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ON THE COVER

4

Roy V. Flesh, II, and Jillian Flesh-Dorrance represent the third and fourth generations to helm Flesh Co, a PIA MidAmerica member specializing in custom print solutions, including hybrid printing and variable data.

What's Hot

Solutions

Q&A

See the Waste

Get It Gone. Keep It Gone.

By John Compton, Professor Emeritus, Rochester Institute of Technology

Print production operations are plagued by many different wastes. Reruns and downtime are perhaps the most commonly identified wastes in companies looking to improve efficiencies. In reality, waste is all around us, in our plants, in our homes, and everywhere in between. Have you ever had to wait at a doctor's office? Throw away food from your pantry that was kept past its expiration date? Move something in your garage to get to something else? All are examples of waste in our everyday lives.

At work, waste is defined as any activity that does not add value to the product or service being delivered from the perspective of the customer. In other words, the customer must be willing to pay for the activity. The identification and elimination of waste is a basic principle of Lean manufacturing.

Within every process there are two types of activities: those that add value and those that do not. Both consume time and money, but only the value-added activities bring in money. Those that add no value are waste and must be eliminated. Lean thinking helps us understand that every activity should be considered waste unless it meets an explicit customer requirement and cannot be performed more economically. In several studies of print production operations by this author, the amount of lead time (time between order entry and product delivery) consumed by value adding activities averaged 9%. In other words, 91% of the time was consumed by non-value adding activities. This is all waste!

There are seven commonly identified types of waste in Lean manufacturing. The acronym TIM WOOD can be used to help remember them: **T**ransportation, **I**nventory, **M**otion, **W**aiting, **O**verproduction, **O**ver-processing, and **D**efects.

Transportation

This waste occurs any time goods and materials are moved. Although the physical structure of the plant may require some form of transportation, simply moving things around the shop or office adds no real value to the product. The use of forklifts, hand trucks, and carts are common examples. Also, conveyor tracks are simply elaborate and space-consuming transportation waste creators. Customers do not see transportation activities as adding value to the product. It adds cost and time, not value.

Inventory

Inventory waste occurs when the supply of raw materials, work-in-process (WIP), and/or finished goods exceeds the immediate demand of the next operation downstream. It is often the result of overproduction. Inventory costs you money. Every piece of product tied up in raw material, WIP, or finished goods has a cost and until it is actually sold, that cost is unrecovered. Additionally, inventory adds many other costs since it must be moved, stored, tracked, and protected from damage. Finally, inventory hides many other wastes in the system, such as scheduling shortcomings, reruns, equipment capability, and long makereadies, among others.

Motion

The waste of motion deals with the unnecessary motions of people—those movements of people or machines which are not as small or as easy to perform as possible. Examples include bending down to retrieve objects, stretching or straining to perform a task, excessive travel between work stations, etc. None of this adds value from the customer's point of view. These are health and safety concerns as well.

Waiting

Any time workers are standing around waiting for material, information, assistance, people, instructions, etc., the waste of waiting is happening. Furthermore, whenever goods are not moving or being processed, the waste of waiting occurs.

Overproduction

This waste occurs when something is produced either before it is needed by the next process downstream or in a quantity resulting in WIP or finished goods inventory. This is often the result of batch sizes that are too large. Overproduction leads to excess inventory, and since inventory creates many other wastes, overproduction is often seen as the most costly waste.

Overprocessing

Overprocessing occurs when work is performed that the customer has not explicitly requested in the finished product—if a printed product is produced on a heavier stock than necessary to meet customer requirements, for example. This can be a challenging waste to uncover since there is a common desire to satisfy or even delight the customer.

Defects

Defects are what most people think of when you talk about waste. A defect is any work product that is less than acceptable to move the process downstream. Defects occur when a product has something wrong with it, such as incorrect color or physical defects like spots and tears. Defects cost much more than most people believe, since they lead to inspection, scrap, rework, reruns, and corrective actions.

The Eighth Waste: Brainpower (Skills)

While the previous wastes are the traditional wastes, we also need to understand and eliminate an eighth waste—the waste of employee skills and brainpower. This involves recognizing that a company's most important assets are its employees. Only making use of their physical capabilities without tapping into their talent and brainpower leads to a great waste. Employees live inside the processes that contain the first seven wastes and are perfectly situated to work on continually improving. Not using their talents and skills means those wastes (and costs) will continue. The acronym becomes TIM WOODS when we add the S for skills and talent at the end.

Learning to See

Waste hides in plain sight. That's because we've lived so long in our existing systems without an understanding of the embedded waste that we don't even see it. We don't know what to look for or how to look for it let-alone eliminate it. Once everyone in the company learns about these wastes, the obvious next step is to practice looking for them. Once you start looking for them, you will find them everywhere—at work, at home, and places in between.

