Reducing Check Returns With Six Sigma

by Janet Jacobsen

At a Glance . . .

- Firstsource Advantage identified a key improvement opportunity when voice of the customer data showed that a top client received more than 10,000 returned checks during a five-month span.

- While conventional wisdom said the check return rate couldn't be reduced, a cross-functional Six Sigma team aimed to trim the rate by 20 percent.

- The team was named as a finalist in ASQ's 2011 International Team Excellence Award Process.

- The organization earned the client's 2009 Service Quality Award for this initiative.

In all economic sectors there are certain costs of doing business. What if an organization dared to challenge conventional wisdom by taking direct aim at lowering one of these costs? This was the case at Firstsource Advantage as a cross-functional improvement team used quality tools to lower the rate of returned checks in its third-party collections operation.

About Firstsource Advantage

Firstsource Advantage (FSA) LLC, located in Amherst, NY, is a subsidiary of Firstsource Solutions, a global provider of customized business process outsourcing services to the banking and financial services, telecommunications and media, as well as healthcare sectors. Its clients include FTSE 100, *Fortune* 500, and Nifty 50 companies. Firstsource utilizes a "rightshore" delivery model with operations in India, the United States, the United Kingdom, and the Philippines.

The organization uses a three-pronged process excellence model that includes process management, quality assurance, and process improvement. Its commitment to Six Sigma runs deep, as more than 2,000 employees are trained Six Sigma belts; 104 of them are Black Belts. A business quality council ensures the prioritization and successful delivery of the organization's quality initiatives.

Challenging Conventional Wisdom

Like most successful businesses, FSA uses a variety of sources such as voice of the customer data and monthly profit and loss statements to uncover process gaps and inefficiencies. These reports are essential because they paint a picture of which processes are performing well and where opportunities for improvement may exist. In early 2009, an opportunity presented itself through voice of the customer data and operational reports for a leading client, one of the top credit card issuers in the United States.

During this time, the worldwide economic downturn was affecting FSA's third-party collections department. These conditions were causing low liquidation rates (dollars collected/debt) and climbing check-return rates (CR), which is a calculation of dollars returned as a percentage of dollars collected. In fact, the client recorded more than 10,000 returned checks from July to December 2008, resulting in a CR of 12.7 percent. This meant that more than one of every 10 checks was returned to FSA because funds were not available in the debtor's account, the debtor's account was closed, or for some other reason.

A high CR can result in customer dissatisfaction, along with potential lost revenue. Despite these facts, many held fast to the conventional wisdom that check returns are simply a necessary evil—a cost of doing business. This project would take direct aim at this long-held belief.

All FSA improvement projects must align with departmental goals as well as with company goals. As Figure 1 indicates, the direct potential impacts included executing a high ROI project, building a culture of quality, and increasing profits. The project aimed to reduce the CR with the opportunity to increase revenues by successfully depositing checks that would have otherwise been returned. With a business process already in place, the define, measure, analyze, improve, and control (DMAIC) approach was selected as the project methodology. Another step in building a culture of quality was creating a

cross-functional team composed of some employees who had minimal experience with Six Sigma.

Teaming Up for Process Improvement

The project officially began in January 2009. The business leader, process owner, and Black Belt were all identified as stakeholders during the project selection process; together these individuals formulated the problem statement. Then, during the process of creating the project charter, the following team members were selected:

- Arjun Mitra, senior vice president, operations: sponsor/ business leader
- Umesh Shah, deputy general manager, process excellence: mentor and Black Belt
- Nathanael Anderson, data analyst: team leader
- Kimberly Bestark, vice president, operations: team member
- Vishal Dodeja, business analysis manager: team member
- Timothy Walsh, intern, data analyst: team member
- Debbie Reda, revenue controller: team member

Anderson, now a certified Six Sigma Black Belt, was tapped as the team leader because of his strong statistical background and participation in the fast track program, which identifies potential process improvement leaders. Many team members completed some quality and/or Six Sigma training previously at Firstsource, which has a robust, internal certification program through its process excellence department.

