Carrying the torch for industry engineering

Ed Kwasnick's work compels consumer and business media to pay attention to the laundry business.

First of two parts

At the risk of not flattering him, you might call Ed Kwasnick the "poster boy" for big-laundry engineering. Within the past year, Sky magazine (Delta Air Lines) interviewed him about his business, Turnkey Industrial Engineering Services, Charlottesville, Va., which serves rental and institutional clients. The Sky reporter who quoted him seemed fascinated that such a business specialty could exist.

More recently, Kwasnick was a cover story subject for Industrial Engineer (IE) magazine, published by the Institute of Industrial Engineers, Norcross, Ga. The article's headline: "His beautiful launderettes." Subtitle: "Kwasnick streamlines the clothesline."

Like the Sky story, the IE article discusses many fundamentals of the business with which most professionals in the laundry industry are familiar. But Kwasnick made a few comments in the story, that prompted *IL* to ask him to elaborate.

Here and in next month's second part of this article, we will excerpt his most intriguing quotes from the IE story and pose follow-up inquiries to Kwasnick.

"In our industry there are still a tremendous amount of opportunities to improve by just changing policies and procedures. There's a lot of what people would call low-hanging fruit because the industry has not consolidated. There are so many independent companies out there that have not standardized their processes."

Is this true for chains as well? Describe the state of industry engineering for them.

First, let me say that all of my comments are focused on industry engineering, not maintenance. Sometimes these words are used interchangeably in our industry. However, although I am very familiar with the maintenance side of the business, all of my comments have to do with the engineering side.

All chains have some level of in-house engineering typically focused on capital projects (e.g. new plants, facility renovations, equipment purchasing, etc.). Most of these companies focus on large step improvements in their operations by installing new automated equipment, building new facilities, or implementing other major capital improvements.

So, their engineering expertise is focused on these types of projects. A much smaller percentage of chains have engineers that focus on process improvements (i.e. process standardization, improved work methods, quality improvements, etc.) These companies concentrate on large step improvements and small continuous ones that add up to large savings on an annual basis.

When a company has its own engineers, does this usually translate to greater adaptation of standardized processes?

It definitely translates to better develop-

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ment of standardized processes. However, it does not necessarily translate to improved adaptation of these. Just because an engineer develops the best method for doing something doesn't mean the plant automatically adopts the new method. The key to success is using a process to integrate the production team into development and implementation of process improvement and standardization.

In some areas of operations more than others? Which ones? Why?

It is easier to standardize processes when people want to improve and are open to change. It really depends more on the attitudes of the people involved than the actual processes you are trying to improve. If people want to change then they will, regardless of the process.

However, when it come to processes, it is easier to standardize quantifiable processes. For example, with programmable controllers, I can standardize wash formulas by product type and make that a repeatable process.

However, it is more difficult to standardize garment grading in the stockroom of a uniform laundry because many of the grading decisions are subjective and depend upon the expertise of the grading employee. You can improve the process by adopting and posting grading standards, including using visual aids. But the production employee is still responsible for the final grading decision.

At what size do the economies of scale kick in for engineering? No chain has one engineer per plant; a medium sized operation, though, may have one per three or four plants. What's the optimal ratio of staff engineers to facilities?

That is a question that every operator, chain or independent, deals with on a regular basis. Let me reframe the question: What is the proper amount of engineering needed to meet the company's goals?

It depends on its strategy. If a company is focused on major capital improvements, then a small group of engineers can cover a high volume of projects, as long as those engineers don't mind traveling 90 percent of the time. This is especially true if they are fully leveraging their inside and outside resources, such as equipment suppliers, general contractors, architects, maintenance employees, etc. to get the job done.

However, if a company is focused on both large and small improvements, the ratio of engineers needed per plant goes up. You need to spend a lot of time on the plant floor if you truly want to improve your production processes. It takes time to identify opportunities, develop and implement improvements, and then follow up to make sure the improvements worked.

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One solid approach is to have a small team of capital project engineers (could be one person in a smaller regional chain) and then one process improvement engineer for every three to four plants. That will give you the best bang for the buck.

How important is the use of people who have industrial engineering experience, as opposed to engineers from other specialties?

Again, it depends on what you are trying to accomplish. If you want to improve the efficiency and reduce the operating costs of your plant, then industrial engineering is extremely important.

Industrial engineers are trained to maximize the efficiency of a production environment. They accomplish this goal by developing efficient plant layouts, developing work standards, improving work methods, designing efficient work stations, improving inventory utilization, minimizing work-in-process, etc.

I am not trying to diminish the role of other engineers. Other engineers have different skill sets. For example, a mechanical engineer designs highly efficient piping systems; heating, ventilating, and air conditioning (HVAC); machinery; and machinery components. So if you need someone to design the piping or HVAC system for your new plant, you would call a mechanical engineer. However, a mechanical engineer is not trained to design highly efficient production processes. That is not his or her area of expertise. So, industrial engineers have the best tools, training and experience for this application.

In the independent segment, which areas of production operations are most ripe for improving processes and procedures?

Inventory utilization (for both linen and garments), production scheduling (fully utilizing your employees and equipment to maximize production), garment sorting, washroom, soil processing (unloading, storage, counting, and sorting), ironer feeding and folding, and linen packout and storage.

There is a lot of low hanging fruit to be picked. The key to success in a production environment is to make your processes repeatable. If you can establish a simple, highly efficient production process that produces good quality (maybe not "great"), and then repeat it over and over again, you will succeed.

However, if you have a lot of exceptions in your production processes that require additional handling, additional inventory, additional time, etc., then you cannot repeat your processes and, in the long run, your processes will break down and lead to failure. Industrial engineering is all about turning art into science to increase the probability for success. IL