The ACA Group Newsletter

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the aca group

Contents

What Are Your "Burning Issues"?

In this ACA Group newsletter, we're trying some new things to better serve our audience – more relevant/timely articles, and an opportunity for you to tell us what is on your mind.

We would really like to know what your most critical issue is in these difficult economic times. We would like to focus our future newsletters on addressing your business needs. To contact us, please send an e-mail to: ek@theacagroup.com. Use the subject of "Newsletter Burning Issue". Then tell us what you are facing.

We'll summarize the responses in a future newsletter and answer as many of your individual questions/issues as we can. You can also send us your feedback on this newsletter to the same e-mail address. Did you find this newsletter useful, interesting, etc.? We appreciate your comments.

Opportunities for Operations During a Downturn by Doug Howardell

Though it is hard to visualize it while you are struggling to turn a profit, there are opportunities to be found amid our current economic troubles.

The trick is to identify the opportunities and to have the knowledge and foresight to take advantage of them.

It is not news to anyone that we are in an economic crisis. Every day the newsman tells us stories about layoffs, retrenchments and collapses. Correspondingly there are lots of articles being written about what individuals and companies can do to survive or even prosper in a climate like this. This article and the others contained in this newsletter also offer that kind of guidance but we narrow the focus down to what operations professionals can do to help their companies.

When times are tough, the old adage, "cash is king," is even more important. As operations professionals, the things we can do to improve the company's cash position fall into two major categories - increase sales and decrease costs. We'll explore both those categories.

Increase Sales – The most obvious way to survive tough times is to increase sales or at least minimize the loss in revenue. Here's a few ways to keep the top line in top shape.

<u>Get closer to your customers</u>

This is a great time to get closer to your customers. Whether you sell business to business or direct to consumers, your customers are experiencing the same uncertainty that you are. Make a point to understand their uncertainty. To find out what your customers need and want you will have talk to them. If you know them by name, then engage them in a conversation about their needs. If you do not know your customers by name then use market research to discover

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Leaning Your Supply Chain by Jim Strong

Every time we turn on the news or pick up a paper, another bank has closed, or another company has been taken over or gone out of business, or another friend or associate has lost their job. So why would you want to take on another major task like "leaning your supply chain" in this economy, and with limited resources? Why not wait till things get better; until you have the time and the people to do it right? The answer is, now is the perfect time to begin to start to build a Lean supply chain.

Now is the perfect time to eliminate the waste in your supply chain

Lean means eliminating waste, and most of our supply chains have plenty of waste in them. Waste in the form of low performance suppliers who are just getting by on quality, on-time delivery, and competitive pricing. Waste in the form of suppliers who are not responsive to our customers changing needs and expectations. And, waste in the form of clerical tasks that take up buyers' time and energy, that would be better used developing their suppliers.

What do we mean by a "Lean supply chain"?

It all depends on who you are asking. Your accounting manager might say that Lean means reducing costs. I one time had a finance executive tell me that I needed to "go after the low hanging fruit". The so called "low hanging fruit" however, often includes some of your best suppliers; suppliers who are willing to work

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Back to Basics with ABC's By Kathleen J. Pennise

When was the last time your inventory had a basic ABC analysis? With the dynamics and constant pressures of controlling costs and supply demands that the business world has been seeing over the last year it just might be time again. The benefits gained by understanding the classification of your inventory could be to your advantage in this rough market.

ABC analysis helps you determine where you want to focus your efforts in managing your inventory. You get to see your inventory in a different light. The analysis separates the most significant items from the least important and is used to determine the degree and level of control for your inventory items.

How is this done? The analysis is based on a simple rule that approximately 80% of your inventory value is represented by 20% of your items. A quick example is: you have an inventory level of 1.5 million and you have 1200 items. You would then look at annual dollar usage (history or projected) for each item and rank them in order of percentage of aggregate usage. What you will find is that approximately 240 items will represent 1.2 million dollars of your inventory. You will then classify the next 15% or so of the inventory value as your "B" items, approximately 360 items. The balance or 600 items will be classified as "C" items.