A useful method for learning to see the waste is a practice created by Taiichi Ohno, a key developer of the Toyota Production System. The practice is called "Stand in the Circle" and involves going into the plant, drawing a circle on the floor three feet in diameter, and asking an employee to stand in that circle for at least one hour. While there, the employee is asked to identify all of the waste he or she can see by observing work processes from that location. At the end of the observation period, the employee reports what wastes have been identified with suggestions on what could be done to minimize it. Use the link below to download a form designed to facilitate the activity. The more you practice this, the better you'll become at seeing the waste.

Waste is like gravity: it's constantly weighing us down. We must learn how to see it and minimize it or suffer the consequences of unnecessarily high costs and long lead times.

STAND IN THE CIRCLE

Download a form to assist your staff in seeing waste, removing it from your operation, and keeping it gone.

http://prnt.in/standinthecircle

Flesh Co

More than a Century of Adaptation and Growth

Roger Buck, Director of Marketing, Flesh Co

SPOTLIGHT

Flesh Co, a member of PIA MidAmerica, has faithfully serviced clients for more than a century. After delving deeper into their history, mission, and commitment to customers and employees with Director of Marketing Roger Buck, it's easy to see how they've earned their success and why they'll continue to prosper well into the future.

PIA: How has your company's history affected how you do business today?

RB: Flesh Co opened in 1913 when the founder, R. V. Flesh, wanted his own business. He had three goals at that time:

1. Stay on the cutting edge of new technologies.
2. Always provide customers with the best service our industry has to offer.
3. Stand behind every order we produce, thereby providing customers with total peace of mind.

We continue to be a family-owned company with Roy V. Flesh, II (third generation) as CEO and his daughter, Jillian, as our executive vice president. Throughout the years, we have made our business decisions based on those principles.

An interesting point many people may not know is that Flesh Co started as a distributor, not a manufacturer. When Mr. Flesh found it difficult to find quality business form printers, he decided to open his own printing facility. Over the years, we migrated from a distributor to a trade only manufacturer. He took this a step further in the 1940s and was one of the founding members of the National Business Forms Association (NBFA), now known as the PSDA.

PIA: What are Flesh Co's core mission and values?

RB: Though we continue to work from the three core values laid down by the founder, as our industry changed we found our mission had to change as well. We simply can't do business the way we did 25 years ago or even 10 years ago. Today, our vision statement has six objectives:

1. Continue to be a financially stable and growing organization.
2. Set the standards for product quality and customer service in the industry.
3. Develop new products and services to anticipate and satisfy our customers' needs.
4. Offer growth and opportunity for our associates through product diversification and expanding business.
5. Increase the use of developing technologies to reduce cycle time and increase productivity.
6. Improve our connectivity capabilities to increase the "ease of doing business" with our customers.

You'll notice the objectives are commitments to both our customers and our associates.

PIA: How have you fostered relationships with your best clients?

RB: Like many printers who have survived industry changes and consolidation, we understand that quality, delivery, and price competitiveness are a given. So we have to be able to supply services beyond that scope. In some cases, this has meant purchasing or modifying equipment for a specific project in order for our client to win the business. These are normally expensive and based on maintaining the volume over a long period of time. In other cases, it's a matter of supplying technical support in the form of a joint sales call.

For example, a few years ago one of our distributors had an opportunity with a new, very large prospect. We spent a significant amount of time at the user's location studying the issue and their entire process. Our solution not only solved the problem, it landed our customer an order over $1 million, and they continue to grow that business.

PIA: What are some key services and experiences that differentiate Flesh Co from its competitors?

RB: We have two primary services that cross over thousands of applications in many markets. One of these is our ability to layer labels or ID cards into documents. We have our offset, flexography, and integration equipment housed under one roof. This gives us a huge advantage in that we control the environment and quality of each component. We also have a highly skilled group of associates running that equipment.

Our second primary service is in our ability to add variable 1d, 2d, and human readable numbering. Many of our clients' applications are in the health care, manufacturing, warehouse, and distribution markets where tracking is critical. The quality of the barcode as well as the substrate reflectance must be extremely good. We invested in the latest inkjet imaging systems in order to provide our customers with high-quality barcodes.

PIA: Can you share a challenge that Flesh Co has overcome?

RB: Obviously, when you've been in business for 104 years, you have overcome many challenges. Changing markets drive changes in production processes, which often require heavy financial investments. One of the more recent challenges we've faced involves labor. Attracting new labor while retaining your current skilled labor is difficult. Our plant management team developed a unique shift schedule that better served our changing labor pool. It allows us to continue meeting customer deliveries while providing our associates the time needed with their families.

