Lean Six Sigma Increases Efficiency for Financial Services Firm

by Janet Jacobsen

A fund services organization invested in extensive technology upgrades to boost efficiency and process control with the overarching goals of improving quality and client experience. After the technology updates were fully implemented, metrics showed the organization was achieving timeliness and accuracy goals more than 99 percent of the time, but two key questions remained unanswered, "Are we effective at what we are doing," e.g., What was the cost to the business in attaining 99-percent accuracy and timeliness? and "Do we know our operational risk points?" In partnership with ProcessArc, a consulting firm specializing in Lean Six Sigma for the financial services industry, the organization set out to tackle these questions.

The World of Fund Accounting

This case study focuses on a financial services institution, specifically its fund accounting department that is responsible for supplying net asset values (NAVs) to the NASDAQ stock exchange for more than 700 mutual funds at the close of each trading day. The department's accountants calculate the NAV based on several inputs, such as the number of trades that day, expenses paid, and dividends, for mutual funds of more than 200 clients. Performance is measured on two levels—timeliness of the NAV released to NASDAQ and its accuracy.

Lean Six Sigma as the Path Forward

Lacking the essential data to make before and after comparisons, the organization's leaders couldn't quantify whether the organization was operating more efficiently after the technology upgrades were fully implemented. The leadership team knew quality tools could help measure and ultimately improve efficiency, but they weren't sure which methodology would be most suitable for the fund accounting department. With the help of ProcessArc, the organization decided to introduce Lean Six Sigma slowly because this methodology would help usher in a gradual cultural shift toward continuous process improvement.

As shown in Figure 1, the first step was forming a cross-functional team comprised of fund accounting, quality, and the central operations employees. ProcessArc consultants worked with this five-person team for nearly six weeks to create process maps of the fund accounting department's daily activities— essentially from the start of the business day until the NAVs were published to NASDAQ at the close of the day. "This high-level process mapping gave us a good sense of the department's capabilities and how the business operated," recalls Sheila Shaffie, Lean Six Sigma Master Black Belt at ProcessArc.

During this time, Shaffie says, the team also collected relevant data such as trade volume and rework and reject rates for each process step, as well as process touch time and wait time whenever possible.

Figure 1—Lean Six Sigma journey timeline

Building the Culture and Infrastructure for Continuous Improvement
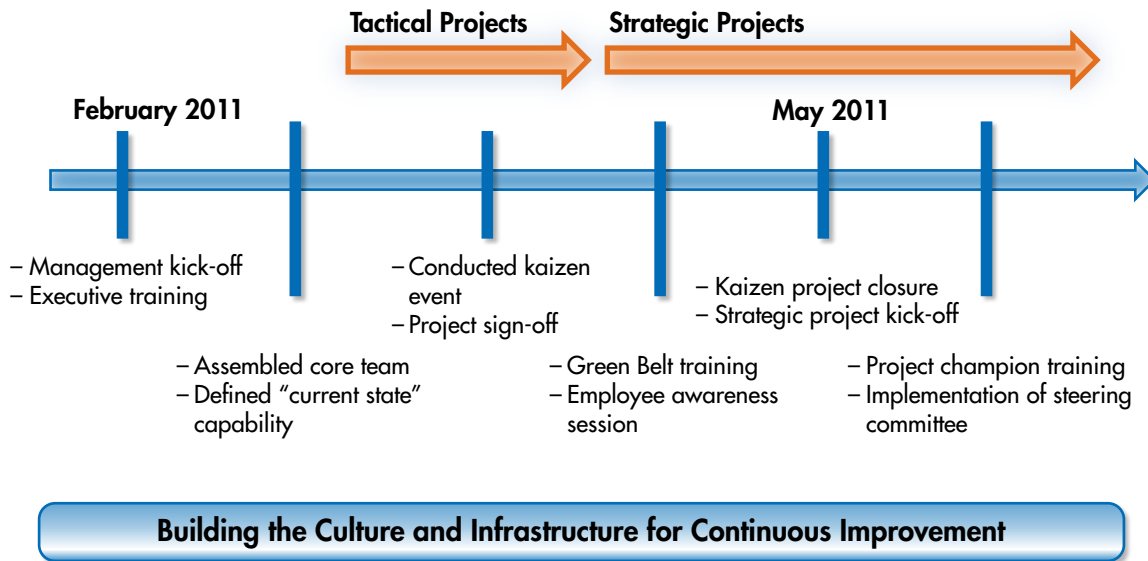
She explains that wherever they could find data, they tried to attach it to a process step. The goal was to identify areas that presented high levels of risk (i.e., generating an error or missing a step) or processing touch time. To complete the picture of all the variables having an impact on the effectiveness of a fund accountant, the team also collected information and data feeds coming into the department. It was important to understand the timeline for these data feeds as well as their accuracy as they could either delay or affect rework rates.

