

Chairman's Report to Performing Suppliers

Dear Performing Suppliers

How likely is it that someone in your market will begin to deliver 100% on-time and zero PPM quality? What would happen if several suppliers began to do that? Would that affect your customer's expectations for your performance?

I used to go to the cleaners for my shirts and dry cleaning. I remember that I would either go in early before work and right after work. But everyone else had the same constraints so there we were waiting in line to check in our clothes and pickup with 10 other people and one person at the desk working very hard to make sure we didn't have to wait more than 20 minutes.

But then I happened to move and change cleaners, and the new place had three people at the counter and no waiting even at peak hours. That seemed like heaven and I would never go back to a place that couldn't do that for me.

But then one day someone came to my home and said they would give me the same service and pricing, and pick up my cleaning and laundry at my convenience.

After that, I would never go back to bundling up my cleaning, putting it in the trunk, and then taking my precious time to take it over to the cleaners. I was hooked on the time savings and convenience of home service. And there was more than one choice so the best quality and fastest turnaround became my primary criteria.

I know a lot of cleaning places went out of business because they could not foresee a time when home delivery would become the norm and at the same prices.

What happened to Blockbuster when Netflix began delivering movies to your home with no late fees and a lower price for more convenience? What happened to any major video rental place?

These are examples of people who could or would not look into the future to see what changes were inevitable. They refused to see what was almost obvious.

What were booksellers doing when Amazon started selling books online?

And what were computer retailers doing when Dell computer started taking orders and custom-building your computer and shipping it the same day?

Every industry has to look ahead and realize what changes are inevitable. And even though our first reaction is, "That's impossible," as leaders we have to refuse to accept that things are impossible because history tells us that it is highly likely that someone else will prove us wrong. Leadership then is accepting the "impossible" and setting a goal to achieve it.

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Let's consider what changes are inevitable in our aerospace and defense industry.

1. 100% on-time delivery – in the past we have only been able to think about this through the idea of in order to achieve it we would have to add inventory – more raw materials if our suppliers had long lead times, and more finished goods if our customers needed near 100% performance. But many of us have almost lost our business going down that path.
2. Carrying costs are the “silent killer” – add \$2,000,000 in inventory raw or finished goods and you'll add 20% per year in carrying costs - \$400,000 per year. (the gift that keeps on giving) And what do we typically collect from our customer to offset that cost? Perhaps a thank you but we are rarely in a position to charge for this service because we realize that we're only doing it because the customer has asked us to deliver on-time and we can't without inventory. But we begin to notice that our margin, what's left of it, is dwindling away because carrying cost doesn't show up on a line in your P&L, it just hides itself everywhere on your financial statement – hiding in plain sight.
3. Now one of the ways that we “hide” from this reality is to blame it on our suppliers. “Their lead time is too long and we can't change that.” We're busy making excuses for them rather than looking for solutions. That's one way we put ourselves in a blind spot. We begin to believe our own story and believe that everyone else will be a victim to the same story. Then when someone like Dell integrates the supply chain and starts doing things in days rather than weeks, we can't believe they can do that. But the truth is, without the 20% carrying cost built into their business model, they can do a lot more than that.
4. 100% on-time delivery can be done without inventory. All we need to do is envision a continuous flow of product at exactly the rate the customer needs daily or weekly, and build a production and business system to match that rate of flow. Easy to say – not easy to do. But the main point of this paper is, “Is it doable?” Will someone do it? Will it be your company? Flow is a matter of shrinking changeover time and reducing batch sizes. Move product through at a higher rate of speed because one unit is not waiting for the next unit. Building a “pull system” that pulls single units or very small batches through the production process is the key to a big part of reaching 100% on-time. Building a production system that can make a mix of parts or assemblies at the rate the customer demands them, not at the rate you need to build up stock or inventory – this is often called “mixed model.”
5. What's discouraging is that many suppliers do not have a process management system, do not have the discipline of standard work, do not have the basics of 6S, and are poorly positioned to make this kind of change. And often we are very impatient to make the changes but don't recognize that the speed of change can be very high, but until we

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build a strong foundation, anything we do will simply crumble back on itself.

