

Success Story: IMC Client Achieves Highest Safe Quality Food 9.0 Certification Rating of “Excellent”

written by Lauri Moon | October 18, 2021

Founded in 2006, Lang’s Chocolates LLC is a family owned and operated manufacturer of handcrafted fine chocolate confections sold at their retail location in downtown Williamsport, PA, as well as, sold and shipped to a worldwide customer base via their online storefront. Father and son, Robert and William Lang (Master Chocolatier) create and oversee the gourmet products, ensuring the highest quality ingredients are used in production.



Over the past two years, the company has been expanding into providing their own products, such as chocolate chips, as ingredients to other manufacturers of food products. This led to a substantial opportunity to increase company revenues by opening new markets in the US and worldwide as an ingredient manufacturer/supplier.

Due to regulations and standards that are required and requested as conditions of doing business with this market and to fully develop and execute on this substantial new market opportunity, Lang’s Chocolates was required to develop a Hazard Analysis and Critical Control Point Plan (HACCP) and become SQF (Safe Quality Food) trained and certified, as recognized by the Global Food Safety Initiative (GFSI), and ultimately required by the Food & Drug Administration’s (FDA) Food Safety Modernization Act (FSMA) by 2021.

The company reached out to IMC, who was able to partner with Lang’s and an exceptional third-party consultant to successfully prepare them for the audit, ultimately resulting in the highest SQF 9.0 certification rating of “Excellent”. The

company is currently 1 of only 37 confectionary companies to achieve this level of certification in Pennsylvania. This also allowed the company to execute a planned 6300 square foot expansion into a new manufacturing facility and resulted in more than \$500,000 in new ingredient market sales (and growing), as well as the creation of several new jobs.

Robert Lang enthusiastically credits the skill and experience of the SQF consultant, Martin Ziegler, with their successful certification efforts. “His background and knowledge were so relevant, and his delivery set a solid foundation upon which we could build for our re-certification as well.”

Manufacturing and the PA Industrial Resource Centers: Drivers of Pennsylvania’s Economy Video

written by Lauri Moon | October 18, 2021

Recently, the Pennsylvania Industrial Resource Centers (IRCs) released their 2020 annual report video, which outlines the strides our state’s manufacturing industry has made this year in terms of the number of established manufacturing companies, job creation, dollars of goods produced and the number of exported goods – all despite the onset of COVID-19.



With the support of the national Manufacturing Extension Partnership (MEP) Program, the Pennsylvania Department of Community & Economic

Development, our clients and our outstanding team members, the Innovative Manufacturers' Center (IMC) has played a key role in moving our regional manufacturers forward. Please click [here](#) to take three minutes to learn more about the size, strength and resiliency of our manufacturing base here in PA!

Please don't hesitate to leave your comments or email us at info@imcpa.com.

Two Minutes on Manufacturing Excellence - The Power of Systems Thinking (Part II)

written by admin | October 18, 2021

In our previous article (read first), we talked about the value of thinking models and in particular "systems thinking". To support systems thinking we identified the 5 Elements of a Business System. And we said that ***every business system is comprised of these same 5 elements***. Now let's dig into systems thinking a little further.



I sometimes call systems thinking "instant business genius". And here's why.

Common Weak Thinking

By our nature, we tend to have two weaknesses in our thinking, especially when we view a problem.

One, we often think that what we know is what there is to know. We erroneously don't respect the fact that any of us can only know a percentage, often a small

percentage, of what there is to know and understand about a situation or a problem.

The other common thinking weakness is we see problems “in isolation” - we might say within a small “immediately viewable” circle of causes and effects.

Those two “thinking weaknesses” lead to reactivity as a way of operating. They cause us to draw conclusions and implement solutions that range from totally ineffective to limited or partial success. Surely we can do better.