Time for a Kaizen Event

The next step involved a kaizen event, a key lean concept focused on delivering rapid improvements. The kaizen event concentrates on areas in need of improvement and brings people together from all sides of the process to identify a better, quicker path. The output or improvement recommendations from the event are tied to action plans that, if approved by leadership, will be implemented in 90 days or less. Shaffie believes the kaizen event was a good, noninvasive way to introduce the organization to Lean Six Sigma concepts. The team used three basic principles to start—baseline process mapping, process and customer data collection, and brainstorming for potential improvement opportunities using a cross-functional team.

In all, the group identified 30 possible improvement items and ranked them based on impact (high vs. low) and ease of implementation (easy vs. difficult). Of course, the team first looked for the high-impact, easy-to-implement projects, sometimes known as the low-hanging fruit. Ultimately, the projects were divided into two categories: quick-hit projects that they could realistically solve and implement within 90 days, as well as longer, strategic infrastructure improvements that required additional time to address.

As the project progressed it was difficult to provide in-depth answers to questions about efficiency and process risk level without a solid error-tracking system and/or capacity measures. The team quickly recognized that longer-term strategic projects—improving error tracking, creating a capacity model, and developing a project management process—were necessary to answer those questions. The error tracking project would help drive consistency on what is deemed critical processing mistakes. Actively measuring these errors would allow managers to quickly identify process steps that present high levels of risk. The capacity model would help define utilization rates for each fund accountant and team. Ultimately, the project management process will ensure a robust process for getting everyone involved in process improvement. These three areas are being addressed in early 2012 and will be the focus of a follow-up case study.

Eventually, nine quick hit projects were selected from the original list of 30. The projects were divided amongst the original five team members, and subject-matter experts and information technology resources were assigned to each project. Shaffie says that using subject-matter teams helped reinforce the change management culture by including representatives from all areas of the organization. The projects predominantly focused on simplifying, eliminating, or automating process steps. The goals were to increase capacity by eliminating non-value-added activities and reducing operational risk through simplification and automation of steps. The project ideas ranged from automation of expense payment application to simplification of cash reconciliation process.

To maintain project momentum as well as ensure buy-in from managers, a steering committee was formed with varying levels of managers and executives. The kaizen team would provide weekly updates on the status of the project. This would ensure that all key

stakeholders were kept up to date on the status of the project and the logic behind the solutions developed by the teams.

Addressing the Quick Hits

Four of the nine projects are highlighted below.

1. *Eliminating line-by-line comparison of pre- and post-trial balances.* In the past, a fund accountant reviewed all inputs and outputs to the fund on a daily basis to ensure that the NAV was calculated correctly, a time-consuming, high-risk process. The improvement team developed a new value to be calculated on the pre- and post-trial balances to allow a quick comparison, thus eliminating the need for line-by-line reviews.

2. *Simplifying the corporate action (CA) review process.* To ensure that the correct CAs (example: dividend distribution) were applied to the funds, employees manually reviewed information from the core system and verified this information with a second source. Not only was this process cumbersome, but since it relied on people to catch discrepancies, four inspection and sign-off points were needed to ensure quality of information. The team developed a new daily automated report to compare the required values from the system to a secondary source, highlighting any discrepancies. Since its implementation there have been zero errors in the application of CA and a daily time savings of four hours.

3. *Creating an automatic feed of expense payments.* Each day expense reports by fund were hand delivered to the fund accountants, who then manually entered the information into the core system. Managers would verify the information for accuracy later in the process. The team redesigned the process to automatically feed the expense information from the original source on a daily basis, thus eliminating the need for distribution, entry, and verification steps.

