

# Two Minutes on Manufacturing Excellence - Stop the CHAOS! Improve Your Training

written by admin | August 26, 2020

## Stop the CHAOS! Improve Your Training

### The Inevitable Trend

In our previous post, we talked about the worldwide trend towards more customized and specialized products and how that trend translates into significant challenges (and opportunities) for manufacturers.

Let's face it. Making more customized and specialized products (that are more complex and always changing) and doing that efficiently and profitably isn't easy.

### Variation and Chaos

Customization introduces more variation and puts pressure on our traditional methods of quoting, purchasing materials, design and then manufacturing these differentiated products. And when our operational systems aren't a match for these increased demands, we get... **CHAOS**.

So what is chaos? Chaos is simply the reactive environment we get when an overabundance of variation breaks down our routines. As we know from Lean / Continuous Improvement, unwanted variation is the #1 enemy of manufacturing and it results in a) operational waste and inefficiency; b) a culture of reactivity; c) a lack of profitability; and d) employee frustration.

### Reducing Chaos

So how do we meet customer increased demands while reducing or eliminating the variation that creates the chaos?

Well there's a combination of answers to that. But for one thing, we sure don't want lots of variation in how our people perform their work. Manufacturers *MUST* have effective training and qualification methods that ensure that workers are able to consistently perform work *THE ONE-BEST-WAY*. And that requires a *top-to-bottom effective training system*.

And the good news is that there are proven, time-tested tools and methods that any company can learn and apply that will ensure that people are able to do their jobs the one-best-way. And to continually adapt that one-best-way as requirements change.

In our next article we'll continue the discussion with something called "Training Within Industry" (TWI) and how IMC is adapting TWI to help manufacturers reduce variation, errors, frustration and chaos and to increase efficiency and profitability. We'll start with "Job Breakdown Sheets" and the basic "how-to" of effective training and go from there.

So until then, let's keep turning challenges into opportunities.

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# **Two Minutes on Manufacturing Excellence - Customized, Specialized Products**

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Customized, Specialized Products - Challenging? Yes. Doable? Definitely!

## *THE OPPORTUNITY*

I think we all get it that the manufacturing we lost to foreign competition (China in particular) over the past couple decades was mostly commodity products that they

could make much cheaper and often “good enough”.

But as we’re all seeing now, the *worldwide trend is away from simple-to-make commodity products and long product runs and towards increasingly specialized, customized products and low volume, even one-at-a-time product runs.*

### THE CHALLENGE

More and more often, the demand is to be able to...

1. Continually discover, understand, and define the customer’s evolving needs;
2. Rapidly design a product that meets those needs;
3. Rapidly and efficiently manufacture a product that may be different (parts, materials, sizes, functionality, colors, packaging, etc.) and more complex; and
4. Get the product to the customer on time and in a short timeframe

So, is that easy? Heck no. But that’s where the money is and how we maintain and grow customers and relationships.

In a nutshell *it’s all about “rapid adaptability” throughout the entire business.*

### THE SOLUTION

So the question is... How do we do rapid adaptability? Or *how do we “standardize the customized”?*

Well the good news is that answers exist. And while every company has unique challenges that require a tailored approach, there are tried and true methodologies for becoming an increasingly efficient and effective manufacturer of complex customized products.

And the *really good news is that the resources for doing that are right here in Central PA.*

IMC can support your efforts on the “customer side” and on the “design and manufacturing side”. That’s what we’re all about and as your Pennsylvania Industrial Resource Center, we’re at your service.

If you'd like to find out more, contact us at [info@imcpa.com](mailto:info@imcpa.com) or call 800-326-9467.

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# Sustainable Success in a Fast-Changing Marketplace - Comments from a Local Manufacturer

written by admin | August 26, 2020

Below is a real story with multiple timely and important messages from one of our area manufacturing leaders who has chosen to remain anonymous.



One of the important messages... Yes, it's important to be as efficient as possible in how we do things (continual process improvement). But if we want sustainable success, we also have to continually innovate what we bring to the marketplace. As in creating new and differentiated products and services that are meaningful to customers. Because the competitive landscape is a more rapidly evolving place than ever. Check it out.

