SIX SIGMA EXECUTIVE OVERVIEW

In order assure breakthrough success with Six Sigma, there must be support from the executive level. Executive buy-in and support is crucial for rapid implementation and ensuring that Six Sigma methodologies propagate throughout the organization.

GOALS

The goal of this workshop is to educate you on the technical and managerial content of Six Sigma and the meaning of Six Sigma thinking. After covering the financial and operational reasons for switching to Six Sigma, we'll show you how to customize Six Sigma for your company. You'll also gain a basic understanding of Six Sigma, and learn the critical roles and responsibilities within a Six Sigma organization.

Ultimately you'll be prepared to make four decisions crucial to successful short-term and long-term Six Sigma implementation:

1) What projects will be tackled during the first 6 months of implementation?
2) Who will be the Six Sigma Champions?
3) Who will be the first-round Black Belt candidates?
4) Are we really committed to making Six Sigma work?

DESCRIPTION

To prepare you to help in roll-out and support, you'll be introduced to Six Sigma business strategy. We'll review the history of Six Sigma management and identify the underlying key principles. In order to facilitate implementation, we'll discuss obstacles to sustained growth and help you to rank your organization's values. You'll also examine ways to maximize customer satisfaction with quality and learn to look at business metrics as a link to value and action. You'll learn how to identify what projects and organizations are best suited for Six Sigma and how deployment affects your company's business culture.

We'll also cover a broad implementation plan and work through the process of customizing this to the needs of your organization.

SKILLS

- What the "Define, Measure, Analyze, Improve, and Control" (DMAIC) approach to problem solving is and how to use it
- Business measurements and benchmarking
- Six Sigma metric calculation and rolled-throughput yield
- Techniques to design for Six Sigma
- How to define values
- Implementation and deployment strategy
- Strategic planning
- Process management and capability
- Creating systems of indicators
- Various statistical tools
- Strategic and financial linkage

FORMAT

This is a one-day workshop.

WHO SHOULD ATTEND

Senior leadership including the CEO, Department or Business Unit Heads, and Senior Professionals

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SIX SIGMA CHAMPION

To make Six Sigma work for you, you need to have individuals who can drive change and create a design for implementation. Enter your Six Sigma Champions. These individuals are not only crucial for beginning the move to Six Sigma, but also to serve as mentors to the Black Belts and as liaisons to the executive level.

GOALS

This workshop will introduce you Six Sigma as a management system. You will learn the philosophy, practices, theories, and application dynamics involved in Six Sigma so you can lead the improvement of important business processes. We will also show explicitly how Six Sigma can be used to drive costs down, improve time-to-market, improve quality, and increase revenue. These benefits will also be presented along with the costs associated with Six Sigma.

Leadership skills and management strategies are also a major focus. You will be given the skills needed to organization for successful implementation and to motivate teams for Six Sigma so you can help transfer and reinforce the fundamental Six Sigma strategies, tactics, and tools throughout your organization.

DESCRIPTION

In order to prepare you for the Champion role, we will help you to develop the underlying philosophy, supporting theory, and conventional practices for Six Sigma while discussing deployment strategies and what it takes to establish the organizational infrastructure for Six Sigma. You will also learn the roles and responsibilities of Six Sigma community members (Executives, Champions, Black Belts, and Green Belts). Along with guidance on how to select Green Belts and Black Belts, we will also provide insight into influencing the culture change within your company.

Additionally you will learn the basics of process management, including how to identify progress indicators, set performance targets, and maintain ongoing process control plans.

SKILLS

- Define, Measure, Analyze, Improve, and Control (DMAIC) phase tools and methodologies
- Basic statistics overview
- Process characterization and capability
- Managing change
- Deployment planning
- Project selection
- Project review
- Benchmarking and breakthrough strategies
- Creating and analyzing systems of indicators
- Deployment planning

FORMAT

This workshop can either be formatted as a single, 3-day workshop, or can be divided into two sessions.