Understanding your inventory gives you a significant advantage

There are also several factors to think about when you are doing this analysis- do you want to include all items that are in your inventory? You might want to exclude items that have not had any activity for the past 18 months. You also might want to do a separate analysis on your purchase items versus your manufactured items. There will also be items that you just need to keep in on that "A" list due to quality, scarcity of the material or lead time factors. I would also think about who should be involved in the analysis- a group effort? Inventory Management, Purchasing, Engineering and Accounting. Once it is done; who will maintain the list, how frequent should the analysis be done, how do you handle newly designed items, is a procedure written?

Now that you have this list of 240 "A" items you can minimize your efforts and manage the items that will give you the biggest payoff. These items should have tighter controls on inventory records, more frequent reviews of forecasting and safety stock levels and a concentration of cost reductions.

On going reviews of your inventory is very beneficial as you can see from above. ABC Analysis is also a first step towards elimination of Physical Inventory, which will be the next topic in our newsletter.

If you would like help with analyzing your inventory, contact kp@theacagroup.com. We can provide some tools that make the ABC Analysis easier and can be tailored to your specific inventory needs.

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with you to meet your customers' needs regardless of how un-reasonable they might be. They are not the low cost suppliers because they are in business for the long run, and their prices often reflect the "added value" they provide.

Your purchasing manager might say that Lean means reducing the number of suppliers in your vendor base. Our goal is not merely to reduce the number of suppliers you work with but to develop suppliers that you can work with to achieve your mutual goals. The only good reason for reducing the number of vendors is to eliminate the non-value added suppliers.

Your production manager will tell you it doesn't matter how many suppliers you have as long as they deliver their product on time, in the required amount, and that it is usable the first time.

So who is right? They all are. We all want suppliers who provide excellent quality, on-time delivery, at a competitive price and who, at the same time, are open, flexible and easy to work with. Nothing is more aggravating and wastes more of a buyer's time than a "high maintenance supplier". If we put our effort into getting the right suppliers they will be the ones who "lean the supply chain" for us.

Seven steps to getting started:

1. First, run a Pareto analysis of your entire vendor base. Sort it in descending annual dollar volume. Pick the first 20 to 25 suppliers (representing 80% of the dollar volume).
2. Ask the people around your company (everyone who deals with suppliers, (from receiving and accounts payable clerks to the top management staff) what they think of these suppliers. You can provide them with a questionnaire with simple criteria for rating their performance.
3. Develop a score card to measure these suppliers based on these criteria. Traditional supplier performance metrics don't always tell the whole story. They won't tell you how many times an item was delivered in a crushed container the way the receiving clerk will.
4. Communicate the results to your suppliers. They can't correct the problems if they don't know there is a problem. Ask for their help in improving their performance.
5. Let these suppliers know what your expectations are and what they can expect from you in terms of future business. A supplier conference is a good way to develop supplier relationships. Don't forget to invite the executives from both companies.
6. Find ways to streamline the buying

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Who Pays For Waste? by Andy Pattantyus

What is waste? Waste (or Muda) is anything (activity or material) that does not produce value for the customer. There are two kinds of Muda. Type 2 Muda is waste we can see and quickly eliminate using point kaizen. Type 1 Muda is waste that is systemic, hidden in plain sight, and is very difficult to eliminate without a concerted, sustained and systemic effort. We will talk about that in the next issue.

How wasteful is the average "non-lean" manufacturing company? In my practice, I have found that it is possible to double the production in the same space without increasing labor costs, and with very little capital investment. Thus, 50% of the factory capacity is wasted. A lean colleague says "It has been proven that while up to 30% of the efforts in a factory are waste, over 60% of the efforts in an office are waste."

Where is the waste? It is hidden in plain sight, but it is hard to see. We call it inefficiency, but inefficiency is too nice a word for it. Inefficiency is really the waste we are willing to tolerate, either because we have not identified it, or we know about it but we have not taken the trouble to eliminate it. Inefficiency is the waste ***that we can afford*** to tolerate. The truth is that we can always be more efficient. That is the basis for the Lean philosophy of kaizen, also known as continuous improvement.

How does the waste manifest itself financially? Since the factory is under-producing, each unit of production must "absorb" twice as much direct labor and twice as much overhead as it should. If the selling price is capped at some upper limit (because the price is set by the competitors and buyers in the marketplace), then the margin suffers. While the company might be able to "afford the waste" and make an acceptable margin, the company is not as profitable as it could be. Even a detailed look at the Income Statement does not reveal this waste because the waste is "hidden", buried as lost seconds and minutes within each line item of expense.

