



BLACK & VEATCH

Overview

Country: United States

Industry: Engineering

Customer Profile

Black & Veatch is a global engineering and construction company based in Overland Park, Kansas, that specializes in infrastructure design projects. The company has 6,000 employees in more than 90 offices worldwide.

Business Situation

Black & Veatch recently adopted the Six Sigma continuous improvement methodology and needed tools to support its new processes for project management.

Solution

The company chose to deploy the Microsoft® Office Solution Accelerator for Six Sigma and is implementing a Microsoft Office Enterprise Project Management Solution across the organization.

Benefits

- Increased visibility
- Consistency and continuous improvement
- Cost savings with improved efficiency
- Opportunity for flexibility and integration
- Growth through success

Engineering Firm Expects to Save Millions with Tools for Continuous Improvement

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Craig Connell, Vice President of Application Development, Black & Veatch

Black & Veatch, which has more than 90 engineering offices around the world, specializes in energy, water, and information infrastructure design projects. A recent adopter of the Six Sigma continuous improvement methodology, the company experienced a sharp increase in the number of Six Sigma initiatives that it wanted to tackle. Black & Veatch needed to find an alternative to its practice of tracking projects using complicated spreadsheets. The company engaged Immedient, a Microsoft® Gold Certified Partner, to implement the Microsoft Office Solution Accelerator for Six Sigma. Black and Veatch estimates that the new solution will enable each Black Belt to handle one additional project annually. With each additional project managed by the same project manager, Black and Veatch expects to save approximately U.S.\$150,000, and the result could be a significant return on investment.

Situation

Black & Veatch Corporation is a leading global engineering, consulting, and construction company that specializes in infrastructure development in the fields of energy, water, and information. The employee-owned, Kansas-based company has more than 90 offices around the world and offers its customers everything from conceptual engineering to management consulting services to major project construction.

Black & Veatch recently adopted the Six Sigma continuous improvement methodology, which is a data-driven management approach to making decisions for continuous organizational improvement. Of the company's 11 operating divisions, which perform all of Black & Veatch's revenue-generating projects, the largest is the Energy Engineering and Construction (EE&C) division, which handles major power plant projects. The EE&C division instigated the Six Sigma effort at Black & Veatch to improve the quality of its products and services.

Consistent with the Six Sigma methodology, improvement projects at Black & Veatch get initiated by *Champions*, or executive sponsors, and are carried out by *Black Belts* and *Green Belts*. The Black Belt designation is granted to those who meet particular standards for managing Six Sigma projects and mentoring Green Belts on a full-time basis. Green Belt is a Six Sigma classification for professionals who do Six Sigma projects on a part-time basis. Black & Veatch currently has six Black Belts and approximately 55 Green Belts. Of these, all of the Black Belts and 50 of the Green Belts work within the EE&C division. However, a number of professionals from other divisions have attended the EE&C division's Six Sigma presentations, and the other divisions are sending employees for training as Green Belts.

Black & Veatch implemented the Six Sigma methodology through four initial projects, all of which were carried out entirely by Black Belts. The company's number of Six Sigma projects quickly grew to 40, whereupon the company established the goal of undertaking between 80 and 100 projects each year. With 55 Green Belts and a plan for a further increase in this number over the next six months, Black & Veatch recognized that it would need a comprehensive system for effectively managing its Six Sigma projects.

Up to that point, the company had used Microsoft® Excel spreadsheets to track and report on its projects. Merely using spreadsheets for project management made it difficult to track each project's schedule, status, and financials. Black & Veatch wanted a way to more easily compile status reports, benefits analyses, and other valuable information for management review, as well as to establish project schedules. "We didn't produce schedules to follow for the first four Six Sigma projects," says Craig Connell, Vice President of Application Development for Black & Veatch. "Consequently, we had no idea of our pace or sense of progress, and it became clear that we needed to keep dates in front of people to serve as goals or milestones."

The first few Six Sigma projects served as part of Black & Veatch's discovery process, highlighting what the company needed from a potential Six Sigma project management solution. The company had its basic project management infrastructure in place, but it wanted a set of tools to help it determine how best to allocate resources for specific business improvements, give it visibility into issues impeding project progress and the means to resolve them, and keep projects aligned with the company's overall corporate business strategy.

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Robert O'Dell, Solution Director, Immedient

Solution

With a growing number of Six Sigma adopters joining the effort, Black & Veatch decided to implement the Microsoft Office Solution Accelerator for Six Sigma, which is an integrated set of project management and collaboration tools that helps reduce the complexities and expense of Six Sigma projects. The Solution Accelerator is based on Microsoft Office Project Professional 2003. The Solution Accelerator for Six Sigma accurately reflects the financial impact of projects, optimizes Six Sigma resources, integrates Microsoft Office programs with Six Sigma methodologies, and uses knowledge gathered across the enterprise to make Six Sigma projects more successful. “We selected the Microsoft Office Solution Accelerator for Six Sigma because it met our list of business requirements, was inexpensive to implement, and came from a familiar, reliable source,” says Connell. “We didn’t look around to consider a solution from any other company—we knew we didn’t need to.”