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*Today's lunch learning is more personal. A few months ago, I got news that a plant I once managed (20+ years ago), a super plant it was called in its day, a model for operations around the globe was closing and it was moving to Mexico. It reminded me in the days of super competition in electronics where our plant was competing, not just for business for its overall corporate needs, but our individual plant was*

*competing too within the organization and globally. The livelihood of our people had to do also with its competitiveness within the organization. I used to say, we want to have the best bike! The bike everyone wants to have. When customers come to the US and are going to visit a plant, and there are 10 of them, we want ours to be the one chosen. We needed the best, the most enthusiastic people. The best the most cutting edge and performing assembly lines. Not just that perform, but that were "marketable." We needed to provide for the community in a visible way too. And we did! And we were very successful. We were on all the college tours, excellence tours and even written about in top improvement books having to do with World Class Manufacturing.*

*Now after 20 years, its going to be gone, and the people there were told that there aren't jobs for them at other plants. The best performing plant in the past, no longer a star. Its not to be looked at as a model of what to do and how to do it, but maybe what not to do. The employees once leading the culture change, now gobbled up by another. What is the lesson? Hard to say and its likely many contributors, but maybe, it got complacent. Maybe in its glory it lost sight. I know, some of you might feel how can you compete south of the boarder, I know we can as we did successfully for some time. Maybe it forgot it was competing.*

*I learned early about competition starting my career in Boston. Simplifying, we were told once to embrace in-process manufacturing and eliminate departments. I remember being a bit on the side lines and very observant noting that the company gave corporate every excuse why we couldn't do what they wanted. We didn't know another plant, not as experienced, was given the same directive. They were successful, we weren't. One day I came in, every manager and most senior level types we gone. Of course, then all the support types reported that they could do as desired, but the wheels of motion were already in play. It was the start of my career and success, I think because I learned from this. I never forgot that experience. It was a scary hard truth. I literally let hundreds of people go as the plant closed and moved. The hollow look in their eyes would later be a motivator to me to prevent similar. I still have contact with those very first employees too, how lucky a guy!*

*I think about how many great companies we remember and who would ever think that they could collapse, vanish....They were the best of the best! Weren't they? I*

*think this helps to point to the need to be constantly innovative. To be humble and competitive in all times. To use innovation and break paradigms. History is knowledge, if we choose to pay attention. At least, that is what I think! Remember these folks next time one thinks they are too big to fall. I point to business, but we can also point to people.*

- *Sears - ????*
- *Panam*
- *Compaq*
- *MCI - WorldCom*
- *Enron*
- *Arthur Anderson*
- *TWA*
- *Woolworth's*
- *Eastern Airlines*
- *Kodak*
- *Block Buster*
- *Radio Shack*
- *Polaroid"*

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# **Innovation as a Science and System**

written by admin | August 26, 2020

A very good (and short - 3 pages big print) research-based article on innovation as a system. Very much supports the whole concept that is Innovation Engineering - that innovation is a systemizable business practice that any organization can on-board and benefit from. And consistent with IE concepts and ideas.

Whether CI or Innovation, it's all about the system or lack of it. The realization is that these management systems drive success because they activate and foster the "raw material" that's already there. People's creative horsepower.

[Click here to check it out.](#)

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# One Page Manufacturing Technologies Guide

written by admin | August 26, 2020

A rapidly evolving part of advancing your Continuous Improvement (CI) system, specific practices and initiatives is understanding the various technologies that can be applied to support solutions. This technology advancement is a big deal but can get messed up (lose money) or be very beneficial (make money). And your role can have much to do with it going well. That starts with emphasizing that without good “CI systems thinking and A-3 / PDCA type methodology”, the selection and application of process improvement technologies is likely to be messy or even misguided and costly.

[Click here](#) for a one page illustration that I got from a McKinsey article. I like the concept, the way it’s organized. You’ll see that the “wheel” advises about what types of technologies (hard and soft technologies and practices) align with what type of applications starting with most general at the hub and then working out to more specifics. I’m finding it a nice resource for thinking about what applications might fit for what needs and opportunities. It could also be used to help identify what technologies and associated practices you and your organization might want to learn more about or not (people / skill development).

Keep in mind that being a “CI Manager” has much to do with getting your company to become more of a learning organization. And you have to be selective about that – as in advancing your knowledge primarily on things that will improve efficiency and effectiveness – i.e., business results.

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# Collaborative Robots and Lean/Continuous Improvement

written by admin | August 26, 2020

I attended a collaborative robots (cobots) event yesterday that IMC cosponsored with the PA CareerLink for Columbia/Montour Counties and thought it worth a few observations within the context of lean/ continuous improvement.

## The Perfect Process

Let's ask ourselves... What is the perfect production process? Well, a process that's being performed the "current one best way" (standard work) in a way that is 100% repeatable and predictable with no variation AND that can adapt if there are changes required AND can be continually improved.

We'd all love to have that, right? As we say, Lean/CI is about aiming for perfect yet knowing it isn't achievable (a golf score of 18). It's in the CI efforts that we keep getting closer and succeed as a result.