Uncovering Root Causes

Once the project was defined and the baseline measured, the team began searching for potential root causes that were affecting the

Figure 1– Project impacts
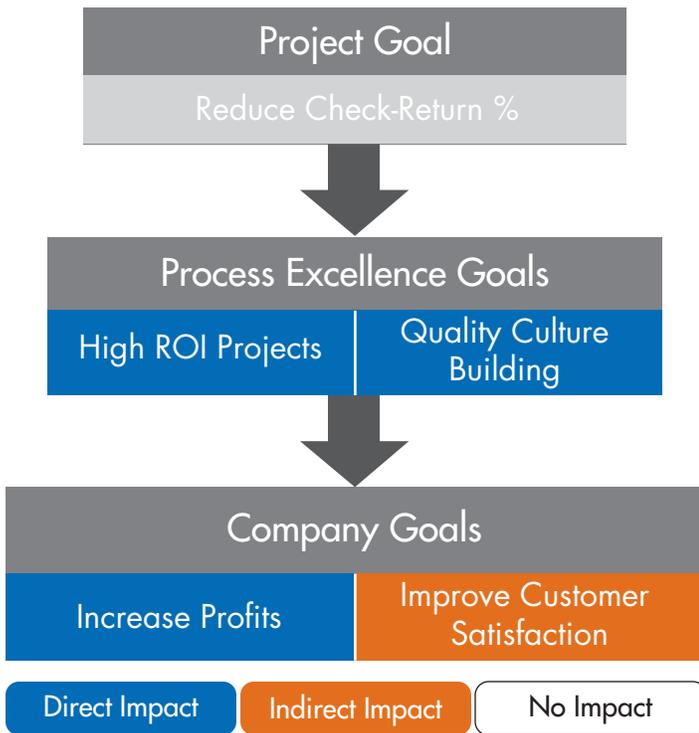
Project goal has a direct impact on organizational goals.

CR. Conducting a gap analysis of the "as-is" process map, the team discovered a step that they believed should be reversed— verifying funds with the bank *before* processing (depositing) checks. A fishbone diagram brainstorming exercise uncovered other potential root causes, such as:

- Manual re-presentment of check returns (depositing the check a second time).
- Insufficient time for supervisors to verify payment information with the debtor.
- No verification of funds for post-dated checks.

The team used Pareto diagrams to separate the "vital few" causes from the "trivial many." These diagrams showed that the majority of check returns were the result of a transaction type called "quick checks" (a check taken over the phone by a collections representative) being returned to FSA due to non-sufficient funds in the debtor's checking account.

Stakeholders played an important role in this stage as they provided key knowledge of the processes studied. Team members say that without the stakeholders' assistance, some of the potential causes may have gone undetected.

Analyzing Data and Identifying Improvements

Team members knew it was crucial to analyze the data used to identify the root causes. They followed FSA's standard statistical waterfall—run chart for data stability, probability plot for normality testing, and the chi-squared test for hypothesis testing. FSA's bank shared industry data and best practices, which helped the team gain a better understanding of manual versus automated check re-presentment. Several long-tenured FSA employees shared their knowledge concerning the influences of payment verification with the bank and the debtor.

Next, the team analyzed six months of returned checks to learn if FSA agents were incorrectly entering information, such as a check routing number, into the accounts management system. The team discovered an algorithm used by the American Banker's Association to verify routing numbers issued to banks. Using this formula the team determined that only 0.04 percent of check returns from a six-month period failed this test.

Eventually the team determined the final root causes for the client's high CR:

- Manual re-presentment by agent.
- No verification of funds before the payment is processed.
- Quick check transactions.
- Non-sufficient funds.
- Attributes associated with check-returns. (For example, the twentile score measures how likely a customer is to make a payment on his/her debt. The higher the score, the more likely the debtor is to make a payment.)

Designing Solutions

Once the team identified final causes the next step was designing solutions to mitigate the causes. Three key tools were involved— process maps, best practices, and statistical analysis. Using these tools, the team focused on three solutions: bank verification, auto re-presentment, and second voice verification.

To determine which solutions to implement, the team established key scoring criteria as illustrated in Figure 2. Ensuring that the key criteria were identified was crucial for the success of this project so the team also used a solution design matrix.

Three-Pronged Solution

The team's three potential solutions included:

1. Auto re-presentment to lower the CR and increase revenues. Instead of bounced checks returning to FSA and having FSA agents attempt to re-collect on the debt, the bank would automatically re-deposit the check to a debtor's account for payment if it was returned the first time. This action would help boost FSA's recovery rates for the client.

2. Second voice verification. FSA agents would be provided with an on-screen dashboard to specify which payments should be verified by a supervisor or manager.

3. Bank verification. A new position, that of bank verifier, would be created. This person would receive a system-generated report of all transactions for the client that were set for processing the next day. The verifier would call the bank to verify if funds were available for payment.