By eliminating waste you can double the production in the same space

The bottom line is this: You pay for the waste, not your customer. Very few inefficient companies can maintain a high margin while their customers pay for waste. Most companies will have to eat the cost of both kinds of waste and suffer with low margins. Why is this? Competitors offer choices to the buyer. The buyer is constantly seeking value, which consists of a better product or service at a lower price. At some point, even the most loyal customer will try something new, which leads to defections. In this manner, the market relentlessly seeks value, quality and efficiency, thus punishing those suppliers that do not. Companies with high prices and wasteful habits must adjust or die.

What is the danger of complacency? Doing nothing is to guarantee a crisis in the near future. We don't know what some creative and inventive person (or company) is doing out there, right now. One day a new product or service pops onto the scene, and suddenly our product is hopelessly obsolete or too expensive. A high price for a mediocre product is an invitation for a competitor to enter the market. Conversely, an "impossibly" low price for a superior product is a barrier to entry.

It all comes back to the ***mindset*** of the company, which is a choice. We can relentlessly seek the causes of waste and eliminate them, and pass the savings on to our customers. Or, we can do just enough to "get by". As long as we make our numbers this month, we are OK. What happens when the storm comes? If next month, our revenue is half of what it is today, are we still OK? Or, is that when we panic, and start looking for the "easy" and obvious places to cut? These cuts are painful because usually it is labor or plant locations that are cut, because these costs show up on the income statement and are thus easy targets. Hidden in every line item of the income statement is systemic waste. Eliminating systemic waste (Type One Muda) is difficult, but can be done relatively quickly (6 to 12 months) and relatively painlessly through a well planned Lean Transformation initiative. Even in the toughest times, such an initiative can liberate working capital, expand capacity, and free up resources for new product launches.

Andy Pattantyus is president of Strategic Modularity, Inc., a systems engineering consulting firm that works at the plant level with its clients to do Lean Transformation projects that eliminate Type One Muda (systemic waste).

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process to free up buyers' time for more value added activities. For example if you are dealing with a supplier who meets all of the criteria of a Lean Supplier, why are you still bidding out every new requirement? If you have a formal purchasing agreement with a Lean supplier, then let the materials/production employees release an order.

7. As time permits, help facilitate lean continuous improvement / waste reduction programs with your suppliers.

Finally, and most important, is to develop an atmosphere of trust and mutual interest with all of your suppliers. Lean is a mutual journey and it takes everyone in the supply chain working together to get Lean.

Getting started is as simple as that. But developing a "lean supply chain" is a long-term, continuous journey toward excellence. Leaning your supply chain is somewhat analogous to a weight loss program. Losing the excess fat is just the beginning. You have to tone and strengthen the underlying muscle to achieve real results.

If you would like to have some help getting started with this process or in developing the tools, please contact me at js@theacagroup.com.

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the general needs and wants of the market segment you are addressing.

Customer needs and wants fall into four areas: price, quality, delivery and service. When you discover their needs in those four areas, then find a way to meet those needs and exceed their expectations. Carlos Canejo's article in this newsletter, ***"Drive Customer Service Beyond 2009"*** has some excellent suggestions on how to meet your customers' needs.

Increase your marketing

Increasing marketing when cash is tight may sound counterintuitive. Marketing costs money and you're trying to save money. We agree it is a challenge but it can be done. Look for free or inexpensive ways to keep your name in front of your customers. For example, email marketing is free. Send regular emails to your customers. Tell them about specials and close outs, or offer incentives. Send newsletters like this one telling your customers all the good things your company is doing. Keep in regular communication with customers and when they are ready to purchase, your name will be on their minds.

Offer incentives to your sales force

Sales people will sell what they get rewarded to sell. If you have some slow moving items you need to get rid of, then offer the sales people extra commissions for selling those items. If you want to push your higher margin items, then offer a special bonus to the person who brings in the greatest profit each month. Your sales force is your greatest tool to drive sales. Motivate them to help you sell what you most want sold.

Work receivables / shorten days outstanding

It's amazing how much money some companies leave uncollected. Go back over your accounts receivable records. Increase your collection efforts to shorten the time between invoice and payment.

Decrease costs – This is where the real opportunities lie. Every dollar of increased sales puts only a piece of that dollar to the bottom line. Every dollar of decreased costs puts that whole dollar on the bottom line. Below we help you get to the bottom of improving the bottom line.