WHO SHOULD ATTEND

Middle to senior management, project owners, and any other leaders who will serve as mentors to the Black Belts and interface between Black Belts and upper management

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SIX SIGMA MASTER BLACK BELT

While Black Belts and Green Belts lead front line Six Sigma initiatives in individual projects, you need someone who can oversee the entire Six Sigma process, someone with the advanced techniques and statistical tools to research new quality initiatives, benchmark ongoing processes, and to continue the training and growth of Six Sigma within your organization, and someone to integrate with corporate strategy and the executive level.

GOALS

In this workshop, we seek to take eligible Black Belts and equip them with advanced tools to drive Six Sigma and position it as a business strategy. This will be centered on hands on practice with real business issues and problems. You will learn to structure a deployment plan for Six Sigma projects and to utilize advanced statistical tools for in-depth assessment of those project teams.

You will also learn techniques for coaching Black Belts and their project teams as well as executive team members in the ways of Six Sigma and their roles.

DESCRIPTION

A major focus of this workshop is on conveying the roles and responsibilities of Master Black Belts. After reviewing the core Black Belt tools and methods, we add advanced improvement methods and financial analysis tools. To facilitate your Six Sigma management, you will learn project selection criteria, project infrastructure, how to support project reviews, and advanced statistical tools for DMAIC. To this we add additional training in facilitating team efforts, change management, and strategic alignment.

You will also learn to focus on success through product/service quality. This includes defining, deploying, and verifying product/service requirements including Quality Function Deployment and simulation and reliability methods.

Training is another major focus area of Master Black Belts. Using the approach of "train-the-trainer" we will provide you with training basics, black belt curriculum, Six Sigma methodology, practice presentations, classroom management techniques, and general training tips.

SKILLS

- Black/Green Belt mentoring, change management
- Multiple linear and non-linear regression
- Design of experiments (full-factorial review, screening designs, fractional factorial designs, response surface methods)
- Quality function deployment - Building the house of quality, use in design
- Tolerance design (worst case analysis, root sum of squares, general non-linear variance decomposition, Monte Carlo simulation)
- Team management (meeting and agenda, conflict management, team processes)
- Financial Analysis

TOOLS

You will gain experience in advanced simulation and model building methods, advanced DoE including the optimization of multiple variables, Quality Function Deployment, Tolerance Design Methods, project reviews, and Facilitation and Change Management Methods.

FORMAT

The format will be similar to other "Belts" courses. There will be two five day training sessions separated by several weeks of practice during which the instructor will be available to assist you with your project.

REQUIREMENTS

In order to be eligible for this workshop, you must have completed Black Belt training and at least one project. It is also recommended that you have your own laptop, scientific calculator, and an understanding of college-level mathematics.

WHO SHOULD ATTEND

Black Belts who have been selected to lead a division or company to Six Sigma success or those who will be expected to instruct or mentor other Black Belts.

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SIX SIGMA BLACK BELT

As a company, you're ready to begin integrating Six Sigma into your business. Now you need someone to lead your programs, an expert of the Six Sigma methodologies, tools, and techniques. You need someone who can take point in moving your company to the next level of performance.

GOALS

This workshop is structured as an interactive, practical workshop to train you, one of your company's front line change agents, in the skills and tools of a Six Sigma Black Belt. Over the course of this workshop you will learn the basics of Six Sigma methodology and problem solving process. Then you will learn how to apply a variety of Six Sigma analytical tools to achieve overall process improvement. The instructor will also cover skills for leading Six Sigma teams and managing Green Belts. Once you've completed the training, you will become eligible for certification by examination by the American Society for Quality.

DESCRIPTION

During the workshop you will be taught the philosophy and purpose of Six Sigma and the techniques to lead Six Sigma project teams. You will apply these skills and techniques to a work related project.

The instructor will cover a variety of techniques for operations and leadership. In order to manage and run a Six Sigma group, you will learn to define what roles Black Belts and other team members will play during the project. You will also learn how to properly define and scope Six Sigma projects and assure the ongoing success of existing projects.