“Seeing” the System

In the workplace there are “3 levels of activity” going on all the time:

1. The specific tasks being done
2. The larger business process that the task is a part of
3. The overall output of the process (both expected and actual)

And along with that activity we have our “5 Elements of a Business System”:

- Roles and Responsibilities (R&Rs)
- Knowledge skills and abilities (KSAs)
- Work processes
- Enablers (tools, equipment technology, info)
- Expectations and metrics

Systems thinking has our mind’s eye “seeing” the workplace in terms of all 3 of those levels and all 5 of those elements all the time. We’re seeing the workplace as a system. It’s not hard to do if we make efforts to do it. And with that we carry an assumption. That is, that if any of those 5 elements is weak, let alone a combination of them, then the process and the outputs will almost certainly be sub-par.

Seeing Problems Systematically

So when a problem occurs, we immediately “see” the problem within the context of the system. It’s easy to see how that perspective immediately defeats those two weak thinking tendencies. And do you now get why Deming said that problems are 93% because of the system?

In our next article we'll use an example to apply systems thinking and then begin to talk about another powerful thinking model.

Two Minutes on Manufacturing Excellence - The Power of Systems Thinking

written by admin | October 18, 2021

It's accurate to say that effective businesspeople routinely apply "thinking models" in their work and less effective businesspeople don't. That's a pretty sweeping generalization, but it holds up much of the time because thinking models consistently do two things.

1. They promote and enable clear thinking, reason, analysis and collaboration that lead to good decision-making and positive results.
2. They defeat our tendencies towards weak thinking that is often reactive, emotional and self-centric that lead to ineffective decision-making and poor results.

Anyone can be a good decision-maker

The good news is that these models can be applied by anyone who's willing to learn them and apply them. Clear thinking and good decision-making aren't so much a matter of "smarts" as it is a matter of "effective tools and methods" that are available to anyone.

Systems Thinking Basics

There are three practical and useful thinking models we'd like to discuss. In this article, and the next, we'll consider one of those models called "Systems Thinking".

We hear the term “systems” a lot. Edwards Deming famously observed that 93% of problems are caused by “the system” and 7% by “the person”. But what is “the system”? What is “system thinking”? And why is it so beneficial?

Systems and Business Systems

Generally speaking, a system is a bunch of parts working together to create an output. So, an automobile engine is a system. And on another level, the car itself is a system. OK, so what’s a “business system”?

There are lots of systems in the workplace. We have training systems, production systems, continuous improvement systems, go-to-market systems, maintenance systems and more. ***And key to systems thinking is that, while the parts and pieces of each business system are different, the primary “elements” that comprise each of those systems are the same.*** They’re all made of the same following 5 elements:



1. Roles and Responsibilities (R&Rs) – Who does what
2. Knowledge, Skills and Abilities (KSAs) – The capabilities to fulfill the R&Rs
3. Work Processes – How work is done, both individually and collaboratively
4. Enablers – Technology, equipment, information, etc. that support the work effort
5. Expectations and Metrics – What’s expected and results (ideally quantifiable)

What’s the Value of System Thinking?


We’ll talk more about the how-to and the benefits of system thinking in the next article. For the moment, let’s just say that systems thinking enables us to:

- Ask the right questions
- Recognize “systematic weakness”, and
- Identify “systematic solutions” that often yield sustainable positive results

Exactly the things that effective businesspeople do!

Two Minutes on Manufacturing Excellence - Assessing Your Factory Floor Training System

written by admin | October 18, 2021

In our recent blogs posts, we've discussed the challenging manufacturing environment of increasing customization and, with that trend, the need for improved job training as work continues to get more varied, complex and is always changing. 

The last two posts identified initial steps to building an improved job training system. Today's is about another critical part of that effort.

The Training System Improvement Initiative

As with all continuous improvement initiatives, an effective improvement initiative requires, among other things, the following components.

- A clear understanding of the *current state* of whatever process is being considered for improvement
- An idea of what is preferred or desired, some kind of *future state* picture
- *Identification of the gaps* between current state and future state
- A *plan for closing the gaps* in a way that most effectively supports the organization's key business objectives

When developing an improved training system, one valuable tool that can help an organization to quickly develop those four components is an effective assessment tool.