## How Cobots Might Help

Cobots are a developing technology that can be an important part of our CI efforts. They're designed to work alongside people and to be able to do specialized tasks that may be mundane (lower value work) or unsafe (repetitive motion) or need to be very precise. They're small enough that they can be picked up and moved around easily and safe enough that they don't usually need guarding.

So if you think about Problem - Causes - Solutions (PDCA or DMAIC). Cobots can be a solution ***in the right situation***. But the key to successful application is to start by doing a great job of identifying the right problem, getting to root cause and then considering and prioritizing solutions. Not jumping to an assumed solution that a robot will save the day (oh yeah, we never do that).

## Lean/CI More Than Ever

Like anything new, these technologies have the potential to separate winners from losers. And the winners will be the ones who have that CI operational culture and practices first and then apply cobots and other technologies as solutions to effective Lean/CI efforts.

## Consider Getting to Know Cobots

My advice would be to identify an internal resource to stay attuned to this continually emerging and developing technology. Below is a link to an organization and a book called "*Lean Robotics*" that was mentioned yesterday by the presenter from Universal Robotics. I haven't read it but plan to check it out. <https://leanrobotics.org/>.

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# Millennials, Hiring & Retention

written by admin | August 26, 2020

Dear Manufacturing Leaders - Much talk about millennials these days and in particular as relates to manufacturing. Below is a link to a pretty good article about attracting and retaining people and millennials in particular - the fastest growing generation in the workplace. Jeff Kopenitz mentioned this fellow Jason Dorsey as the guru of workplace generational considerations. Other good stuff related to the subject on this site.

Click here to read "Unlocking Millennial Talent."

Two thoughts having just read it.

1. Millennials are clearly less willing to accept a "just do your job" type of workplace experience. Good for them.
2. The "key organizational capabilities" for business success in today's more

complex, competitive and fast-changing world - *system-wide continuous improvement and innovation* - are exactly aligned with what millennials are looking for. So in getting really good at systematic process improvement (Lean/CI) and product & service reinvention (innovation), you also create a workplace that attracts and retains the most talented young people. That's winning.

Also FYI, we recently developed a *template of a selection and retention improvement strategy*. It's something that I think any company could work from to develop a company-specific selection and retention improvement strategy. Let me know if you'd like a copy.

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# Frank Demmler: It's not your parents' funding environment

written by admin | August 26, 2020

(By Lee Stabert on May 17, 2016)

*FRANK DEMMLER is Vice President of Entrepreneurial Services at Innovation Works (Ben Franklin Technology Partners of Southwestern PA). In his 30-year career, he has worked with over 3,000 entrepreneurial efforts, leading to the formation of over 500 companies. These businesses have gone on to create more than 12,000 jobs and raise more than \$2 billion dollars of investment capital.*



Frank Demmler

If you're over 40, like me, it seems like the world of investing has turned upside down in recent years. If you're under 40, these changes might seem natural for an increasingly connected world. In either case, the next wave of crowdfunding is poised to present big challenges and bigger incentives for startups and investors alike.

In April 2012, the Jumpstart Our Business Startups (JOBS) Act was passed, creating a legal framework for crowdfunding, replacing laws that had been in existence since 1933. The resulting crowdfunding culture — which has garnered widespread mainstream attention — provides entrepreneurs unprecedented access to a huge pool of potential investors. It's no surprise then that this trend has given rise to even newer solutions that pull accredited investors into the fold as well.

Today, both laymen and accredited investors have legal, effective ways to support companies they believe in, whether it's for the personal gain or the public good.

### **New Incentives for Investment**

One fundamental difference between mainstream crowdfunding and traditional fundraising is that the former does not involve the sale of equity in the company. Instead, crowdfunding campaigns often appeal to a social mission or personal interest, offering the investor SWAG ranging from promotional items like coffee mugs to pre-paid orders for in-development products. Platforms like Kickstarter and Indiegogo are now household names, delivering investment opportunities to a larger base of users with less to spend than traditional investors.

Whether it's a board game or new technology for doctors, startups can now use the general public as a sounding board for their boldest ideas. When Oculus Rift sought investment from accredited investors, the risk appeared too great. When the company shifted gears and ran a Kickstarter campaign, 9,522 backers provided \$2,437,429 in funding.

The act of crowdfunding itself provides a wealth of information that traditional investors can use to evaluate the viability of products and services. What better proof is there than customers willing to buy something that doesn't yet exist?

It also offers traditional, accredited investors a sample of customers who have already used the product; helps demonstrate the company's ability to produce and deliver on its claims; and provides a sense of how company management performs under pressure. And because crowdfunding campaigns have a fixed duration, they can provide a more predictable timeline to market: If it works, great. If it doesn't, move on to Plan B.