PIA: What accomplishment is Flesh Co most proud of?

RB: We are a 104-year-old company in the printing business that is still family-owned. Not only have we survived when many, many printers have gone out of business, we continue to grow and maintain financial stability to invest in technology. This allows us to continue to serve our valued customers while insuring a stable work place for our associates and their families.

PIA: What makes Flesh Co a great place to work?

RB: It's probably the same answer for every successful company—the people. We are fortunate to be in an area where people appreciate a good job and will give you 110% every day. Just imagine the changes in our industry over the last 25 years alone, then realize that those changes are reflected in our production processes. And our associates—many of whom were with us during that time—must learn new equipment and technologies. Today we may do numbering using inline inkjet systems where we used to perform this by crash imprinting at a much slower speed. Instead of a numbering list, we use a database. If you want a truly successful company, you need associates who can adapt to change.

PIA: What does the future hold?

RB: As I mentioned earlier, Roy Flesh, II is our current CEO. Jillian Flesh, his daughter (and a millennial), is our EVP and fourth generation of family leadership. In the short term, you will see us continue to service our customers and invest in the necessary technologies to perform that service. In the long term, we suggest you check back in ten years and see what Jillian has accomplished.

Learn more about Flesh Co at www.fleshco.com, or come to the Continuous Improvement Conference to hear Flesh Co's continuous improvement coordinator, Ben Daugherty, deliver his presentation, "Lean Starts in the Front Office."

Project Management

Using A3 to Get Buy-in while Improving Your Business

By Jim Mullen, Production Planning Manager, Nosco

Today, continuous improvement is essential in business to not only survive but thrive.

But let's face it, continuous improvement means change, and change is something that people do not embrace. We fear it even though it is a constant and a must for survival. As leaders, how do we effectively gain buy-in when making these changes? "Leave your brain at the door" was a message commonly sent in the past—otherwise known as top-down management. This is where we ask people to do what they are told without enlisting their engagement. Times have changed, and we have to change with them.

Leaders need to hone the skill of elevating employee engagement. It is the best way to make things happen quickly. Historically, people have accomplished great things together. How we lead our project management teams is the key to accomplishing great goals within our business.

The realization is that the people who do the work know it best, yet their knowledge might not be considered when changes are made. This can result in missing out on solutions or running the risk of people nodding yes in meetings but not instituting the changes on the floor. Properly conducting project management is the key to getting involvement and gaining buy-in from your people.

The Initial Meeting

First, you need to enlist some of the people who do the work in the project meeting. Try to identify and include some "on the floor" leaders within that group. These are people who carry moral authority and are looked up to by their peers. Also include someone from another step in the process to give a fresh outside look at what you are trying to accomplish. Keep things on track and capture those ideas that are not pertinent to the current project. These can be opportunities for improvement for another day.

The A3 Process

I have found that using the A3 Process is best in order to shape the path of continuous improvement while also communicating the status from start to finish to the rest of the workforce. It outlines the following path:

Present state or problem. This is the equivalent to the "You are Here" point on the map. Where you are now is not a bad thing as it got you to where you are today. However, doing the same things will get you the same results, so therein lies the need to improve in order to get better results.

The goal. This is where you want to go. If it is a compelling goal, then you won't know how you're going to get there, which is OK. You and the team will figure it out.

Identify the root cause to the problem. This is very important because if you are successful here then you have the opportunity to truly make the problem go away once and for all. Lean tools such as the fishbone diagram, 5 whys, and the job method breakdown can be used to help the team uncover the root cause and then attack it.

Countermeasures. What are you going to try to reach the goal? Engage the team for ideas on this. This is where PDCA (Plan, Do, Check, Act) can be used. What sounds like the answer in theory can be proven in actuality. Too many times we think a quick fix will solve problems only to find out otherwise. Utilizing PDCA will test it out or enable the team to take what was expected, what actually happened, and what was learned to move closer to a final resolution. This process may have to be repeated multiple times.

Action items. Enlist team involvement by assigning action items to as many people as possible. Give due dates to these action items and make them visible to everyone on a communication board. Use a green-red system for task completion. Green means the task or commitment was met, red means it wasn't. People do not want a red by their name, and they will work to make sure that doesn't happen.

QA considerations. Make sure that any new process complies with your quality system. QA must be involved to ensure that it does.

Cost savings. It is great to show benefits in the form of cost savings to substantiate the value of the project. This can be tracked and used to show CI progress.

Follow-up actions. Someone must watch over the process or things will slide back. Adding follow-up as standard work for front line supervisors is recommended.

