



Six Sigma: Turning Complaints into Opportunities

by Dr. Harald Wieland, Director and Bernd Vollmüller, Manager

The objective of any company is to consistently meet and exceed customer requirements. Many companies fail at this, thereby putting valuable customer relationships, and perhaps the company's very existence, in jeopardy. Why can't complaint levels be reduced? The answer is that the root causes of problems aren't addressed effectively. Many companies try to eliminate complaints by directive, not realizing that consistently meeting and exceeding customer expectations is not merely a goal to be reached, but an outcome of continuous improvement. Being proactive is required. If you simply react to a problem, instead of proactively preventing future ones, you might miss an opportunity to improve the value chain and strengthen the customer relationship. In today's increasingly competitive market, that is not an opportunity to be missed. In addition to strengthening value, the customer relationships built as a result of improved performance often lead to loyalty, referrals, and new business. Key tools for achieving these results are Six Sigma or Shainin methodologies.

The Principles of Six Sigma

Six Sigma is a management system for continuous and sustainable improvement of business performance. Despite its recent popularity, Six Sigma's underlying principles have guided business improvement since Motorola developed the concept 20 years ago [1]. These underlying principles are understanding and managing customer requirements, alignment of processes to these requirements by using performance goals, data

and fact driven management, and involvement of the whole organization.

These principles are incorporated in the Six Sigma improvement methodology known as "DMAIC" (Define-Measure-Analyze-Improve-Control). "DMAIC" is a five-step approach to continuous improvement. In the Define phase, the problem statement is defined, the project scope determined and an effective project team established. During the Measure phase, critical customer requirements are identified and data is collected to measure process performance and establish a baseline. The collected data then is analyzed in the Analyze phase in order to identify the root causes of a specific problem. In the Improvement phase, solutions and required implementation plans are elaborated. Sustainable implementation is monitored during the Control phase and supported by tracking of key performance indicators. Necessary modifications to the original implementation plan are performed in a timely manner. Proven tools and methodologies are available to support each of the different phases [2].

The Proactive Customer Complaint Management Process

Deriving benefits from customer complaints can begin by establishing a four-step complaint management process that is part of the Six Sigma methodology. These must be adapted to the specific case but are always executed in the same order: complaint acceptance, processing, analysis and reporting, and improvement implementation.

ANNOUNCEMENTS

BBK is proud to announce the following team additions:

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CASE STUDY

Real Time Improvement



BBK was engaged to improve operations, support launch activities, provide interim management, and guide in the hiring process for new plant management for a \$23 million manufacturer of interior automotive components.

Engagement Challenges

- No daily operations structure to manage and communicate priorities
- No standard metrics identified, tracked or communicated
- Scrap and overtime were excessive
- Financial and information systems were lacking
- Discipline to safety policies and work rules was lacking
- Launch preparedness was behind due to funding issues
- The Quality system was in poor condition
- Poor material scheduling throughout the facility was impacting availability of product and premium freight

BBK's Approach

- Completed a value stream map and established a sufficiency plan to capture improvement initiatives, developed metrics for the plant to track and measure against, and held daily team meetings to understand priorities and communicate performance

- Engaged the entire organization in developing, tracking and implementing improvement initiatives
- Ensured proper material flow and inventories throughout the value chain
- Helped develop and maintain a sound Quality system
- Drove best practices throughout the organization and guided the hiring of new plant management

Engagement Results

As our efforts and implementation continued, successful results were apparent. **In a six week period, the Company experienced over \$1 million in operational savings.** BBK was able to provide significant direction and coaching to the Company's team. Numerous initiatives were implemented, empowering staff onsite with basic tools to manage the facility and understand what it would take to sustain their hard-earned success.

AUTOMOTIVE

5 Tips for Staying in the Game

By Nancy Colah, Senior Director

A changing and dynamic marketplace means great opportunities for some companies and failure for others. So how do you best position your company for the future? How do you ensure that your company will stay viable, grow and prosper? How does an automotive supplier stay in the game? The keys to success in this dynamic environment are conceptually simple but sometimes difficult to put on paper and even more complex to execute. These key management principles are:

Understand where you are going. This usually hinges on where you have been and where you are today. Are you going to move the company into broader product categories or stay more focused? Are technology and innovation rewarded for your product or is low cost more important? Answering these questions involves basic strategic analysis. In addition to knowing your own company, you need to understand your competition, your direct customers and your products' end-users. Finally, you should be able to envision the path that will get you where you want to be. Growth and success require vision, strategy, and the fundamental pursuit of a chosen direction.

Run a tight ship. This step is obvious but, again, very challenging to do. You must ensure your company's operational processes are correct and optimized. Control over costs is crucial. There are many terms and derivations for this concept that are employed in manufacturing settings: Lean manufacturing, Kaizen, continuous improvement, etc.