The auto re-presentment solution was the clear winner according to the matrix. The other two solutions, however, were also deemed worthwhile. The team decided to implement the auto re-presentment solution first, followed by the second voice verification solution since the costs and risks for this were low, and finally the bank verification solution.

Securing Buy-In

Stakeholder buy-in to the solutions was secured by sharing data. Throughout the project the team showed the process owner how the solutions could increase revenues and improve profit and loss statements. The client was delighted with the project when it realized that FSA was committed to improving performance on its portfolio.

Reducing Returns and Increasing Profits

By implementing the three solutions, the team reduced the CR by more than 20 percent over a six-month period, compared to the baseline measures. Along with this substantial reduction, the improvement actions resulted in a profit of nearly $90,000 for FSA after one year and demonstrated the successful completion of a high ROI project.

The project produced intangible benefits as well by improving customer satisfaction. The client was so impressed with this improvement project, along with other key initiatives, that it awarded FSA its annual Service Quality Award for 2009. In addition to the financial gains and the improved customer satisfaction, the project was also successful in providing momentum to the quality-culture building effort at FSA.

Anderson says the biggest obstacle the team faced was dealing with the perception that check returns were simply a cost of doing business. "This challenge was met with showing key stakeholders the potential benefits of reducing check-return rates in order to gain interest and excitement. Once interest was gained through the use of data, key stakeholders were more willing to pilot solutions with their teams."

Maintaining the Momentum

After achieving initial success in the project, the team understood the importance of sustaining the gains. As Figure 3 shows, the system designed to sustain the improvements included failure mode and effects analysis (FMEA) charts, control charts, automation, dashboards, and more.

This improvement project was one of four team-based improvement initiatives that Firstsource entered in the ASQ 2010-11 International Team Excellence Award (ITEA) Process. All four projects were selected as finalists and each team has the opportunity to make a live presentation at the 2011 World Conference on Quality and Improvement. Anderson says this project was a good candidate for the competition because it was a high ROI project that "was clearly aligned with the process excellence (high ROI, build

Figure 2–Criteria for selecting the final solutions

Criteria	Reason	Importance Rating
Ease of implementation	Needs to be easily implemented in timely manner.	2
Cost of implementation	Cost needs to be kept low, so it doesn't outweigh the gains. Need a positive return on investment.	5
Process controls	Controls are necessary to sustain the gains from the solution.	3
Automation	Automation of process steps ensures that human errors are reduced and that procedures are followed according to standardized steps.	3
Agent time	Solution should have minimum impact on the agent. Non-value-added steps hurt agent productivity.	4
Supplier/manager time	Solution should have minimum impact on mid-level management. Non-value-added steps reduce productivity.	4
Volume of transactions	The volume of transactions touched by the solution must be significant; otherwise expected impact may not be realized.	3
Expected impact	The expected impact needs to be significant enough to justify time and costs for implementation.	5

Importance rating 1 = not important, 5 = very important

Figure 3–Plan for sustaining the process improvements

Solution	Changes Implemented	Maintenance Plan
Auto re-presentment	A returned check is re-presented to the debtor's bank for deposit if: • It was returned once. • It was coded as non-sufficient funds.	• FMEA • Control chart on successful re-presentment rate • Automated process
Second voice verification	• When taking a new payment, the agent transfers the call to another employee to verify the check information with the debtor. • If information is correct, the process is completed; if not, then re-verified.	• FMEA • Training sign off • Dashboard installed on agents' computers to ensure compliance with new procedures
Bank verification	• New position created. • The bank verifier calls debtor's bank the day before the payment is to be deposited to see if funds are available. • If funds are available, verifier moves to next payment. • If funds are not available, the check is post-dated by one day and operations staff follows up with the debtor.	• FMEA • Standard operating procedures for verification • Automation of transactions list to be verified • Control chart on transactions verified each day • Dashboards sent to operations daily

quality culture) and company (increase profits, improve customer satisfaction) goals."

For More Information

- To obtain additional information on this team project, contact project team leader Nathanael Anderson at nathanael.anderson@na.firstsource.com.
- Learn about Firstsource by visiting the organzation's website at http://www.firstsource.com.
- Read more about Firstsource's team-based improvement activities and the results of additional team projects that were also finalists in the International Team Excellence Award Process. Go to www.asq.org/knowledge-center/case-studies-firstsource.
- Details on the International Team Excellence Award Process are available at http://wcqi.asq.org/team-competition/.

About the Author

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