Leaders must show passion, persistence, and patience when leading projects. Make it fun and celebrate successes. This will make others want to participate in the future. Getting employees in on the ground floor of change will help their understanding of why the project is needed and what needs to be accomplished. When the team collaborates on the solution, they build ownership and buy-in in the process. Have everyone on the team report to the others. This will strengthen buy-in as well.

To learn more, join Jim at the 2017 Continuous Improvement Conference on April 2–5 in Pittsburgh, PA. Jim has had success with stimulating and utilizing employee engagement to solve problems while creating effective results and will be sharing more on how to do so.

Motivating the Employee

From Job Design to Neuroscience

By Thomas Schoenfelder, Ph.D., Senior Vice President, Research and Development, Caliper Corporation

When do employees exhibit the determination needed to achieve higher levels of performance? What makes employees who set challenging goals differ from those who are content with average performance? When will individuals exert extra effort to achieve challenging objectives?

Motivation in pre-industrial agrarian society was a simple matter. On the farm, you either worked hard or went hungry. The industrial age changed that. The concept of "the employee" derived its contemporary meaning during this era. For the first time in history, large groups congregated and cooperated to *voluntarily* produce things as employees.

Satisfaction versus Motivation

It is important to distinguish between work motivation and other related concepts such as job satisfaction, organizational commitment, and employee engagement. Early in the study of motivation, there was a strong focus on job satisfaction. In practice, managers and researchers would ask employees how satisfied they were in their job. It was assumed those who reported general satisfaction would be motivated to work hard and be strong performers. It was later found that one could be satisfied in a role but not necessarily motivated to be a top performer. Conversely, one might be miserable but nevertheless perform at a satisfactory level.

Herzberg's "Two-Factor Theory" says issues driving the reporting of satisfaction level are different from those motivating one to perform. Factors that keep one satisfied include pay, working conditions, supervisor relationship, company policies, benefits, etc. These *external factors*, if at an acceptable level, can prevent one from being dissatisfied but do little to drive true motivation. The second factors, the motivators, are characteristics of the work itself and include sense of achievement, autonomy and responsibility, recognition, opportunity for growth, achievement, etc. So work-related social rewards, the opportunity to master skills, and perceived meaningfulness of the work increase intrinsic motivation and therefore drive stronger performance.

Therefore, managers, researchers, and practitioners adjusted jobs and the work environment to maximize the availability of these *intrinsic motivators*. Through job enlargement (the expansion of jobs to include a larger variety of tasks performed and skills employed) and job enrichment (the expansion of jobs to include tasks at higher levels of skill and responsibility), organizations could provide employees with enhancements to their work lives, like:

- **Skill variety.** The job requires multiple activities.
- **Task identify.** Job incumbents can clearly identify and complete a work piece that has a visible/meaningful outcome.
- **Task significance.** The job results in outcomes that have meaningful impact.
- **Autonomy.** Job incumbents are afforded independence and discretion in setting schedules, selecting techniques and procedures, making decisions, etc., thereby giving them greater responsibility for outcomes
- **Feedback.** Job incumbents have increased knowledge of the results of work.

How Do We Relate to Work?

While this view of work motivation fueled positive impacts in motivation and performance, it also led to a decades-long debate about the relationship between intrinsic and extrinsic motivation. One clear example is found in McGregor's Theory X and Theory Y conception of the worker, which suggests leaders manage employees based on the belief they hold regarding human nature. Those who believe that work is not a natural activity for humans (Theory X) manage their employees as though they intrinsically dislike work and responsibility, and must be coerced to perform. Conversely, those who believe work is a natural activity for humans (Theory Y), tend to manage employees under the assumption that they enjoy work, are creative, seek out responsibility, and can exercise self-direction. The intrinsic versus extrinsic as well as the needs (push) versus incentives (pull) debates continued for years.

Cognitive and Goal-Oriented Approaches

One potential deficit with the approaches discussed to this point is framing employees as passive participants in the process being acted upon by biological or psychological drives or external events. Cognitive theory suggests the employee is an active agent in his or her own motivation. Victor Vroom's "Expectancy Theory" suggests employees consider three primary issues before expending the effort to perform at a particular level:

1. Will it lead to a desired performance level?
2. Will the anticipated level of performance lead to the desired outcomes?
3. Will the desired outcomes have the desired personal value?

The cognitive approach also leads to one of today's well-used techniques: goal-setting. Goals direct attention and action, help individuals mobilize effort, increase their persistence, and encourage the development of strategies to achieve them.

The first benefit of these approaches is a move away from the "intrinsic versus extrinsic motivation" debate and the provision of techniques that consider the employee as somewhat autonomous. It also moves from the idea of the *satisfied worker* toward the *engaged employee*. It defines involvement and enthusiasm for work through employees' intellectual, emotional, and behavioral connectedness. Employee engagement has been consistently linked to such critical outcomes as productivity, customer satisfaction, profitability, retention, quality, and safety.