This workshop will also cover how to analyze and validate problematic root causes, then how to create an effective plan to eliminate or reduce their effect. These general strategies and skills will tie into the use of the Six Sigma problem solving process known as DMAIC which you will have an opportunity to explore and apply. The course will also focus on maintaining improvements through control processes and by focusing on the design process of new products and services to ensure that they have built in Six Sigma capability.

SKILLS

- Establish and benchmark process capability
- Apply key statistical tools for hypothesis testing
- Establishing realistic performance tolerances
- Create realistic performance tolerances
- Understand the principles of experimentation and how to design and execute both single and multi variable experiments
- Plan, implement, and track process control systems statistically
- Methods for gathering and measuring customer response
- Statistical tools for sampling, stratification, and hypothesis testing
- Statistical improvement and process control methods
- Cause and effect analysis and verification
- Correlation and regression analysis
- Team leadership and project management

TOOLS

You will gain experience in MINITAB 14, Value Added/Non-Value Added analysis, flow charting, experiment design, Weibull analysis, and use of the Y=f(x) equation.

FORMAT

The workshop is formatted as four 5-day workshops over a four month period. In between each workshop session the instructor will be available to help you via telephone, email, or on site as per other arrangements on an individual basis.

REQUIREMENTS

In order to be eligible for this workshop, you must have a significant, full-scale project sponsored by your organization. In addition, you must complete all the assigned readings.

WHO SHOULD ATTEND

Project Leaders, Change Agents, Technical Experts, Engineers

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SIX SIGMA GREEN BELT

Black Belts are the Six Sigma gurus for large projects. However, companies need people well trained in Six Sigma throughout the organization. They need front line personnel who are positioned to have direct impact on how business is done. And, they need someone within the project group to support the Black Belt project leaders and to lead smaller projects.

GOALS

The goal of this workshop is to develop a Green Belt; an individual to act as a team member and partner in Black Belt projects. Green Belts also work on projects or lead in businesses that don't require the advanced statistical tools of the Black Belts. You will learn to utilize the Six Sigma tools and techniques to address work-related projects and demonstrate competency in Six Sigma methods of process improvement. Over the course of the workshop you will have the opportunity to work with and complete a work related project that meets or exceeds the identified goals and measures.

The responsibilities of the Green Belt include:

- Helping to direct, conduct, collect data, and analyze data from experiments and business processes
- Work with process owners to ensure the project gains are maintained
- Disseminating best practices throughout the organization

DESCRIPTION

Using a practical, hands on approach similar to that in the Black Belt workshop, Green Belts will be given a comprehensive education of the Six Sigma methodology and an overview of the philosophy, purpose, and process of Six Sigma. You will learn to utilize Six Sigma tools and techniques including problem solving methods (DMAIC) and design processes.

To facilitate project effectiveness, you'll be taught how to identify significant performance gaps and how to use those gaps to generate potential projects. You will also learn how to properly define, scope projects, and then present the projects to peers and managers. PPN will also give you guidance on transitioning and closing out existing projects.

SKILLS

- Characterize a complex problem using the Y=f(x) equation
- Apply statistical analysis tools to problem solving
- Use MINITAB 14 to analyze Six Sigma projects
- Improvement methods
- Process control methods
- Measuring performance
- Methods to measure customer satisfaction
- Process definition and analysis
- Stratification methods
- Cause and effect verification
- Countermeasure planning and implementation
- Team management

FORMAT

The curriculum of this workshop is divided into two 5-day sessions over a two month period. There will be a week of workshop followed by three weeks of practice using your work-related project. During this time, the instructor will be available for assistance via telephone or email or through other scheduling options.

REQUIREMENTS

In order to qualify for this workshop, you must have a Six Sigma project which supports your organization's strategic objectives, and you must complete all assigned reading.

WHO SHOULD ATTEND

Managers, Supervisors, Front line Personnel, Functional Managers, Key Process Owners, and support people who need a working knowledge of process improvement and control

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DESIGN FOR SIX SIGMA

In today's competitive market, the mantra is "Innovate or die." Innovation is what separates your products and services from those of your competitors; it is innovation that draws new customer to you from your competition; and it is innovation that ensures loyalty with your existing customer base. The problem is that innovation can be costly without a methodology to reduce the resources required or to create products that are capable of delivering Six Sigma.