Eliminate waste

In tough times you have to make every effort, every hour, every dollar count. You can not afford to waste a moment in eliminating waste. Waste can be defined as any activity or material that does not add value to your customer, any activity that does not directly contribute to the completion of your product or service. The tracking and elimination of waste must be an on-going activity in your company and it is even more important in tough times. When waste is not actively sought and removed, it will continue to build. You must make a habit out of seeking and eliminating waste by doing what is commonly called continuous improvement.

Every dollar of decreased costs puts that whole dollar on the bottom line.

Waste in operations includes the waste of time, space and resources involved in overproduction, inventory, repairing defective goods, transportation and waiting. You eliminate waste in production by changing processes to require less human effort, less inventory, and less lead time. The benefits of reduced waste are clear, your business becomes highly responsive to customer demand, while producing top quality products in the most efficient and economic manner possible. Andy Pattantyus' article, ***"Who Pays for Waste"*** will explain how to eliminate waste in operations in more detail.

Improve productivity

The company that wants to survive these tough times has to be a faster, smarter, better organization. A faster, smarter, better organization requires a highly productive workforce. Productivity comes from doing the right thing and doing it right. To assure the workforce is doing the right thing and doing it right, the workforce must possess the skills to respond to constant change, constant demand for more and constant quickening of the pace. To be highly productive a workforce has to have specific skills. Because a company is only as good as its people, these skills are the prerequisites for survival in a down economy. Acquisition of the skills required by a highly productive workforce will not happen by itself. You must put a training plan in place. Courses need to be designed or procured. Resources and time need to be allocated. You can learn more about improving productivity in an article, *"How To Improve Productivity"* which is available free on our web site.

Reduce overhead

Stop spending money you don't need to spend. The quickest way to lower overhead costs is to reduce non-essential spending. Frequently used approaches include standardizing service offerings so you reduce variation and minimize the need to do things twice, reducing non-essential headcount, streamlining the delivery process, reprioritizing expenditure requests and deferring some, and physically consolidating the facilities.

Companies are increasingly turning to outsourcing to control overhead. The overhead functions most often outsourced are IT, HR, and Facilities. Consider if you should outsource the functions that are not part of your core business.

IT complexity can be a critical success factor in managing overhead costs. Companies who describe themselves as behind the competition in overhead costs often cite "managing a patchwork of different systems" as their main IT challenge. Implementing a new integrated system suite can reduce your overhead dramatically.

Decrease inventory and manage the remaining inventory more smartly

Inventory, whether in finished goods or components, is a drain on your cash. You have to pay to store it, insure it and control it. To reduce that outflow, you need to understand what you have in current inventory and take appropriate action.

Kathleen Pennise, in her article, ***"Back to Basics with ABC's"*** reminds us that ABC analysis helps you determine where you want to focus your efforts in managing your inventory. ABC

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analysis separates the most significant items from the least important and is used to determine the degree and level of control for your inventory items. Managing your A items closely and your C items loosely will assure that you are only spending money on the items that matter.

Reduce your supply base

You can often reduce costs and leverage value from your supply base by optimizing the number of suppliers or rationalizing your supply base. You need to define those key suppliers who will enable you to achieve lower prices through leveraged volume, standardized service, lower number and costs of procurement transactions and lower cost to manage the supply base. It will also be easier to monitor supplier performance with a smaller number of suppliers. By focusing on a few key suppliers the relationships can grow, fostering integration, trust, value-added services, and innovation. In this newsletter, Jim Strong has an excellent article on this subject titled, ***"Lean Supply Chain."***

Execute perfectly

Do everything on-time, the first time. You can save a surprising amount of money if you can make all your efforts count. Whether you are developing a new product, adopting lean philosophies, or implementing new technology solutions, you have to carefully plan and execute the activities required to achieve your goal. Here are a few ideas you can use to improve your execution.

1. Break work into daily tasks. That way you know every day if you are on plan.
2. Review your plan at the start of every day. If you've broken your tasks down to daily increments, you should ask two questions at the beginning of every day. Did you get yesterday's tasks done? Will you complete today's tasks on time?
3. Make sure every task is assigned to one person responsible for completing it. It may take more than one person to complete the task but you need to have a single person who is accountable for that task.
4. Every time you fail to execute a task as planned, identify the root cause of the failure. Use those root causes to prevent the next failure.

