

Driving Higher Workplace Performance

Using Analytics, Dashboard Metrics and Soft Skills to Improve Results

Foreword: *A Lean Six Sigma Black Belt was assigned the task of improving warehouse performance for a Western Canadian Industrial Distribution Center (DC). Process improvement of any kind can be a challenge. Improving a process that is sustained by entry level employees in a hot economy creates even greater challenges. During the course of this project, the Black Belt rediscovered what many business leaders subconsciously know, but often forget. That is, special care must be taken when attending to human dependent processes. Outlined below is the story of a Project Manager's discovery of the unique differences that exist between "human" and "automated" business processes.*

I was a Quality Leader employed in the manufacturing sector for eighteen years. In the mid-nineties, I became fascinated with *Lean Manufacturing* as well as *Six Sigma*, now commonly grouped together and referred to as *Lean Six Sigma (LSS)*. I read voraciously about all facets of these new methodologies. In 2003, I became a Six Sigma Black Belt. In my first year, I led a successful project that saved close to one million dollars – tops in the company. For my effort, I was flown to New York to share Six Sigma “success secrets” with the CEO’s of several multi-national corporations. I thought to myself “Six Sigma is easy”. That is until I accepted an offer to apply my expertise in an entirely different field - Industrial Distribution; a business where *human* not *automated* processes frequently predominate.

First Project – Warehouse Picking

My first assignment was to improve the performance of our warehouse “picking” process. In plain English, a “Picker” is an employee that is paid to pick (and sometimes pack) customer orders. Their job is vitally important – Pickers must select exactly what the customer wants, and they must do it in a timely manner. It’s not easy. The Distribution Center warehouse stocks over 40,000 different products. We require our Pickers to be productive and accurate. A breakdown means our customer is either not going to get what they asked for, or they’re not going to receive it when they wanted it. The pay rate for a Picker is modest; the work frequently mundane. As a result, the picking function is challenged with very high turnover year after year. Economics played a big part in how I approached this project. As with most Six Sigma improvement initiatives, project leaders are restricted to a tight budget. A costly redesign (i.e. process automation) was not an option. Instead, I was charged the task of improving the existing process – optimizing what we already had.

Walk a Mile in my Shoes...

A good Lean Six Sigma project manager is taught to get in the trenches and “walk a mile in the shoes” of people that perform the actual work. In my first week of walking a mile in a Picker’s shoes, and of mapping the process, I experienced several “aha” discoveries:

1. Metrics: Our performance measurements were weak and not defensible.
2. Pay Structure – Everyone was paid essentially the same. Tenure, not performance was the barometer for pay differentiation.
3. Job Pride - There appeared to be little dignity in the Picking role
4. Leadership – Active, hands-on leadership was missing.
5. Human Dependency – Although technical systems (software, conveyers) were definitely part of the process, the core of our warehouse Picking function relied on people.

You Manage What You Measure

There is a business adage that states “you manage only what you measure”. World class companies measure what’s critical to their success. These measurements are often referred to as Key Performance Indicators (KPI’s). Without KPI’s, a business is blind – unaware of where it is, or where it is going. A job that lacks clearly defined measurements usually lacks clearly defined goals for its employees. Performance deteriorates. An attitude of “it’s just a job” pervades. As I immersed myself in the world of a Picker, I flashed back to a summer job I had when I was 16. I was required to keep a supply yard clean, and repair damaged equipment that came in. I received very little feedback from my boss. No one cared what I did, or how much I did. I hated that job. The same phenomena existed in our warehouse. Without KPI measurements or feedback (i.e. strong leadership), performance suffers. I witnessed exceedingly wide variability amongst warehouse staff - variability in passion, competency, productivity and accuracy. Like my summer job from so many years ago, our Picker’s did not feel validated – it seemed what they did didn’t matter. I recognized very quickly that an enormous improvement opportunity lie in the optimization of how we managed our human capital.