Black & Veatch had defined its new project management processes and selected a technology solution to support them; the next step was to find a partner to help perform the deployment. Microsoft introduced Black & Veatch to Immedient, the Microsoft Gold Certified Partner that had helped Microsoft deploy its own internal Solution Accelerator for Six Sigma. Black & Veatch recognized Immedient’s solution expertise and brought the partner on board to ensure a successful implementation.

The Solution Accelerator for Six Sigma helps Black & Veatch identify, prioritize, and execute defined initiatives. “The Microsoft Office Solution Accelerator for Six Sigma is a flexible, powerful project management tool,” says Robert O’Dell, Solution Director for Immedient. “It provides a significant amount of support and value to the teams who

perform the actual work, rather than merely serving as a reporting tool for executives. It still offers great reporting for executives on the back end, but it is an extremely useful personal productivity tool as well, helping employees to be more organized and more productive.”

Laying the Groundwork

Immedient worked with Black & Veatch over the course of six weeks to get the system up and running. First, Immedient performed a requirements analysis, during which it mapped the features and functionality of the Solution Accelerator for Six Sigma to Black & Veatch’s process preferences. Next, Immedient deployed the system and customized it to extend its reporting capabilities.

Immedient trained four Black & Veatch Black Belts to be system administrators, which took just three hours. The partner also spent an hour instructing a group of Black & Veatch executives on activities such as viewing Solution Accelerator for Six Sigma dashboards through Microsoft Office Project Web Access. Additionally, one internal technician received training on maintaining the company’s multiple databases running Microsoft SQL Server™ 2000 (part of the Windows Server System™ integrated server software). Finally, Immedient provided user instructions that Green Belts can follow when they begin entering information into the system later this year.

Getting to Work

To prioritize projects, Black & Veatch developed a scorecard that rates prospective Six Sigma projects by their potential financial contribution to the company, the industry leadership they represent, and their effect on how employees feel about Black & Veatch. Because the scorecards are tied into the company’s corporate and strategic objectives for each fiscal year, potential projects are also evaluated on how well they support the

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objectives. Prospective projects receive a score, and the high-scoring projects are put into a queue. Currently, there are at least 100 projects in the Black & Veatch queue, and as more Green Belts get trained, the highest-scoring projects will be initiated by Champions and carried out by teams of Green Belts managed by Black Belts.

Currently, Black & Veatch employs two standard project templates in the Solution Accelerator for Six Sigma. Black Belts select the appropriate template at the start of each project and use it to establish the timeline. Those projects that the Black Belts consider to be simple get plugged into the three-month project template, while those designated as complex get set up in the five-month template. Although they may need a few adjustments to make them map exactly to an individual project's requirements, the templates available through the Solution Accelerator for Six Sigma save Black & Veatch Black Belts time and provide a baseline by which to measure a project's progress. The company also uses approximately 15 other key templates that help Black Belts save time and integrate information into other productivity programs, such as Microsoft Office Word and Excel.

Although the current Black & Veatch Six Sigma effort is concentrated in the EE&C division, the company is training Green Belts from every functional area of the business, including engineering, procurement, finance, accounting, construction, and its technical publications group. Green Belts working on Six Sigma projects for different divisions are supported by Black Belts within the EE&C division. The Microsoft Office Solution Accelerator for Six Sigma separates the benefits of non-EE&C division projects from those of the EE&C division when tracking cumulative benefits.

Currently, only Black & Veatch's Black Belts enter and manipulate information in the Solution Accelerator for Six Sigma, but soon the company's Green Belts will use the system as well. The company has already introduced three Green Belts to the system with great success. Individual Green Belts will use the Solution Accelerator for Six Sigma to document their findings, which will then be combined with other Green Belts' findings to deliver a comprehensive set of information to Black Belts.

Benefits

For Black & Veatch, the Microsoft Office Solution Accelerator for Six Sigma delivers insight into the progress of Six Sigma projects, consistency in documentation, the opportunity for greater productivity, summaries of project status and benefits information, and the flexibility to work with other applications.

Increased Visibility

The Solution Accelerator for Six Sigma enables Black & Veatch to view its entire portfolio of projects to check progress and assess a project's financial impact on the organization. Customized, browser-based views provide automated reports that show executives the detailed, real-time information they need to make insightful decisions. “Our executives are interested in the Six Sigma projects but don't have time to be bogged down by spreadsheets. The summary documents provided by our Solution Accelerator for Six Sigma provide just the right level of detail to give them fast, informative answers,” says Connell.