Looking Forward

Turning to the future, findings in such cutting-edge areas as neuroscience and evolutionary psychology are providing insights into effective employee management. Recent findings suggest leaders' behavior and company culture send signals that evoke brain activity that helps us process our social experiences. More specifically, there are connections in the brain for which we may be hard-wired and may have had some survival value as humans evolved.

There are at least five domains of social experience likely to cause increased activity in the brain's behavioral activating system (causing people to seek out rewards) or the behavioral inhibition system (causing people to avoid punishment): status, sense of certainty, autonomy, relationship with co-workers, and fairness.

Both leader behaviors and company culture can have a profound impact on the brain connections related to these social events. For example, a leader can provide very powerful signals to employees during times of change that will lead those employees to consider their status to be enhanced or decreased after change implementation. Similarly, a leader can have a profound impact on individuals' perceptions of fairness in the organization, thereby activating parts of the brain that lead to engagement or disengagement.

As the world of work continues to evolve, leaders must find better ways to engage employees intellectually, emotionally, and behaviorally to get them to take full ownership of their own professional goals, the strategic objectives of the company, and to consistently examine their roles to derive purposefulness and meaning from their work.

The “Process” of Culture

By Steve Anzalone, Partner, Ideadvisors, Idealliance

I have spent my entire career as an “operations guy” running commercial printing plants, so I very much think in terms of process. Building a culture is usually viewed as a soft skill based on emotional intelligence, but I’ve learned that the programs and processes around culture building can be quantified and institutionalized. Once those processes are hardwired, they become part of your company's positive culture and how you do business.

Branding and Culture

Every interaction you have with your customers, suppliers, and stakeholders sends a signal about your culture. How they are greeted when they walk through the door, the demeanor of your staff when you give a tour, the tone of an interview, how problems are rectified, or how you engage your community—everything you and your employees do reinforces your brand and speaks to your culture.

Hiring

Placing structure and processes around hiring can yield great rewards. When I started my career in the 80's the pool of solid, experienced employees in our industry was huge. We all knew who the A players were and we routinely hired them away based on their reputation in the marketplace. I’m sure we can all recall a press operator or sales rep who fits this description and turned out to be a high-maintenance challenge. Today is a very different landscape. Many owners indicate that finding talent is among their biggest challenges. In our companies we adopted the “interview 365 days a year” mentality—we used networking and unsolicited applications and resumes to constantly meet potential candidates—regardless of whether we had openings. This provided a pipeline of pre-qualified individuals with an interest in our company when the time came to hire. We could point to countless cases where top-notch employees were people we had met years before we actually hired them.

Reduction of employee turnover and hiring right the first time are tremendously important. With a national employee turnover rate in excess of 16% and the cost of replacing a mid-level employee estimated to be 150% of their salary, it’s important to invest the time and resources necessary to assure new hires meet your unique requirements and, more importantly, fit your culture.

Onboarding

Nothing will tell your new employees more about their importance than those first few hours and days with your company. Often, “onboarding” consists of an hour with HR to review benefits and the employee handbook (with a firm reminder to read the entire book and return the signed acceptance page in the back). They are then sent out into their work area for on-the-job training.

Not good enough! Onboarding should be a weeks-long—or even months-long—process of making sure new hires understand the company’s history, meet the owners and key employees from every department, and learn how the company functions and how their role fits into its success. This can easily be accomplished by creating a shadowing program. Employees spend time in each department over a period of several weeks, working side by side with co-workers to understand workflows, the department's responsibilities, and how they fit together. Without some sort of structured onboarding program, new hires will naturally gravitate to like-minded individuals who will use their opinions, good or bad, to make sure they know "how things really work around here."

Training

When the downturn hit, many companies scrapped their training programs, if they existed at all. Companies with strong cultures recognized training and employee development could not be curtailed. Although training programs come in many types and flavors, training of front-line supervisors and managers is, in my opinion, the most critical. An employee's job satisfaction is in direct correlation to the quality of their direct supervisor. It's critically important they are well trained in how they carry out the HR processes and policies of your company.

Meaningful topics might include time management, how to conduct performance appraisals, team building, conflict resolution, talent selection and interviewing, and business professionalism. In my experience, the best results are experienced when training is conducted by a trainer or consultant from outside your company. This is an investment that will pay dividends through leadership development and reduced turnover.