Developing a Measurement System

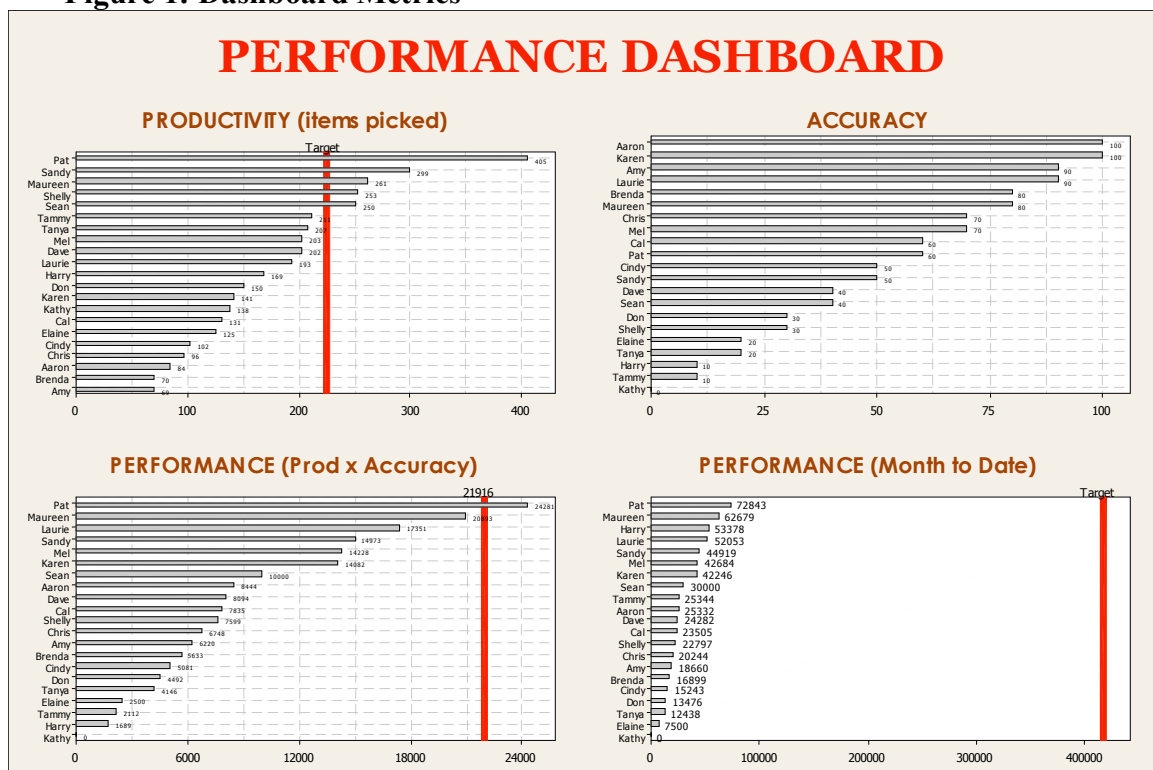
Performance measurements are powerful motivators. According to a Voice of the Customer (VOC) survey, two things mattered with respect to being a good Picker: Accuracy and Productivity. My challenge was to develop a measurement system that measured both the *volume* and the *accuracy* of the work completed in a day. I was told by numerous managers that it is impossible to apply metrics to warehouse distribution simply because of the massive product offering and the varying degrees of difficulty in picking one item versus another. “How do you compare the productivity of an employee that picks large items such as stepladders all day, versus an employee that picks nuts and bolts? Furthermore, how do you quantify accuracy? Some products are very similar and therefore more easily confused than others. We’re not comparing apples to apples here...” They were right, it wasn’t easy. I began collecting and analyzing reams of warehouse data, over 4,000 man-days of Picker work. I broke the information into warehouse “zones” and analyzed the differences. Using box-plots and a concept called ‘normalization’ I was able to create a system where our company could fairly compare the accuracy and productivity of warehouse Pickers regardless of what items they picked or where they picked it, in a fair and equitable manner.