This insight helps Black & Veatch connect the spending on its Six Sigma projects to its returns, a connection that is useful in monitoring a project's success. “Two of the most interesting and valuable assets that the Solution Accelerator for Six Sigma delivers are the ability to forecast a budget and

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estimated savings for each project and the ability to track and review the actual expenditures on a monthly basis,” says Connell. “Then we can see real results and evaluate them against our initial projections.”

Consistency and Continuous Improvement

With the Solution Accelerator for Six Sigma, Black & Veatch can work on its projects in a guided way, with consistent tools and templates, centralized reporting, standardized schedules, and so on. “We now have a solution that furthers our project management maturity,” says Connell. “Giving people tools that help them manage projects consistently using common practices has really contributed to our early success. The Microsoft solution is not only familiar, but also enables individuals to be more efficient, which contributes considerably to the operational efficiency of our overall organization.”

This consistency will help the company continuously increase performance because employees are able to move Six Sigma projects through the phases of the methodology quickly and efficiently. The Solution Accelerator for Six Sigma enables Black & Veatch to manage its project resources, including the availability and particular skills of Green Belts.

As more divisions embrace the Six Sigma methodology, professionals throughout the company will use the Solution Accelerator for Six Sigma to report information in the same format across all divisions, so that company executives receive comparable information in a consistent manner. “The success that the EE&C division is enjoying with the Microsoft Office Solution Accelerator for Six Sigma will help Black & Veatch scale Six Sigma across the organization,” says O'Dell.

Cost Savings with Improved Efficiency

Black & Veatch estimates that using the Solution Accelerator for Six Sigma will help it undertake and complete more Six Sigma projects each year. “We expect that the use of the Solution Accelerator for Six Sigma will allow each of our Black Belts to tackle an additional project annually, over and above the Black Belts’ duties as mentors for the Green Belts,” says Connell. “Our anticipation is that each additional project will return at least \$150,000 of savings.” Because Black & Veatch currently has six Black Belts, that figure translates to an additional savings of U.S.\$900,000 this year alone. The company hopes to increase its Black Belt ranks to 14, which would mean an annual savings of more than \$2 million.

Black & Veatch estimates that it will realize these savings based on improved productivity from its Black Belt and Green Belt community. The company is able to apply best practices across its project portfolio and create templates in Excel, Word, and the Microsoft Office PowerPoint® presentation graphics program that make tasks such as scheduling far faster and easier. “Already, our work management has improved significantly as a result of using the Solution Accelerator for Six Sigma,” says Connell. “We have certainly made productivity gains by managing projects in the system. Using it to update schedules and files on a routine basis makes it far easier for Black Belts to monitor progress and move things forward.”

Opportunity for Flexibility and Integration

With the Solution Accelerator for Six Sigma, Black & Veatch’s Black Belts and Green Belts can use tools they’re already familiar with to contribute to increased business performance. Although integration between financial and scheduling information enables the company to make better decisions, Black & Veatch also appreciates how the Solution Accelerator for Six Sigma works with other

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applications. “The Solution Accelerator for Six Sigma ties into our day-to-day activities without making us stop to enter information for weekly reports,” says Connell. “One of the perks of the solution is that it sends an e-mail message to alert you when a task is coming due.”

Progress-reporting tools also help Black & Veatch increase the consistency and effectiveness of employee teamwork. “The integrated tracking of financials and schedule information will help us work together to manage more than 100 projects at a time,” says Connell. “The Solution Accelerator for Six Sigma will enable us to manage by exception, rather than wasting time looking at projects that are doing just fine.”

The reaction of Black & Veatch’s Black Belt and Green Belt employees to the solution has been positive, and they look forward to its adoption by more and more Black & Veatch divisions. “We have only scratched the surface with the Solution Accelerator for Six Sigma,” says Dave Marden, Black & Veatch Six Sigma Black Belt. “There is much more we plan to do with it to help us with our project management and financial tracking.”

Growth Through Success

Black & Veatch has been so pleased with its progress with the Microsoft Office Solution Accelerator for Six Sigma that it is bringing similar project management tools into play for non-Six Sigma projects within the organization. Black & Veatch has chosen the Microsoft Office Enterprise Project Management (EPM) Solution to advance IT project management companywide. “We like the portfolio management tool concept in the Solution Accelerator for Six Sigma so much that we are implementing the Microsoft Office Enterprise Project Management Solution to manage our IT projects,” says Connell. “Until now, we’ve had no good way to collectively track projects and have handled everything

manually, which means that producing reports has taken a great deal of time. We’re looking to the EPM Solution to help us assess resources, track schedules, and monitor progress to give us a better way to manage all of our disparate IT projects.”

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Document published June 2004

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