Employee Communication

One of the most important responsibilities of leadership is effective communication with employees. Most employees want to know what is going on, and there are many ways to do this. Make sure to inform your staff of company events, new employees and customers, important changes for the business, meaningful financial metrics, and most importantly, messages of gratitude from clients and employees. Communications should occur on a fixed schedule in a way that ensures employees in different work environments (office vs. shop) are able to access it.

A second level of employee communication involves financial transparency. Many companies keep revenue and profitability closely guarded, but progressive companies train employees to understand basic financial concepts and regularly report revenue, margin, spoilage, and performance against budget and plan. This is most effectively conveyed in a quarterly staff or "town hall" meeting. Over time, employees will gain an understanding of what it takes to be profitable and their part in ensuring that you are.

Employee Performance Appraisals

The tradition in our industry is to conduct an employee review once a year—maybe. Nothing will demoralize a new employee faster than being told they'll get a review and for them not to get it or have it occur late. Once a year isn't nearly often enough. The focus should be more on achieving goals and looking forward and less on what happened in the past. To effectively do this, supervisors and managers need more frequent interface with employees, preferably two or three times per year.

Wellness

In the past decade, employee wellness program popularity has exploded. While primarily seen as a way to control and reduce health care costs, improving the health and well-being of your employees should be your goal. Education around nutrition, fitness, smoking cessation, and stress reduction—which are foundational elements of all wellness programs—provides a meaningful and positive impact on the lives of your employees. You can't put a price on that.

Conclusion

These "processes" are just a very small sampling of employee engagement and culture building tools at every company's disposal, but represent some of the most important, baseline practices that can have a profound impact. Consider the ones that resonate and get busy boosting your company's culture.

Steve will explore this topic in greater depth in his presentation "Lessons from the Front Lines—Real World Tactics to Elevate Culture and Boost Employee Engagement" at the Continuous Improvement Conference in April.

Standard Work

A Case Study in Getting Started

By Michael Stoker, Lean Champion, ABCO

Standard Work is a Lean principle started by Toyota and it is the most effective combination of people, materials, and equipment. Standard Work increases productivity, stabilizes delivery times, eliminates waste, and simplifies processes. Our basic need was to have everyone doing their job in the best and most efficient way possible. To accomplish that, we chose to standardize our work.

Taiichi Ohno, founder of the Toyota Production System, said, "Without standards, there can be no Kiazen." *Kaizen* simply means "change for better." Standard Work is one of the foundations of Lean. Here at ABCO, we see Standard Work as our documented best practices. It's *not* a law that handcuffs people to doing work a certain way but an ever evolving, living document. Standards should never stay the same. We always encourage people to find new and better ways to do things. We always strive to avoid the blame game and instead find an opportunity to improve the processes we follow.

Our first Standard Work Kaizen began like any other Kaizen at ABCO. We chose the people who actually do the work for our dedicated team, which consisted of two HP Indigo operators and the prepress/pressroom manager. We started with training videos from Gemba Academy (several days of one- to two-hour sessions). At the conclusion of the training videos the team members agreed we had a good grasp of what Standard Work is and how we can achieve it. We set out on our planned journey.

Key Steps and Tools

First, we filled in our *Process Capacity Tool* with the steps taken by the operators to complete an average job. We videotaped several sessions with our operators, then sat back down in the conference room to break each step down into seconds on the *Process Capacity Tool*. This is used to determine the capacity of each process and identify bottlenecks. It allows you to visually see where you should apply more of one of the "M"s—manpower, machine, or material—to decrease the bottlenecks in that process.

Next, we moved on to the *Standard Work Combination Sheets*. You will have to fill out one of these for each operator in the process. The combination sheet is where you really track your manual, auto, and walking time. This gave us another opportunity to watch the videos of our operators. This time we broke down each step, including walking distances. This sheet adds up every step in the process to make sure the sum of all steps are under Takt time (the rate at which work must be performed in order to satisfy customer demand). This worksheet will really open your eyes to such things as the placement of materials and tools and how much time is wasted in motion of your operators traveling back and forth from your warehouse to the press for paper or to grab needed tools.

The next form is the *Standard Work Sheet*. This sheet looks like a floor plan or an overhead view of the workspace. It shows the work sequence with every station or process. In each one it will identify safety notices, places that require a quality check, and how many—if any—work-in-process pieces are needed. This is a great visual communications tool for team leaders and management to verify that Standard Work is being followed, as well as giving people who

KEY STANDARD WORK DOCUMENTS

You can see examples of all of the documents Michael used in ABCO's Standard Work at the following URLs.

Process Capacity Tool
http://prnt.in/PCT

Standard Work Combination Sheet
http://prnt.in/SWCS

Standard Work Sheet
http://prnt.in/SWS

Standard Instruction Sheet
http://prnt.in/SIS

are not very familiar with your Standard Work a good roadmap to follow. This sheet should be placed in the gemba, so operators can see it where the work is being done.