So to manage your cash and assure you can weather tough times, you should increase sales and decrease costs. But in addition to watching cash, you can also take some steps to position your company to take advantage the next economic expansion. Below are some suggestions to expand your thinking about the types of opportunities you can look for.

Identify the opportunities

Increase Sales – A few ways to keep the top line in top shape.
Get closer to your customers
Increase your marketing
Offer incentives to your sales force
Work receivables / shorten days outstanding
Decrease costs – We help you get to the bottom of improving the bottom line.
Eliminate waste
Improve productivity
Reduce overhead
Decrease inventory and manage the remaining inventory more smartly
Reduce your supply base
Positioning — expand your thinking
Execute perfectly
Refocus your operations

Refocus your operations

Set goals or review and revise the goals you already have. Most companies have budgets and sales quotas; those are not the only goals a company should have. Set specific, measurable goals that are not just about finances. Examples of the kind of goals we're talking about are: "We will be the number one company as measured in sales in our market by the third quarter of 2010." "We will be voted Forbes top small business in next year's survey." "We will be included in the Top 100 Best Places to Work in 2010." Setting and regularly reviewing goals focuses your operations on achieving the ends you desire.

To measure your progress toward your goals, you need to develop clear metrics of your progress. There is an excellent article on creating metrics on our web site. It's titled, *"Total Performance Measurement-Turning Strategy into Action."*

Upgrade systems

It's a maxim of modern times; you can't avoid death, taxes and new technology. At some point, every business faces the need to replace old systems with something new. The need to upgrade may be in driven by a need to maintain a desire to become more efficient through the use of technology, or simply to address an existing system that is no longer meeting the needs of the business. Whatever the driver, the implementation of new technology is to be expected.

The big question is when in the business cycle to take on such a project. When times are good, you are too busy. When times are tough, you may not have the cash. There are pros and cons of both but given we are in the tough part of the cycle, here are some reasons to consider doing an upgrade now. You have critical people who you don't want to lose. An upgrade project is a good way to keep those people employed adding value to the company until business picks up. Also, you are not overwhelmed with business so you can focus your time and energy on infrastructure improvements and you won't feel like you are trying to change the tires while driving 55 miles per hour.

If you can't avoid new technology any more than your can avoid death and taxes then you might as well embrace the current economic strain as an opportunity to make the change.

We said at the beginning of this article that there are opportunities to be found in these troubled times. The ideas presented in this newsletter are designed to get you thinking about some specific actions you can take. Like we said earlier, the trick is to identify the opportunities and to have the knowledge and foresight to take advantage of them.

Drive Customer Service Beyond 2009 By Carlos Conejo, CSSBB

Everyone's talking about "the economy" very much like Chicken Little, these days, but it doesn't have to be this way.

Many businesses are thriving in this economy and positioning themselves for greater long-term business health and profits.

One of the ways to grow your business is to keep current customers and "go deep" with them getting them to return, time after time, or to purchase just a little bit more.

Statistics show that it takes four times the effort to get a new customer than to retain and grow an existing customer. So "going deep" with your current customer base, no matter what type of business you are in is a critical key to your long-term business success.

Instead of spending a lot of time and money on garnering new clients, think about what can be done to bring back inactive clients or increase the frequency or dollar amount of existing customers.

Here are some ideas to go deep with your current customers:

1. Deliver more often to accommodate Just-In-Time delivery, DO NOT charge extra for this service!

a. The Famous case of Atlas Scissor Company proves this increased frequency purchase. Originally Atlas was ordering 75,000 pairs of scissors ONE-TIME PER WEEK. By switching to Just-in-Time DAILY DELIVERY of 18,000 pairs to meet the daily demand, their purchases now goes to 90,000 pair per week. An increase of 15,000 pairs/ week or 20% increase in sales! How would an additional 20% increase in business help your company right now?

2. Allow your customers to hold items at their place of business on "consignment" and only pay you when they actually use or pull the item from inventory. This is called, the "puppy dog" close. You see a kid at the market giving away puppies. They ask you if you would like one.

You automatically say, "no thanks…" They ask you to take one home and try it, if you don't like it, return it tomorrow… Does the puppy ever go back?

3. Train your employees to deliver "world class" service. This includes especially employees that traditionally may not have the best people skills, such as engineering and IT. Receiving technical support from India, and the technician is helpful and friendly, then asks at the end of the call if they have exceeded your expectations proves it can be done.