IMC Training System Assessment Tool

Given the need for so many manufacturers to improve their job training, IMC has developed such a tool specifically for the purpose of assessing the organization's factory floor training system.

The "Training System Assessment" is structured around the 5 elements of a business system.

- Roles and Responsibilities (who does what in the current training system)
- Knowledge, Skills and Abilities (KSAs required to perform effective training and qualification)
- Work Processes and Protocols (how the training, qualification, etc. is performed)
- Tools, Equipment, Information (enablers required for effective training)
- Expectations and Metrics (clear requirements for the system and quantitative results)

The 5-part format gives logical categorization to the assessment. That makes the assessment easy to complete in just a few minutes. And the categories provide a quick understanding of the current state (component 1). The specific assessment inquiries within the 5 elements provide a good start for the organization to picture and describe a desired future state (component 2). And the quantitative ratings that the company enters for each assessment item about its training system provide an excellent initial "gap analysis" (component 3). From there, you can develop component 4, a plan to close the most critical gaps.

IMC offers considerable knowledge and experience to support the efforts of manufacturers on any and all aspects of effective training system development. Contact your IMC business advisor or email info@imcpa.com to discuss further.

Manufacturing Day 2020 - The Creative Enterprise

written by admin | October 18, 2021

**CALLING ALL PEOPLE WHO WANT TO COLLABORATE WITH OTHERS,
CREATE NEW PRODUCTS, FIGURE OUT THE BEST WAY TO MAKE THEM,
CONTINUALLY LEARN, AND BE WELL-REWARDED FOR IT.**

That's what the fast-evolving world of manufacturing is looking like more and more each day and...

WE WANT YOU!



The Manufacturing Marketplace

Fueled by today's continual demand for new, improved and more customized products and coupled with a long list of evolving technologies, American manufacturing is going through an incredibly positive and rapid metamorphosis. And yet remarkably few people are aware of the good news and the many opportunities.

Success in manufacturing is no longer...*Who can make it cheaper?* It's...*Who can make more new and customized stuff better and faster?* New, better, faster is simply where growth and profitability are to be found. And as a result, literally every aspect of manufacturing - jobs, skills, knowledge, management practices, leadership, tools and technologies, how people work together, and the environment they work in, is evolving to align with this new and exciting world of continual improvement and innovation.

What's becoming increasingly clear is that those manufacturers whose people are most engaged in these improvement and innovation practices are winning. No other

factor, not reputation, current market share, revenues, assets, company size, talent, experience or hard work; *Nothing is more predictive of future success than the enterprise-wide / everybody all-in ability to continually improve and innovate.*

The Creative Enterprise

We might call that “the creative enterprise”. And perhaps the best way to describe it is that all employees have three “jobs”.

1. To perform their work.
2. To contribute to process improvement and product innovation.
3. To continually learn and develop new skills and knowledge to contribute more in their other two jobs.

Any company that enables their people to do all three of those jobs well is going to rocket past competitors that have people only performing job one. No matter how hard they try or how effectively they do that job.

So, let's recognize that in today's marketplace *ideas are the currency of sustainable success. And a company's ability to generate ideas and effectively implement them is both the mark of leadership and far and away a company's most valuable asset.* And finally, if we want to attract and retain today's best and brightest and get the greatest level of contribution from them, the creative enterprise is the way to go.

Two Minutes on Manufacturing Excellence - Building a Great Job Training System Step 2

written by admin | October 18, 2021

In our last article, we talked about step 1 in developing an effective training system.

And how critical training has become, as products become, more customized and specialized causing jobs and tasks to become more complex *and* to continually change. Without effective training, unwanted variation, inconsistency, errors, reduced throughputs and other wastes are inevitable.

