



October is About Students and Manufacturing

By Bob Zaruta, President/CEO, NWIRC

National Manufacturing Day provides students, parents, and communities a glimpse of modern manufacturing. Held on the first Friday of October, it's grown exponentially since starting back in 2012.



Bob Zaruta
President/CEO, NWIRC

Now, many recognize during the entire month of October with companies and organizations planning tours, class presentations, and activities to create awareness

around manufacturing. I'm looking forward to sharing a recap and photos of some of NWIRC's activities next month. In the meantime, I can't emphasize enough how exciting it is to see the growth and expansion of student-run manufacturing enterprises across our region. Now, over a month into the school year, new students are getting the opportunity to be part of this unique model that focuses on providing high-school students with purposeful work and connections with local manufacturing leaders. The student-run enterprise model isn't necessarily new and it definitely is not a one-size-fits-all for high schools. NWIRC has been effective at bringing together schools with local industry to explore and plan an enterprise that fits each schools' current capabilities- with a focus on future growth and matching the needs of manufacturers in each community. While no student-

run enterprise is the same, the common thread is putting information students learn in coursework to practical use. The students run all aspects of a manufacturing business - production, machining, quality, engineering and design, sales and quoting, accounting, shipping and receiving, and marketing. They collaborate with local manufacturers to explore opportunities for production or services they can provide, quote the work, produce and deliver actual parts, invoice for the job, and everything else in between. The student-run enterprise becomes a valued part of the supply chain for their new customers.

There will soon be six programs in our region, the most recent being planned at Titusville High School. All of the programs are supported (in part) by the Pennsylvania Department of Community and Economic Development's Manufacturing Training to Career grant program. These high schools are also supported by their own school districts and other grants, foundations, and donations from local manufacturers – to include equipment and time. During the last school year, many of the newer programs worked on building out their business model and training for sales, quoting, critical thinking, and team building. Some developed a logo and 'brand' for their program. Here are some others updates:



Lion Manufacturing (Clarion-Limestone High School, Strattanville, PA)

They were awarded their grant this past Spring and had the privilege of hosting the Deputy Secretary of

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the PA Dept of Education at their program announcement. Students are ramping up their program and establishing relationships with local manufacturers.

Dutch Manufacturing

(St Marys Area High School, St Marys PA)

Last year, Dutch Manufacturing focused on designing and producing their own original product – a golf divot tool that can be customize for companies or organizations having golf outings or tournaments. They will continue production this year, and also focus on doing work for other manufacturers.

McDowell Manufacturing

(McDowell High School, Erie, PA)

Now in it's 4th year, they continue to do business with numerous local manufacturers, and this year are introducing smart manufacturing curriculum and undergoing a renovation of their technology lab, now called the Gene Haas Training and Education Center (Advanced Manufacturing Lab).

Parkway Industrial (Bradford Area High School, Bradford PA)

Students worked with 6 companies,

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manufacturing close to 700 parts. They were highlighted in the news as they delivered some special parts produced for American Refining Group.

1st Class Precision Manufacturing

(Warren County Career Center, Warren PA)

These students were up and running the second half of their school year and worked with three key customers to produce over 500 parts in a few short months.

NWIRC is a strategic partner with these schools and their student-run manufacturing enterprises. As with all the manufacturing companies our center works with, we are focused on helping them grow and improve their businesses. The interest in this educational model continues to gain traction in order to introduce students to manufacturing careers and provide hands-on experience, which makes scaling these programs across other communities our priority.



Leveraging Your Workforce for Higher Productivity

by Max Krug, Future State Engineering

Many companies are struggling to find qualified employees. Challenges include: few people are applying for the open positions, employees don't show up for work or show up for a few days and don't return, or the company's wages aren't competitive. Companies already have good people, but they aren't utilizing their resources effectively.

Resources: Over- and Under-Utilized

Looking deeper into how resources are managed, what is often found is that most of the resources are over-utilized, and some of resources are under-utilized as related to customer demand. It's not difficult to identify resources that are over-utilized when you look where there is excessive build-up of work in process, which is a good indicator that the resources before the excessive work in process are being over-utilized. However, to identify the resources that are under-utilized is not as easy to find. The best way to find these resources is to talk with the people that are responsible for expediting and ask them what resources they are constantly going to and expediting work. The resources where most of the expediting is happening are the candidates of potential resources where under-utilization is occurring.



To be able to properly address the issues that organizations

are dealing with, let's refer to two important lessons. The first lesson from Dr. W. Edwards Deming states: If a system is not stable, any improvement or changes that you try to make to improve it will not improve the system, and in some cases make it more unstable. The second lesson from Dr. Goldratt states: Striving to make every resource in the system efficient will result in making the system less efficient.

Stability in Organizations

Therefore, the approach to improving any organization is to first establish stability, and after this, work on making the system capable. To create stability in an organization, the first actions are simple in theory, but very difficult in practice, because it involves a major paradigm shift in thinking and behavior. To create stability, the first action is for all the resources that are currently over-utilized to stop overproducing (overproduction is one of the 8 wastes in Lean) as well as ask the resources that are under-utilized to stop multi-tasking (under-utilized resources is another of the 8 wastes in Lean). Bad multi-tasking is one of the biggest productivity killers, but in most organizations, very few people understand how devastating bad multi-tasking is on productivity.

By simply taking these two actions, something amazing happens, delivery performance begins to increase, expediting is reduced, work in flow reduces, overtime reduces, lead-times become shorter and more reliable, quality improves, and there is no longer a need to push to make the financial numbers at the end of the month. All these desirable effects happen because of the synchronization of the flow of work to be in line with customer demand. Organizations that are successful in taking these actions and synchronizing the flow will realize 20 to 25% increase in productivity with their current workforce.