Metrics in Place - Now What?

Research indicated that four critical changes would yield significant improvements to productivity and accuracy:

1. *Transparency* – Now that we had data, we needed to communicate to our employees how they were doing, and how their performance compared to others. This creates a foundation of accountability and of expectations in the workplace. It also validates the Picking role, sending a clear message that their work matters.
2. *Utilize “Dashboards”* – Dashboards are tools that depict statistical information in a visual way. They are easy to understand and therefore allow for instant interpretation. (Figure1)

Figure 1: Dashboard Metrics



3. *Reward Excellence* – Recognize and reward individuals that demonstrate superior performance. The current system did not cultivate excellence.
4. *Restore Pride* – Establish a respectful, collaborative relationship with the staff. Apply “Voice of the Customer” techniques to understand their workplace needs.

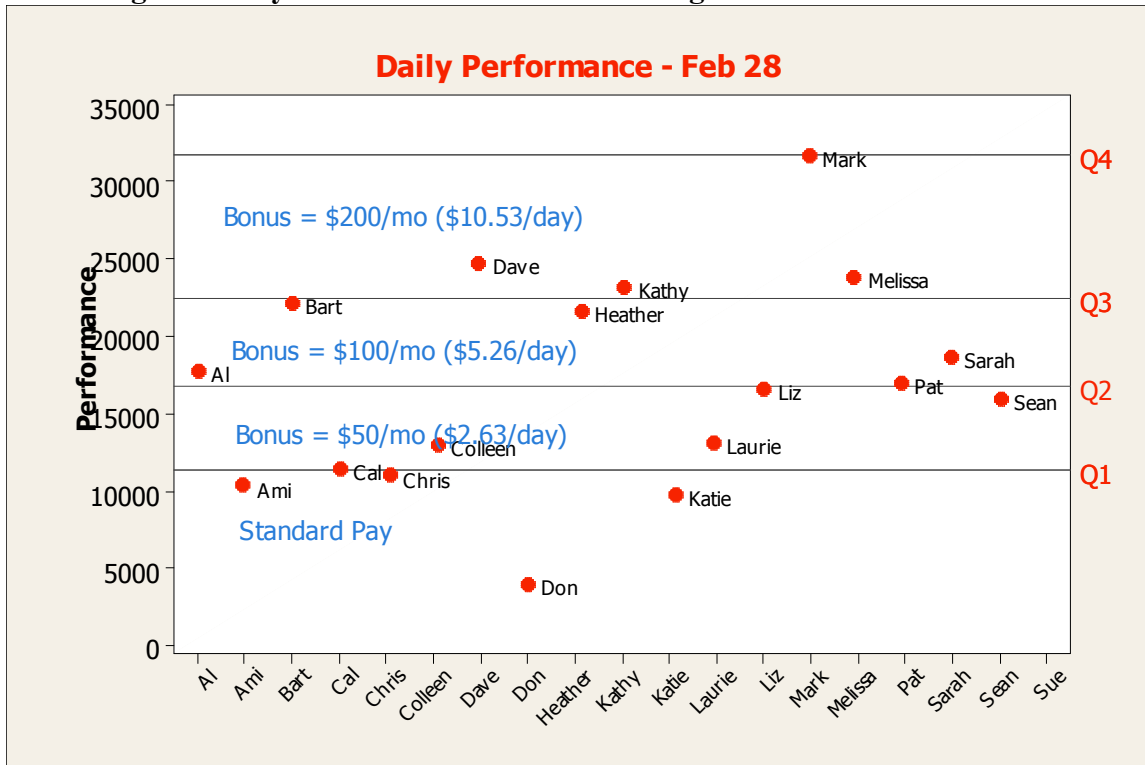
Pay For Performance (P4P)

“Reward your best people, not your worst” – Jack Welch former CEO, General Electric