Execute, execute, execute. Simply put, implement the plans you have on time, efficiently and correctly. Organizations and people need to be held accountable, and if the plans are found to be flawed, adjusted accordingly. You don't have to be perfect or hit home runs every time, but you need to strive to be better than most, most of the time.

Be flexible. Innovate. To stay relevant, manufacturing companies need to adapt quickly to changes, both internally and externally. They either need to seek out a special niche or innovate. When companies don't adapt quickly enough, they fail to grow, develop a diverse customer base, or invest in new technologies.

Get help if you need it. Smaller to medium-sized companies are not necessarily equipped with the specialized knowledge, expertise or time to make the operational improvements needed to stay in the game. Sometimes you need an independent view of processes, problems and business plans.

Some business failures are inevitable and some are just plain bad luck. U.S. and European manufacturing companies are dealing with some of the greatest upheaval in decades, and the turmoil will likely not abate in the near term. However, some business failures are preventable, and with a strong focus on key management principles, they will have the best chance for survival and even success. And who knows what the future will ultimately bring... besides more change? ■

Primary sources for this article include the Center for Automotive Research, the U.S. Department of Commerce - Bureau of Economics, CSM Worldwide and BBK.

OPERATIONS

Taking the “Guesswork” out of Decision-Making

By Sean O'Hagan, Manager

In today's highly competitive market place, taking the guesswork out of decision-making is more critical than ever. There is very little room for error in the quest to turn capital investments into shareholder returns. Enter simulation. In the past, when a company's systems and processes needed to change in order to become more efficient or to incorporate new technology, they often had to conduct costly testing and learn by trial and error. While simulation software has been around for years, it has typically been used by large organizations with deep pockets that could afford to buy or develop and train employees to use the sophisticated models. Thanks to advancements in technology such as powerful personal computers and savvy software developers, today companies of all sizes can afford and are reaping the benefits of these effective and necessary tools, either directly or indirectly via their service providers.

What is Process Simulation?

Simulation is a powerful tool. It can help solve a number of critical process and logistical problems faster and more accurately than any other method of analysis by means of computer

programming or otherwise. A computer simulation model can be thought of as a virtual representation of a system or process where the goal is to mimic, or simulate, a real system so that you can examine it, perform 'what if' scenarios and understand the variability of the process without having to make changes to the actual system. This translates into the ability to recognize bottom line opportunities for system improvements.

With simulation we can add more workers and/or equipment and understand the impacts these changes would have on the real process. It also allows the decision-makers to examine the potential impact of the proposed corrective actions without spending valuable resources and capital before they are implemented. Many companies use this capability to quickly identify bottlenecks, constraints, utilization factors, waste and many other problems that are impacting their bottom lines. This is all conducive to running an organization more effectively, and it is done graphically through the simulation software without risk. Simulation can also incorporate the variability you would encounter in real life. For example, it may not always take five minutes for a machine to manufacture a part. We all know the randomness of orders delivered from the supply chain. This means the model can match reality and behave the same way as it would in real life, allowing you to take the guesswork out of decision-making.

Problem Solver

BBK recently acquired and integrated a leading simulation product into its operational tool box as part of an ongoing commitment to provide cost-saving, value-added solutions to our clients. Using this tool in a recent evaluation of a client facility with the goal of eliminating waste and cost, we evaluated the entire production process. An example of the cost-saving

data derived from this exercise can be gleaned from the analysis of a Plasma Cell (part of the plant's frame building production process) that required four employees to operate. We ran the program, benchmarking the throughput against Takt Time or customer demand, and were able to determine that the utilization factors were very low. We then ran 'what if' scenarios to determine the number of resources that would result in optimal utilization. The simulation program indicated that we could meet customer demand and not negatively impact production with half the number of resources, resulting in significant cost savings in that area. ■

THE PROCESS SIMULATION VALUE ADD

- Identifies bottlenecks and constraints, throughput issues
- Analyzes utilization factors
- Performs 'what if' scenarios
- Executes line balancing analysis
- Eliminates variability and waste
- Improves workflow and optimization
- Ensures production efficiency
- Creates/analyzes corrective actions without capital investment
- Compresses timeline to production ramp up and market delivery
- Provides clear picture of planned actions for non-operational team
- Identifies and allows use of best practices
- Delivers a competitive advantage
- Reduces cost and improves bottom lines



SIX SIGMA...CONTINUED FROM PAGE 1

During the Acceptance phase, complaints are recorded and categorized, and preliminary, immediate actions are determined. Communication between the buyer and supplier follows predefined channels to ensure immediate responsiveness. This phase is an ideal time to poll customers proactively, thereby determining their level of satisfaction.