## **Investor Matchmaking**

The new digital landscape also offers opportunities to traditional, accredited investors. Typically, a website — such as AngelList or IdeaCrossing — will establish itself as a market maker by meeting SEC requirements. These websites have garnered significant coverage in the media as of late; some specialize in specific sectors such as entrepreneurship in emerging nations or social impact startups.

Once an individual is confirmed to be an accredited investor — with annual income over \$200,000 and/or a net worth of \$1 million, among other requirements — they can register on these sites and connect with companies.

The rise of this model has spawned some interesting trends: Often times, a well-known angel investor will commit dollars to the company, then promote their support of the company to their connections. Ideally, this will result in a wave of additional support. Without such a benefactor, these websites still offer startups significant value through a centralized, digital system that integrates fundraising documents and other key information.

## **Retail Crowdfunding**

Where investor matchmaking services and mainstream platforms fall short, retail crowdfunding may fill in some gaps, allowing unaccredited investors to buy actual stock in emerging companies. These opportunities, unsurprisingly, come with a laundry list of requirements: Companies can only raise up to \$1 million. No one individual can invest more than \$100,000. Individual investment caps are also placed on individuals at different income levels. To make matters worse, these limitations apply to all private investment, not just the current company's offering.

For technology-based early-stage companies in particular, retail crowdfunding presents complexities and bureaucracy that may stifle its efforts to secure follow-on funding. (It's estimated that it can cost between \$50,000 and \$100,000 to satisfy these requirements.) For companies that don't anticipate needing more than \$1 million in investment annually, retail crowdfunding may prove a viable option.

Ultimately, the new legislation and landscape offer entrepreneurs another way to

raise money and build their companies — that’s a good thing. But planning, documentation, reporting and communication are poised to become make-or-breaks for startups moving forward. It’s a brave new world.

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# OSHA Finalizes New Workplace Injury Reporting Rule

written by admin | August 26, 2020

(By Paul Clouser on May 11, 2016 Posted in Workers’ Compensation)

On May 11, 2016, the Occupational Safety and Health Administration (“OSHA”) finalized a recordkeeping and reporting rule that will require covered employers to take the additional step of electronically submitting to OSHA, injury and illness information that is required to be maintained under existing OSHA regulations. The rule becomes effective January 1, 2017.

The new electronic submission requirement applies to: (a) employers with 250 or more employees who are currently required to keep OSHA injury and illness records (i.e. OSHA forms 300, 300A and 301) and (b) employers with 20-249 employees in certain industries with historically high rates of occupational injuries and illnesses. The electronic submission requirements do not alter the employer’s obligation to complete and retain injury and illness records, as before. For illnesses and injuries occurring in 2017, the electronic submission deadline is July 1, 2017.

Believe it or not, OSHA plans to post the injury and illness data it collects on its public website ([www.osha.gov](http://www.osha.gov)). OSHA has indicated that it will remove any personally identifiable information (“PII”) before making the data available to the public. States that operate their own job safety and health programs (i.e. OSHA state plans) must adopt requirements that are substantially identical to the new rule within six (6) months.

The new requirements introduce a public watchdog role. Apparently, this role is being added in response to the near doubling of the number of workplaces in the

U.S. from 1981 to the present, and the corresponding decrease in the ratio of OSHA inspectors, to one per 4300 workplaces (according to a study by the Center for Effective Government).

The rule also bars employers from retaliating against workers for reporting workplace injuries and incidents, thereby creating a supplemental avenue for disgruntled workers who are inclined to pursue a wrongful discharge cause of action, in addition to more traditional workers' compensation claims, for alleged workplace injuries.

The net effect of the rule may be to spur additional employment lawsuits, by making it easier for plaintiff lawyers to mine for accident information.

We will keep you apprised as to further developments, but in the interim, please feel free to contact any member of our Labor and Employment Group, with questions or concerns.

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# **DOL Releases Updated FMLA Materials**

written by admin | August 26, 2020

(By Joe Sileo on May 18, 2016 Posted in Employer Liability)

The United States Department of Labor (DOL) recently issued a new Family and Medical Leave Act (FMLA) poster. Employers who are covered by the FMLA are required to display a DOL-prepared poster advising employees and applicants of the major provisions of the Act.

According to the DOL, for now an employer has the choice to continue to use the prior version of the poster (dated February 2013) or to use the new poster (dated April 2016). Even so, use of the new poster is recommended because it is better organized and more user-friendly. It is also generally advisable for employers to use the most current version of required postings. The new poster can be found here,

free of charge.

In addition to the new poster, the DOL has also issued a new Employer's Guide to the FMLA. The guide is intended to provide employers with information concerning their obligations and options for administering FMLA leave. The guide is available [here](#) for free download.