Rewarding excellence (# 3) proved to be the most sensitive of the four proposals. Why? Because I proposed we reward our line level staff in a manner never tried before - with money. From my perspective, the homogenization of worker pay regardless of contribution cultivates mediocrity in the workplace. It has always seemed odd to me that

at a corporate level, monetary incentives are commonplace, yet on the ground floor they are almost unheard of. Wouldn't someone earning \$20-30K per year be just as motivated by the opportunity to make extra cash as the executive earning a six-figure income? After polling our warehouse staff - the single parents, young kids trying to make next months rent, the answer was obvious; Yes. The P4P model I proposed provided an opportunity for *all* employees to earn extra cash. Despite anxiety regarding the problems that can surface with floor level "Pay for Performance" programs, my employer was immensely supportive of my study and allowed me to proceed. (Figure 2)

Figure 2: Pay for Performance – Rewarding Excellence



Planning the Pilot

I received approval from our CEO to run a four week pilot that provided carte-blanche authority to change the way we administered our picking process. After several meetings with our picking staff, the following changes were authorized:

1. We would measure the accuracy and productivity of every Picker, every day.
2. We would post the results in visible locations.
3. We would reward excellence. Superior performance was monetarily rewarded.
4. Worker Involvement - I would meet with the Pickers every week, to solicit feedback on how we could improve the process.
5. The data would not be used in a punitive manner. Root causes of picking errors or lower productivity would be identified, and corrective action (usually additional training) would be prescribed.

Did it Work?

Yes! The one month pilot was a thoroughly rewarding experience. For four weeks I collaborated with 20 Pickers, asking them each day “how can we make this better?” I received wonderful feedback on how to ensure the new picking process was mutually beneficial to both the staff and to the company. At the end of it all was a picking process, developed jointly by warehouse employees and a Six Sigma Black Belt, that was more rewarding, more fun, with improved performance. Results are outlined below:

Overtime: Overtime was *completely* eliminated. Prior to project launch, overtime was a chronic problem. Pickers were routinely asked to stay late or work weekends to attack the backlog of work orders. It had been years (yes, years) since 100% of orders were completed the same day they were requested. Less than five days into our pilot an amazing thing happened. We ran out of work! Productivity had increased so dramatically, the pile of pick tickets was obliterated. Pickers felt an enormous sense of accomplishment as they watched the demoralizing backlog disappear.

Productivity: Increased by 25%. This is a conservative value, as on several days we simply ran out of work. Had there been more pick tickets to process, productivity values would have been higher. We celebrated this accomplishment by allowing the employees to go home early on some of the days. On others, we organized “5S” teams, the Lean practice that involves cleaning, organizing and polishing the workplace. Perhaps the greatest testament to the impact on productivity was this: The Distribution Center maintained a workforce of 25 Pickers (20 full-time + 5 part-time). Pilot results showed that a workforce of 16 motivated Pickers could accomplish the same volume of work, without compromising quality. Another interesting discovery: the most productive workers were also the most accurate. This was surprising to many, as they believed an increase in productivity would lead to a greater number of errors.

Absenteeism: Reduced 47%. Workers were frank with me when asked to explain the dramatic reduction in absenteeism. They said there were two primary contributors: (a) they had a chance each day to make a little more money and second (b) it was more enjoyable coming into work. Morale had clearly improved.

Quality: Improved 0.2%. A previous Six Sigma quality initiative likely minimized the effect our pilot had on quality. Further improvements to quality would likely require a focus on the physical process (i.e. automation, bar-coding) and on additional training.

Conclusion

Disciplines such as Lean and Six Sigma have dramatically improved the health and profitability of scores of businesses. Irrefutable evidence exists to support this fact. What must never be forgotten however is the importance of humans - the lifeblood of your organization. The ability of a business to motivate and inspire their workforce is a prerequisite to successfully improving people dependent processes.

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