The next step of complaint processing comprises the development of mutually agreed short-term solutions and tracking of their successful implementation. Close communication between parties involved is essential in this step.

After the problem is resolved, the complaint is analyzed in more detail. During this step, Six Sigma offers a wide range of proven tools to support the necessary activities to identify and verify the vital few causes that have led to the complaint. Only these few causes are then analyzed further, often through the use of statistical tools. The statistical significance of reported deviations is verified (Goodness-of-fit-test), measurement systems are double-checked (Gage R&R) and finally, optimal process parameters are identified using the Design of Experiments method

“Six Sigma or Shainin fully unfolds its true strength as a means of identifying the root causes of Quality variations.”

and the elaboration of an implementation plan. This is one of the strengths of Six Sigma – optimal process parameters are identified in a short timeframe and without elaborate surveys.

The findings of the in-depth analysis are then reported to management, who decides upon the execution of the proposed implementation plan. This decision-making process is a critical success factor and secures management buy-in. A close follow-up of implementation using key performance indicators, process control charts and knowledge capturing concludes the complaint management process.

Six Sigma: Turning Complaints into Opportunities

Being a management system for continuous and sustainable improvement, Six Sigma is widely considered to be the chosen method for upgrading a complaint management process and establishing necessary improvement measures. To achieve these goals, Six Sigma offers a wide range of methodologies. Depending on the case, BBK can employ either the Six Sigma process to determine root causes or, alternatively, a process developed by Dorien Shainin which, unlike Six Sigma, works from effect to cause. In many cases, this can achieve faster results. At BBK, we are skilled at employing both Six Sigma and Shainin methods, two approaches to achieving a common

goal – identifying the root causes of Quality variations. With the help of statistical methods, both the Six Sigma and Shainin approaches can determine whether there has been a statistically significant change in Quality. Statistical process control helps identify the relevant process variations, and root cause analysis defines the influencing parameters, which are then evaluated with the help of DOE (Design of Experiments). Once the relevant information has been compiled, adapted process parameters can be established and applied to yield a more robust process.

Using either Six Sigma or Shainin, with their fact-based, statistical focus, it is possible to implement effective responsiveness based upon mere hints of Quality shortcomings. The resulting early identification of problems plays a key role in reducing the number of formal complaints, increasing bottom-line performance and creating opportunities for growth.

The Least You Should Know

For a company, there are two key aspects of the complaint management process which must be addressed. First, take hints seriously and take action to prevent any similar shortcomings in the future. Second, keep the processing time of the first two complaint management process steps to a minimum. Implement Six Sigma or Shainin to ensure that these requirements are met.

Customer-focus is critical to the success of every business, and each customer complaint should be taken seriously, not only to preserve the relationship with that customer but also to use that feedback to improve service to customers overall. Using Six Sigma or Shainin to manage customer complaints can improve customer relations and help grow your business. While approaches and practice methods may vary for different organizations across the globe, growing the business is a universal objective that everyone can agree upon. ■

[1] Tom McCarty et al., *The Six Sigma Black Belt Handbook*. MacGraw-Hill, New York 2005.

[2] Harald A. Wieland, *Six Sigma Delivery Handbook – Methodology, Tools and Templates*, BBK, Frankfurt 2006.





LETTER FROM BBK

An Alliance for a Global World

BBK and Takenaka Partners Strategic Alliance

In today's rapidly changing environment, business decisions and actions demand a global perspective. That's where the markets are. It's where companies can expand value for their clients. Companies are increasingly creative about their growth and how they're adapting. It's critical to being competitive in today's market. Forming an alliance to expand expertise and services is an example of this approach and the desire to do whatever is necessary to bring the very best to your clients.

The recently announced strategic alliance between BBK and Takenaka Partners initiates an exciting chapter in both firms' histories and provides deeper capabilities and global reach for our respective clients grappling with such dynamic market conditions. Not only does this new alliance provide an expanded footprint in Asia to BBK, it also combines the wealth of experience, earned respect and knowledge of Asian business that is the hallmark of Takenaka Partners' history with BBK's thirty-year reputation for consulting excellence.

Founded in 1989 by Yukuo Takenaka, the firm has deep relationships forged from years of successful results for clients throughout corporate Japan, Korea and China. Mr. Takenaka is well known throughout Japan for his best selling book "Merger and Acquisition Strategy". He was also the first Japanese citizen to become a partner in a Big Eight U.S. Accounting firm. Mr. Takenaka also led KPMG Peat Marwick's "Project Japan" throughout the 1980's.

Mr. Takenaka and his team of seasoned professionals have notable backgrounds from investment banking, consulting, public accounting and major Asian corporations.

The firm has acted as key advisors to Global 500 Asian companies and their U.S. subsidiaries, private and middle market entities with parent companies headquartered in Asia, as well as U.S. firms of all sizes who have strategic or equity relationships in Asia.