Our last form, and final destination, is the *Standard Instruction Sheet*. To create it, use all three of the previous forms. Start with all the steps in the process and list quality, safety, and time allowed to stay under Takt time. It also has an area for any other special notes anyone would need to do the job. Also in the corner is a reduced copy of the *Standard Work Sheet*—kind of a little roadmap.

The *Standard Work Sheet* is kept on the server for easy access to all. It is used by the operators and managers and is a great tool for cross training people as well as training new hires. Our results remain to be seen, as we are still in the middle of our implementation of Standard Work throughout our facilities. We have already noticed a great improvement in the attitude of our employees and their willingness to change since we put the creation of Standard Work into their hands.

Michael will be presenting on ABCO's Standard Work journey at the Continuous Improvement Conference in Pittsburgh, PA on April 2-5. Attend his session, "The Process of Standardizing Work" to learn more about the process as well as ABCO's results.

Moving the Force without Forcing the Move

Initiating Lean through a Contracted Lean Implementation Plan

By Kenneth Macro, Ph.D., Professor and Chair, Graphic Communications Department, Cal Poly San Luis Obispo

During the past twenty years there has been much energy exerted into evangelizing the Lean movement within our production facilities. After all, having efficient workflow processes that are well documented and effectively executed is tantamount to enhancing profits, increasing productivity, and fostering a healthier work culture. The problem is that way too many graphic communication manufacturing centers have yet to experience the projected rewards that have been so loudly touted to them through the workshops, seminars, and presentations that they have engaged with.

Of course, education on the subject matter is not a colossal waste of time. In fact, it is imperative to gaining the fundamental yet intricate details of Lean, which can be overwhelming and, consequently, unrealistic and/or unreachable.

But Why Is That?

Is Lean really all that difficult? After listening to any Lean or Six Sigma presentation one might ask, *Does it require a lot of scientific formulas and complex calculations? Will I need to dust off my old calculus textbook so that I can talk confidently to my employees? Can I actually persuade our shop floor to buy in to this?* And, *Can I get these results with the staff that I have?*

Inevitably, the answer is yes. You won't need that calculus textbook, but you will need to work at it—one initiative at a time, one task at a time, one win at a time. Lean implementation requires incremental steps, hands-on education, and lots of reflection wrapped up in patience and the ability to learn (and understand) your current status (how your production processes are situated currently). This requires introspection, the involvement of everyone in the company, and most importantly, it requires you—the CEO, the general manager, the shop floor supervisor, and any other authority within the organization.

In his book *Gemba Walks*, James Womack writes, "A key objective of the Lean movement is to teach everyone to untangle intermingled processes to see clearly the specific process that they manage or touch as it flows from start to finish. Then, with a clear understanding of the current state of this process, they must improve its performance so that everyone is better off—customer, employee, supplier, investor."

The key words are *to see clearly*. How often are we aware of a problem on the floor only to be told about it while we are sitting in our office chair? Gemba walks come from the Japanese term *gemba*, which roughly translates to "go and see." This very simple objective is crucial to effectively launching a sustainable Lean initiative. To be able to see is integral to moving your workforce.

Education Using the CLIP

My colleagues and I have developed, presented, and facilitated many Lean workshops over the past 15 years. Together, we wrote a book about Lean, *Lean Printing: Pathway to Success (2006)*. The workshops we have conducted have received excellent reviews. Yet—as we have witnessed by the looks on the faces of all our students at the end of each session—the content in its entirety was incredibly vast and, consequently, overwhelming. Companies armed with the content in hand sometimes experience great difficulty in successfully overseeing a Lean initiative that it is self-sustaining or seamlessly effective.

In 2011, one of my colleagues and I began development of a series of Lean workshops to be facilitated for print manufacturing firms located throughout western Canada. We designed a one-day course that would cover five simple "tools" of Lean (Kaisen/5S, waste identification, visual management, spaghetti mapping, and work standardization). Our one-day workshop focused on the five primary tools and consisted of a combination of lecture (30 minutes) and a supplemental hands-on application (30 minutes).

The results were fantastic. Most of the participants were leaders in organizations and, through the combined instruction process, they all left the workshop with an individualized action plan. We were ecstatic, and the attendees seemed to enhance a rejuvenated *esprit de corps* within their organizations.

After that win, the Canadian Federal Government invited us to submit a grant proposal for federal funding for the development of a three-day on-site program set on the premises of participating companies in western Canada. This program was branded as a Contracted Lean Implementation Plan or CLIP.