4. Offer something extra of value. This is called a "gimmie" (comes from "give me…") Examples: I recently bought a Dell color printer and received free shipping. This WAS the deal maker when comparing another brand that charged for shipping. The printer got to me in three days. A local restaurant is always packed because they serve customers a FREE blintz (thin pancake) with powdered sugar sprinkled on top and garnished with a dollop of jam as soon as you sit down, even before your order is taken! Value added…

What kind of extra value can your company provide?

5. Finally, become a Knowledge Provider or create knowledge workers in your business. A knowledge worker is also referred to as an intellectual worker or brain worker… A knowledge worker is a person employed for his or her knowledge of a subject matter, rather than their ability to perform manual labor. Become a Continuous Learning Organization. Knowledge includes employees who are hired for their knowledge of some subject, and the way to increase your intellectual capital is to continually train and develop your employees. If your employees are simply working for you and not with you, then you aren't fully tapping their potential!

In closing, remember to also provide outstanding internal customer service. Eliminate "silos of excellence"… Remind your workforce that it's one process that is inter-related serving the critical needs of one customer. This way excellent customer service ingrained in the DNA of your organization as a "way of life" and your key to future success, in any market condition.

Lifetime Value of a Customer

Could your business use an additional $20 million?

The lifetime value of a customer is measured by: Dollar amount x frequency of purchase x 20 years = Lifetime value

For example:

A High Tech company offers a product that costs $2,000. A customer purchases this product 4 times per year. Let's take a look at the lifetime value of this particular customer.

$2,000 x 4 = $8,000 x 20 years = This customer's Lifetime Value is $160,000 over 20 years!

If you have 10,000 of these customers, the future value of them to your company would be about $1.6 Billion! Wow! Imagine now with me, if you could get only 50% of these customers to purchase one more time per year. Check that. Let's be really conservative; Let's say that you are only successful in getting 5% of your customers to make one more purchase per year.

Here's how this would translate over 20 years: 5% of 10,000 customers is 500 customers that purchase one more time per year from you.

$2,000 x 500= $1,000,000 x 20 years = $20,000,000!

About The ACA Group

ACA Group is an alliance of highly trained and experienced consultants and instructors providing:

In-House Training
in ERP/MRP, Total Quality Management/Process Improvement, ISO 9000, Just In Time/Lean Manufacturing, Train The Trainer, Customer Service and Business and Management. A complete selection of classes and training programs are available for in-house presentation. ACA does not offer public seminars.

Management Consulting
in the areas of Customer Relations Management, Business Process Improvements, Inventory Management, Project Management, Business Strategies, Management Consulting and Materials Requirements Planning.

Systems Implementation
expertise for Systems Requirements Analysis, Systems Selection and Project Planning Management.

Systems
ACA Group members are experienced in many systems including EMS, BAAN, BPCS, AMAPS, Dataworks and Intuitive Manufacturing, Oracle, Cincom, Fourth Shift, i2 APS, Sherpa PDM

ACA Group members have experience in a variety of manufacturing and service organizations, in both the public and private sectors ranging from small companies to Fortune 500 companies.

Members of the ACA Group

Ellen Kane has over 20 years of experience in designing and implementing manufacturing and distribution systems (both computer and manual) to solve "real world" problems. She has held data processing and line management positions in several manufacturing companies.

Doug Howardell specializes in helping clients manage their business improvement projects. During the past twenty-five years he has led projects to design new processes and tools, select and implement new business systems, and a large variety of process improvement projects.

Jim Strong is a consultant and trainer. He has over 20 years management and consulting experience, and has product and process knowledge in pharmaceuticals, electronics, plastic and rubber molding, metal fabrication, and aerospace products.

Kathleen J. Pennise has over 20 years of experience in Operations Management, primaily in Inventory and Production Control environments.

Andy Pattantyus has over 25 years of experience in developing, designing and implementing manufacturing systems, ranging from low volume “single piece flow” to high speed manufacturing systems exceeding 300 parts per minute throughput.

Carlos Conejo is a highly sought after management consultant and expert on the rapidly-growing multicultural marketplace, he conducts major work internationally in the areas of Lean Manufacturing, Workforce Development, and Economic Development, in either English, OR Spanish.

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