6. Talking to one of the SEA consultants recently, he expressed the frustration of having to do the basics of 6S and the other Stage One Roadmap tasks called "Stabilization" because suppliers had not yet accomplished these. He said, "We all know that getting results quickly that show on the bottom line is essential, but when I go into a supplier that doesn't have a 6S system in place, doesn't have an accurate BOM, doesn't have accurate inventory, what are we supposed to do to get results when all of these things haven't been done?" I share his concern. Many suppliers do not have a year to get on the "Grow" or "Gold" list for their customers and yet making the improvements we need will not happen until the company learns the basics of how to organize and sustain improvement. We're frustrated when the management team cannot seem to hold regular performance review meetings (1.1.3) and regular continuous improvement meetings (1.1.4). How can this team expect rapid change when they cannot focus their attention on the thing that will cause it the fastest? How can there be anything more important than staying in business? How can the workers in that company believe this is a priority if it appears to be delegated to lower and lower levels of the company without any accountability or review? Of course we know the answer from the other side of this – firefighting and problem-solving are taking priority over making, managing, and sustaining improvements. This is a cultural issue we all have to face. "What do you expect? Do you think we're going to drop everything to do this SEA stuff?" So again, we find that it's easy to say, but not easy to do."
7. Zero PPM – how did that ever become a reality? Or it is? When we realize that production lines for our customers are going to be very fast and lean, we begin to realize that they're setting up a condition where a single part could stop workflow – and each of those delays could cost the customer millions of dollars! It's been reported that the new Honda Jet will employ automotive suppliers for most of its supply chains. Automotive suppliers have operated at 100% on-time and zero PPM for at least several years.
8. Charge Backs have been appearing more and more often. Someone has to pay that additional cost for a part or assembly that isn't right when it gets to the customer. In 1985, Bill Smith at Motorola published a paper that would later be used by Mikel Harry to found the Six Sigma Institute. The birth of Six Sigma came as a result of the realization that Motorola's customers could not tolerate the levels of quality previously considered adequate or even good. At 3.4 part per million, cost and customer satisfaction continuously improved. Most aerospace suppliers are accustomed to operating at 2,000 PPM or more. Drawing a line between where we are and what it will cost our customers for suppliers to remain where they are, you arrive at a point where you cannot connect the dots. Suppliers must achieve six sigma levels of quality and charge-backs will continue to exist to re-enforce that reality – the customer is saying, "Somebody has to

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pay for this and it's not going to be us." Now faced with the cost or even part of the cost of a flight test gone wrong, many suppliers will have no choice but to go out of business.

9. What does it take to achieve Six Sigma quality? SEA's goal is to establish a process management culture. The discipline of documenting and following processes is a prerequisite to using statistics to manage processes. If the organization cannot manage and control its own basic processes, the idea of simply applying statistical process control to a work area is rarely a sustainable one. Level 3 processes establish that the organization is capable of the discipline required. Level 4 statistical control on processes that require it, can help to drive down variation on processes that have been previously standardized. It's common to see suppliers using statistical process control without standard work. Who wants to waste time doing 6S and setting up cells when the problem is right in front of us? But implementing a good statistical control system requires standard work methods – there can't be any special causes of variation if we wish to measure a normal distribution and make it work for us. The purpose of statistical control is to empower the workforce to prevent errors. Often a series of changes must be made to supplier deliveries, in process inspection, work methods, and training. The implementation method for Six Sigma normally includes black belt training for a team, green belt training for managers, and a series of project designed to reduce variation. But many black belts have told us that for several years, they have been doing lean work – designing and implementing cells, establishing flow systems, reducing changeover time, and more. Nobody seems to be able to escape the basic lean work.

Summary

Because these changes represent a clear and present danger to suppliers, I recommend that we adopt 100% on-time and zero PPM as our SEA Supplier Goals. Some of our suppliers may be a lot of work to do and special considerations as to why these goals cannot be met. What I would hate to see is for us to assume that something can't be done because we're living at a time when someone is going to figure out how to do it.