One of their first changes in operation procedures were to have the storeroom managed by a local electrical distributor and ask them to carry only items in the storeroom inventory that turned a satisfactory number of times each year. To accomplish this task, the shelf stock was evaluated and pulled if the turns were not according to the guidelines. I was involved on the liquidation side of this project, so I had the opportunity to ask "What is the logic behind this process?" The answer, not only made sense but was the trigger for my developing the business model for my company. When you add up all of the costs that go into buying, storing, stock analysis, labor hours, employee health care, management and management oversight (to list just a few) and compare that amount with having an outsourced company with materials management strengths manage all of the day to day needs, the decision is simple on both dollars and sense.

Albert Einstein once said, "We cannot solve problems by using the same kind of thinking we used when we created them." What we can take from this, is that for every new business paradigm that takes hold there will be a need created that the new methods will not and cannot cover.

When we combine the affects of the paradigms, mentioned above, we can easily point to higher productivity and corporate profits. In other words, they work and they work well. We get what we need when we need it, and we do not have to tie up valuable dollar resources until the needs arise. We have less operation cost and produce the same or more for less money.

Distributors have changed during the last 30 years since the onset of Next-Day-

Air shipping. Back then almost every industrialized region in the U.S. had industrial suppliers that knew their customer's facilities requirement's and stocked the items. Once the distributors management chose to look at the business through Return-on-Investment (requiring more turns), shelves, that once held odd ball items that kept the plants running, now only held items that were needed every few months. Bearings, gears, valves, relays, filters, fuses and breakers that may have been called for only once a year could no longer be stocked. The stores that tried to continue the older stock philosophy either closed or got bought by the mega chain stores.

Manufactures found that the business profits are better when raw material was being turned into goods without stopping to put through emergency orders. Keeping finished goods on the shelves was also causing lower return for the investors.

Customers calling for needed, but not on the shelf, components are directed to the distributor, and are often told that the standard delivery for the product is weeks away. The client has a production line down and is losing money every minute. They ask if there is another alternative. If the distributor is an electrical equipment supplier and the product is a circuit breaker manufactured by a major manufacture, the distributor could lose their distributorship, if they try to find the breaker outside of the "direct channel" marketing the manufacture has in place. If they choose to locate the product, through an alternative resource, they may not get a tested, safe and reliable product. With the client in need what is the distributor to do?

Next-day-Air, Just-in-Time delivery, Outsourcing and min/max inventory control have altered the way we all do business in a positive way. The other side of the equation is not a negative, but an opportunity. The large stockrooms full of

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everything the in house maintenance staff needed is gone. The electrical equipment manufacture with extensive inventory is gone. In other words, there is a void to fill, so who has stepped up to the job?

Today, the term niche marketer is used to describe a variety of companies that concentrate on only a few products, but they are well known for having that product and the product knowledge. If we combine the terms master distributor and niche marketer, and add more inventory then conventional wisdom would accept, plus added knowledgeable and skilled technical personnel, we would have the type of company that has evolved to what used to be called, by the wholesalers and manufactures, the junk dealer.

In 1996, a group of companies that sell used and surplus electrical materials and equipment (electrical junk men and one woman) formed a not-for-profit organization to promote reconditioning standards and a code of business ethics. Today the P.E.A.R.L. organization has 50 full-time members that sell more than \$500,000,000 of equipment and materials annually. Many of the skilled technicians that once serviced the equipment at large facilities (replaced by outsourcing) found jobs at these P.E.A.R.L. companies. Bringing with them the skills and knowledge that they had gained from years of hands on service, they have also helped to write the standards for reconditioning and testing, for used and surplus components. In the 12 plus years that P.E.A.R.L. has been in existence the same paradigms that have altered the business landscape, mentioned through-out this article, have forced the evolution or development of a new type of supplier. I have come to call this type of company the Need-It-Now-Equipment-Supplier. Whether it is electrical, plumbing, pneumatic, hydraulic, bearings and many other types of industrial products, needed to keep a production line, pipeline, pumping station or any

critical application running, these suppliers are called on when the supply chain cannot meet the required demand. The P.E.A.R.L. organization has set a standard for aftermarket electrical selling as a highly regarded business that is known for supplying the needed products, when time is of the essence, that are always safe and reliable.

Voids occur throughout our lives, how we handle them, especially when critical to an ongoing operation, is how we in the supply chain are measured. Like a bad apple spoiling the barrel, an event that leaves a client without a clear solution to their Need-it-Now scenario, will be remembered longer than any well done order. In this case the void is in the lack of available material and knowledge.

The manufacturer may have the components at the distribution center, but lacks the knowledgeable personnel with the experience and skill to find and assemble the requirement. The wholesaler rarely has the staff or the odd ball components that will meet the situation, and the industrial plants management has been unwilling to stock the parts or have the skilled technicians on hand to prevent the occurrence in the first place. The used/surplus equipment dealer has evolved into the place where the knowledge, skilled labor and materials are combined with an attitude toward solving difficult situations. If standards for workmanship, safety and reliability are upheld and ethics are on the top of the expected values, the opportunity would exist for the best of these Need-It-Now-Suppliers to form practical strategic alliances with the manufacturers and wholesalers so the supply chain could work at its full capability.

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