4. *Eliminating manual price change sheets.* In the past, fund accountants created daily spreadsheets to calculate the

percentage change in the NAV by comparing each day's price to that of the previous day. This time-consuming, manual process introduced the possibility of data entry errors and miscalculations. The improvement team redesigned and automated the report to replace the manual process. Now a percent NAV change report is generated daily, thus reducing or eliminating miscalculations and rework.
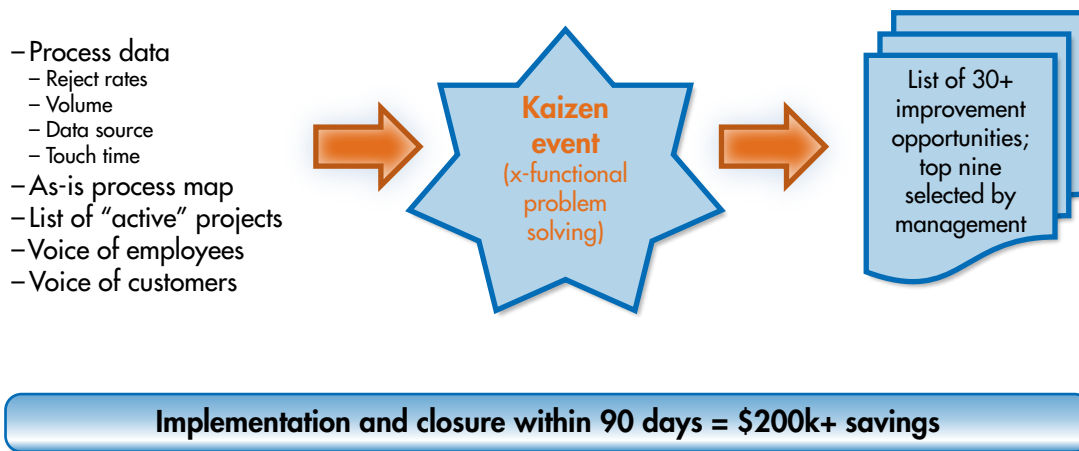
Results Come Quickly

In just four months, from the time the process mapping began until completion of the nine projects, the organization realized $225,000 of savings, as illustrated in Figure 2. The results were twofold—improving controls of processes to reduce the probability of errors and reducing the cycle times of key processes. As a secondary benefit, members of the five subject-matter expert teams developed a more detailed understanding of how their co-workers perform daily tasks and how their work products and quality are dependent upon one another.

Now that the solutions are fully implemented, the organization sustains the improvements with random audits of work product to ensure that employees continue to follow the newly designed processes. Ultimately, the biggest contributor to sustainability stems from the fact that the majority of the solutions came from the fund accountants and managers, so accountability was built in from the start.

Moving Forward

Once the nine projects were under way, ProcessArc conducted Lean Six Sigma Green Belt training for the five members of the original cross-functional team so that these individuals could begin work on the larger-scale projects (capacity model, project management process, and error tracking). That was soon followed by Champion training to provide the organization's leaders with a

Figure 2—Lean Six Sigma details

- Process data
  - Reject rates
  - Volume
  - Data source
  - Touch time
- As-is process map
- List of "active" projects
- Voice of employees
- Voice of customers

Kaizen event (x-functional problem solving)

List of 30+ improvement opportunities; top nine selected by management

Implementation and closure within 90 days = $200k+ savings

clearer picture of their roles and responsibilities, as well as tips for coaching and mentoring the Green Belts in the future.

The quick success of the project teams demonstrated how basic Lean Six Sigma principles could be used to simplify work and enhance controls. The organization is pleased that employees adapted quickly to a process improvement culture introduced through these projects. Managers are now involved with identifying further improvement opportunities and working with the Green Belts to vet the ideas and assign resources to develop and implement solutions. "The entire organization is involved in the culture of process improvement, mainly because they see that management is hearing their voices and responding," says Shaffie.

For More Information

- To find more resources on lean, Six Sigma, and kaizen events, visit the ASQ Knowledge Center at http://asq.org/knowledge-center.
- Contact Sheila Shaffie of ProcessArc at sheila.shaffie@processarc.com to learn more about this project.

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