The Program in Action

For four preselected companies, a three-day hands-on Lean implementation initiative was launched consisting of three consecutive one-day programs but designed to introduce more tools and to integrate all employees in the implementation processes. Tools were introduced in a 30-minute lecture then practiced and demonstrated on the shop floor. Employees were asked to participate and data was observed and collected. The results were incredible in that each individual employee, alongside their supervisor, was given an opportunity to see the positive ramifications of Lean in their immediate premise and areas.

After each demonstration or activity, there was discussion that provided further insight to the significance of each Lean tool. Liker and Convis (2011) refer to this Toyota practice as *hansei*, the Japanese term for "the conscious process of looking back at oneself, picking apart what went well and what did not go well, and vowing to be better next time." Each activity on the floor demonstrated or enacted during the assigned activity produced significant discussion thus enhancing the confidence levels of each of the Lean Implementation Planning Teams.

On day three of the program, each member of the CLIP team selected five measurable one-year goals for review. To exhibit their dedication, they signed a formal document. The signed document intensified their level of seriousness and commitment.

The Results

The underlying results were tremendous. All four companies improved processes with measurable financial savings. They experienced less downtime due to equipment failure and damage to product because of transportation accidents. Employees gained insight into company goals through transparency and communication. Significant floor space was recovered by successful 5S initiatives. Culturally, most of the companies held CLIP update sessions to show progress made from each employee's individual commitments thus gaining further buy-in from the shop floors. Finally, all of the companies extended the CLIP signature ceremony to include every employee. The CLIP (in the form of a wide-format poster) has been framed and proudly displayed in the front reception areas of their plants for all of their customers to see.

The discovery to be yielded from this experiment was that learning one tool at a time in small amounts and then applying the tool through an activity stationed on the very floor for which it was intended with the very people involved has a greater relevance than attempting to push it downward from the offices of management. It is, essentially, a two-way street requiring visual transparency and cultural trust in the form of communication (huddle boards) and celebration (community "win boards" that celebrate progress and results). More importantly, the real success was found when the management team of these organizations came down to the floor to work with the production crews.

28 Years of Continuous Improvement

James Workman, Vice President, Center for Technology and Research, Printing Industries of America

Q&A

Jim Workman is PIA's vice president, Center for Technology and Research, as well as the conference manager for the Continuous Improvement Conference. This year the conference is being held April 2–5 at the Omni William Penn Hotel in Pittsburgh, Pennsylvania. Visit ***ci.printing.org*** *to learn more.*

PIA: This year the conference is taking on an employee-centered focus. What drove that?

JW: A culture needs to be supportive of continuous improvement (CI) concepts and techniques in order for a company to successfully implement and maintain CI as a key strategy. It doesn't fit cultures that are autocratic in nature and that don't elicit and respect ideas from individuals doing the work. It also clashes with cultures preoccupied with getting work out the door at all costs without questioning the status quo and investigating the primary causes of errors and waste. As the impact of culture has become clearer, we've increasingly added content so executives can understand the influence their behaviors have and what they can do to create an atmosphere conducive to operational excellence. This year we've gone a step further and added a new track, Growing and Developing People, which recognizes that how people are managed, evaluated, and recognized is central to creating a positive culture for improvement.

PIA: After 27 years, has a sense of fraternity grown among regular attendees?

JW: Approximately half of the companies that attend return each year, indicating a strong commitment. Not only that, but the average company sends two or three people, with some sending groups in excess of ten. Groups maximize networking opportunities, and we specifically build in structured networking sessions along with numerous social events. There's a spirit of sharing information which is made even stronger because of the relationships formed by people who return every year.

PIA: With a CI focus, there must be a good deal of pressure to develop a more valuable experience each year. What can attendees look forward to in 2017?

JW: How right you are. Fortunately, we have the CI Conference Advisory Committee to help us bear up under the pressure! Each year we search for new industry speakers, fresh topics, and we try new things based on what evaluations forms and committee members tell us. This year we shot videos at a printing company to complement the keynote presentation on Gemba Walks. One advantage to changing cities is that it allows us to take advantage of unique resources in each location. In Pittsburgh this year, we're having our evening gala at the Heinz History Center and on Tuesday we'll be featuring a presentation on robotics by the world-renowned Robotics Institute at Carnegie Mellon University.

PIA: The CI Conference always has great tours of local facilities. What do you have in store for Pittsburgh?

JW: Even though I live in Pittsburgh, I wasn't aware of which local companies were advanced users of CI concepts. It took some digging, but we've put together three solid experiences. The tours to Universal Electric, Philips Respironics, and Industrial Scientific will give attendees the chance to pick up ideas from top performing manufacturers. While these are fascinating tours, they're also a chance for the companies to explain the what, why, and how of their CI strategy.

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