Side Note: Max Krug will facilitate an Operational Excellence Workshop in Erie on November 9. Register your team of 4 at www.nwirc.org.



Strategizing for the Talent Grab

by Kevin Smith, MBA SPHR HCS

President, Leaderstone and The Kevin Shabaar Smith Co

The leaders of successful 21st century organizations understand the paradigm shift that has occurred over the last few decades. Gone are the days when long-term competitive advantage could be obtained through the purchase of new technology, the leveraging of supply chains, or even geographic location. History has shown these to be temporary advantages - typically copied over

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time. However, there is one element of every organization that cannot be mimicked..... the workforce.

As more organizations come to understand that a highly engaged workforce is the only long-term competitive advantage, quality, highly engaged employees seem more difficult to come by. This is causing a critical competitive shift in efforts to find, attract and keep quality talent. We refer to this as The Talent Grab.

How secure are you about your current workforce? Many organizational leaders feel their employees are satisfied with their current job, but do you know how many of your employees would leave tomorrow if given another offer? In today's environment, human resources within an organization needs to be transformed from a series of administrative tasks to an invaluable strategic function. Components of this strategy include:

Workforce Planning: Organizations investing time and resources into strategic workforce planning will have a distinct competitive advantage over those that wait and react to change. Companies need a framework to best define and optimize a workforce that can execute the organization's strategy into the future.

Talent Acquisition: Many organizations view talent acquisition simply as a recruiting process. Effective acquisition includes attracting the right people, implementing an effective selection process, and ultimately on-boarding the right people, for the right function, at the right time. Effective organizations understand the days of simply filtering through applications are over. There is a very competitive market for skilled employees and organizations utilizing defined acquisition practices are winning the war for talent.



Workforce Engagement: According to Gallup, actively disengaged employees cost the organization \$3,400 for every \$10,000 in salary. Leaders today need to learn strategies to increase engagement levels significantly within their organization. It's all about knowing your employees- what motivates them?, how can you help them become more productive?, what makes them happy?

Leadership Development: Effective employee development is much more comprehensive than just training. Critical components of effective employee and leadership development includes creating work experiences, implementing coaching systems, and performing periodic training needs analysis.

It's often said that an organization's people are its best asset. However, this is only true if those people are engaged and

performing the right function at the right time. Any other situation represents a liability to the organization as people work at less than 100% effectiveness. A May 2023 McKinsey & Company article states that talent management includes all of the ways organizations bring employees on board, keep them happy and productive, and help them continue to develop their skills over time. "It's important to manage talent and deploy it well, and leaders need to know how to rise to the occasion. To help shape a workforce that has skills to achieve, leaders can establish a talent-first culture. Too many organizations don't consider the talent required to implement different ideas. By putting talent first, companies can improve organizational performance and potentially gain a competitive advantage."

Side Note: Kevin Smith will facilitate a 2-day Talent Grab workshop in Erie on November 6 & 7. See more details at nwirc.org/events



Using Fundamental Tools to Drive Sales

True or false, the best time to increase resources towards growing sales is when sales are down and need a boost? The answer is a resounding FALSE. If you're waiting until sales revenues are declining to initiate efforts to boost sales, it's too late. Like manufacturing operations, consistently improving (increasing sales) requires a dedicated process using fundamental tools. Using these tools can lead to: 1) increase opportunities in your pipeline; 2) improve conversion rate from opportunity to customer; 3) increase the value of your products and services, and 4) decrease your sales cycle.

Join NWIRC for Spaghetti & Sales, at a great restaurant near you, to learn more about the 4 Drivers to Increase Sales Revenues and the five fundamental tools essential to these drivers. Sessions are planned for Erie (Oct 5), St Marys (Oct 24), Sharpsville (Oct 24), and Meadville (Nov 14) - all from 4-6pm. Find details at www.nwirc.org/events.



Recipes for Manufacturing Success

NWIRC's podcast, *Recipes for Manufacturing Success in Northern PA*, in October features Starn Tool & Manufacturing/Mecal by Starn with Greg Wasko (Oct 2) and Allegheny Surface Technology with Staci Frantz (Oct 16). Listen to previous episodes anytime! Find it on your favorite podcast app or NWIRC's website at: nwirc.org/podcast.



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If you have questions, or would like to speak with the team at NWIRC about services, please contact one of our Strategic Business Advisors (SBA) covering 13 counties of northwest and north central PA:

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▶ UPCOMING EVENTS

Blueprint Reading and GD&T

Oct 10: *St Marys*

Oct 17: *Erie*

Designed to help those using blueprints and/or schematics to make decisions and to help solve problems, as well as prepare participants to effectively read and interpret technical drawings. Participants will apply the principles to hands-on exercises to reinforce the learning.

ISO 9001 Internal Auditor Blended-Learning

Oct 12: *Erie*

This ISO internal auditor training has a new twist - as a blended-learning course with only one day out of your facility. You will complete the 'Requirements' class online prior to attending the in-person internal auditing session on September 21 in St Marys.

Effective Coaching Skills

Oct 17: *St Marys*

Oct 24: *Hermitage*

Effective coaching helps people think for themselves, suggest solutions versus complain about problems, and take responsibility for their actions. This interactive session will provide a structure to get you started on a path of effective coaching, a model to do skill transfer that sticks, and activities to practice what you learn.

Communication: Connect Through Conversations

Nov 2: *Bradford*

Leaders can enhance their emotional intelligence by balancing 'heart' and 'head' in their tough conversations. Via high-energy activities, videos, and discussions - learn to address the heart by considering and responding to others' feelings; and engage the head by guiding conversations toward desired business outcomes.

For more information or to register for training, visit www.nwirc.org