Their dual headquarters in Tokyo and Los Angeles provide direct access to key decision-makers in the world's second largest economy in Japan and expand our collective abilities to serve our clients throughout Asia with offices in Beijing, Seoul, Singapore, Hong Kong, Bangkok and Osaka.

At the same time, Takenaka Partners can now directly serve Asian customers with North American operations in Detroit, New York and Chicago through BBK's extensive staff and presence in these locations as well as their European operations from our European headquarters in Frankfurt, complementing theirs in Paris and Amsterdam.

Our ability to deploy global professionals with multicultural and multilingual capabilities, combined with our extensive strategic, financial and operational experience, we are uniquely positioned to overcome the barriers, cultural and communication issues that often arise in cross-border business negotiations and transactions.

Sharing a common commitment to continually exceed our clients' expectations, both BBK and Takenaka Partners are dedicated to providing insightful, results-oriented, and practical solutions to complex problems in a global economy and helping our clients compete and prosper now and into the future.

Chuck Little
CFO

For more information, visit www.e-bbk.com or www.takenakapartners.com

Industry Events

On September 8th in London, BBK's European Group Lead, Chris Schindler, participated in a panel discussion on the automotive sector hosted by the American Bankruptcy Institute at their Second Annual International Insolvency Symposium. Highlighting global trends impacting the viability of the automotive supply base, the panel discussed the increasing number of troubled supplier cases in the context of evolving insolvency regulation, particularly in Europe. According to Chris Schindler, "We are seeing a growing polarization of the supply base with regard to distress. The negatively impacted segments are caught in a spiral of declining volumes, costdowns, commodity price exposure and ever-increasing financing costs. For some, insolvency will be the only option. How painlessly they can be brought into and out of receivership is the key question customers are asking themselves in Europe these days."

On October 24 in China, Michael P. Thomas, Managing Director at BBK, presented "Profitability Lean" at The Lean Summit. Key to Mike's address was the difference between being "Fashionably Lean" and "Profitably Lean". Fashionably Lean refers to embracing some principles to give the appearance of Lean without realizing its full benefits. Profitably Lean means taking those principles down to the core beliefs of your company and letting them permeate throughout – creating long term, sustained improvement and success. To help illustrate his point, Mike used an analogy with the game of golf, "A one-hour lesson will improve your swing, but the discipline of repetitive practice and continuous evaluation is the only way to score better on a sustained basis." He felt this mirrored a very fitting Chinese proverb, "Practice and train until it becomes natural and success will become automatic". This is the essence of Lean.

BBK also participated in the Center for Automotive Research's Management Briefing Seminars in Traverse City, MI, Turnaround Management Association's Annual Conference in Chicago, IL, American Manufacturing Excellence Annual Conference in Dallas, TX, the Center for Automotive Research's Supplier Challenges, Investor Opportunities Conference in Dearborn, American Production and Inventory Control Society's Annual Conference in Orlando, and the National Conference for Bankruptcy Judges in San Francisco. ■

SPECIAL EVENTS

Relations Between the U.S. and Mexico

By Ray Reynolds Graves, Managing Director

On September 21, 2006, his Excellency, Eduardo Ibarrola, Deputy Chief of Mission of the Embassy of Mexico to the United States of America, addressed a diverse professional and academic audience at the latest installment of BBK's Lecture Series on global development and economics. Ambassador Ibarrola's career as a lawyer, Deputy Attorney General of Mexico and professor of constitutional law and political science, positions him with a unique understanding of the complex issues in relations between the U.S. and Mexico. In a comprehensive and detailed presentation, Ambassador Ibarrola discussed a variety of issues that are impacting Mexico's current economy. Among these were trade, immigration, and political stability.

Ibarrola described the growing prosperity enjoyed by the two nations through increased trade and the removal of tariff barriers since the passage of NAFTA. He acknowledged that there have been difficulties and dislocations in some industries, notably in automobile parts manufacturing. Overall, however, Ambassador Ibarrola reported statistics that showed net gains for both trading partners.

Ibarrola advised the audience that Mexico is of course aware of the debate in the U.S. Congress over immigration. He opened that people will always seek to improve their standard of living and that although prosperity grows with trade, the average male Mexican worker's daily wage in America continues



to exceed his weekly wage in Mexico. After discussing topical concerns about Mexican workers in the U.S., Ibarrola recommended the adoption of a guest worker program for illegal immigrants. Such a program would legally integrate immigrants into the American economic system, requiring them to pay taxes on improved wages while contributing to society.

Ibarrola concluded by discussing the impact of the government, and that while some factions may refuse to concede defeat, the 2006 presidential election in Mexico has been decided and the government is stable. ■



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