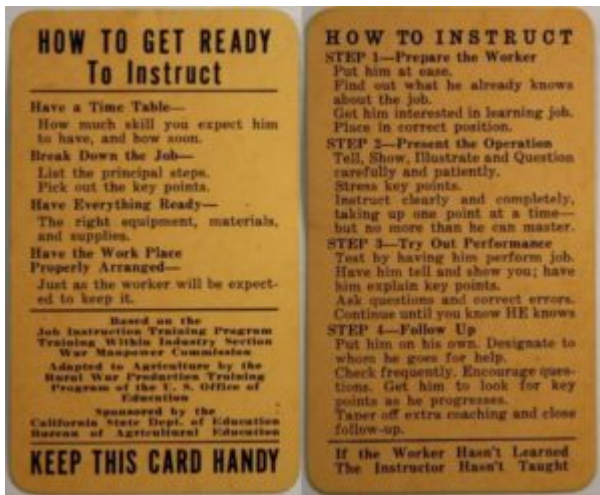
Job Breakdown Sheets

As a first step, we described the development of “Job Breakdown Sheets”. A standardized format that describes the *ONE BEST WAY* to perform a job, listing the steps of the job, how each step is done and why it’s important. *Sample Job Breakdown Sheet*

How to Train – Job Instruction

Now let’s talk about another consideration. That is, how the training itself is performed. Below is a copy of the “job instruction card” that was part of the Training Within Industry (TWI) training system that was used extensively during WWII. And famously adopted and applied by Toyota as the foundation of the game-changing “Toyota Way”. As you’ll see, the card instructs the trainer on how to plan and prepare to train. And then provides a series of steps for training and ensuring capability and qualification.

It needs to be considered that many of today’s manufacturing jobs are significantly more varied, complex and fast-changing than they were when this methodology was initially developed and implemented. But those basic elements of preparation and instruction can be applied in almost all cases. Consistent and effective instruction methods are critical to an effective training system.



Training System Assessment

Lastly, let's also mention another important and helpful "tool" for developing an effective training system – a "training system self-assessment". IMC has developed an assessment that any company can easily and quickly complete to get a solid understanding of the current state of the company's training system. The tool assesses 5 areas as follows.


1. Training roles and responsibilities
2. Knowledge and skills of trainers
3. Processes / protocols that support the training system
4. Training tools and methods
5. Training expectations and metrics

In our next article we'll take a closer look at the Training System Self-Assessment. Meanwhile, if you'd like a copy of the assessment, email me at russl@imcpa.com.

Two Minutes on Manufacturing

Excellence - Building a Great Job Training System Step 1

written by admin | October 18, 2021

In our previous two posts, we discussed the worldwide trend of increasing product customization and specialization and the many implications of that. One being the introduction of more variation into our work processes from up-front selling and quoting through design, purchasing, manufacturing and distribution. 

So how do we take advantage of the **desired variation** of specialized products that meet specific customer needs while avoiding the **unwanted variation** that diminishes quality, efficiency, predictability and profitability?

Well, one way to reduce unwanted variation is to ensure that the work itself is being done the *ONE BEST WAY*. And we do that by having a great job training system.

Where to Start - TWI

A great job training system starts with clear requirements.

Clear requirements are getting tougher to define as jobs get more complex and continually change. But answers are available using a decades-old, tried and true system called “Training Within Industry” (TWI). And IMC has adapted TWI to align with today’s more complex jobs and rapid pace of change.

Defining the *ONE BEST WAY*

TWI Implementation starts with “Job Breakdown Sheets” that provide a consistent format or template for identifying:

- **Steps** of the job
- **How-to** perform the steps
- **Why** the step is important (usually for key steps)

The aim of the Job Breakdown Sheet is to describe the *ONE BEST WAY* for doing a job as simply and briefly as possible while ensuring consistency of results and

outputs. And of course, the people developing the Job Breakdown Sheets must know the jobs well.

Job Breakdown Sheet templates are available from many sources. We at IMC often use a format developed by *Systems 2 Win*.

Up Next

In our next article we'll talk about next steps for implementing TWI and introduce IMC's recently developed "Training System Self-Assessment" that's available to all area manufacturers.

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

written by admin | October 18, 2021

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.

Two Minutes on Manufacturing Excellence - Customized, Specialized Products

written by admin | October 18, 2021

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 or call 800-326-9467.