GOALS

The goal of this workshop is to show you how to apply Six Sigma principles to product design and creation. Our focus is on teaching you to eliminate the problems customers don't want while offering them the features that they do.

To address this, PPN will teach you how to design robust products and services by identifying opportunity and understanding your customers. By listening to what your customers want and applying the Six Sigma methodologies that we give you, you'll be able to create customer driven designs while reducing their time to market. Once you've achieved that, PPN will share with you how to maintain those gains.

As with all our products, PPN will work with you to build a program that is customized to match your current performance level, business culture, organizational history, and present expertise.

DESCRIPTION

This workshop uses a hands-on approach to teach you the framework and benefits of the Design for Six Sigma (DFSS) approach. You'll have an opportunity to learn various approaches to DFSS implementation and how to integrate the process into existing initiatives.

As part of the DFSS methodology, we'll teach you how to mistake-proof your process so that you can eliminate defects in your final product. You'll also learn how to perform Failures Modes and Effects Analysis (FMEA) and Anticipatory Failure Determination (AFD) to identify potential failures. To further reduce variability, PPN will show you how to use Design of Experiments (DOE) to reduce variability and create a robust design, and then how to validate that design and use Estimated Sigma in order to ensure that the design meets its quality standards.

SKILLS

- Use Disciplined Critical to Quality (QTC) flow-down
- Create Controlled Design Parameters
- Design for robust performance and productivity
- Use functionally integrated product development
- Apply best practices analytical tools from Six Sigma
- Techniques for Portfolio Management
- Quality Function Deployment (QFD)
- Consulting and facilitation skills
- Creative Confrontation Methods
- Project Management and Planning Tools
- Uncovering, Selecting, and Sorting Customer Needs

TOOLS

You will gain experience with DMADV, Voice of the Customer (VOC) analysis, FMEA, AFD, State Gate, Kano, the Quality Loss Function, and a variety of design reviews, design scorecards, flowcharts, performance functions, Pugh Matrix, Rolled Throughput Yield, checklists, Control Charts, experiment creation and analysis, TRIZ, qualification testing, and market testing.

FORMAT

The workshop can be formatted in one of 3 ways:
Executive overview: A one day seminar that just gives a general overview of the concepts sufficient to develop a plan and integrate DFSS tools into current practices.
5 Day Course: In depth overview of tools and methodologies of DFSS.
10 Day Workshop: application of DFSS to a specific work related project.

REQUIREMENTS

In order to take full advantage of this workshop, a candidate should have basic math skills and a knowledge of basic statistical concepts such as mean and standard deviation.

WHO SHOULD ATTEND

Any member of your organization involved in quality innovation depending on the format of the course above

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DESIGN OF EXPERIMENTS (DOE)

In the pursuit of quality and efficiency there is a tool powerful enough that it is not only the core of the Six Sigma Black Belt training, but is also included as part of the ISO 9000 standard. This course can provide you with a working knowledge of Design of Experiments and how to apply these experiments for the benefit of your company.

GOALS

Through this course, we provide you with the tools that will enable you to dramatically improve product design and associated processes. In this course, emphasis is given to the techniques of effective data collection and analysis. In order to present this most effectively, we use real life examples and case studies as well as detailed, realistic simulations by Stat-Ease. The goal is to provide participants with practical statistical tools and the knowledge to use them to optimize their processes, reduce variance, and increase yield.

DESCRIPTION

We will help you understand the basics of designed experiments including the essentials of experiment design, planning, and set up as well as how to best conduct the experiment, collect data, and analyze the results. In addition, you will learn visual techniques such as how to build and check models and how to use simple graphical techniques to analyze your data. Through this process you will begin to identify the variables that have the greatest impact on the quality of the end product. We will also help you learn the basic skills for creating more complex, multi-level experiments.

TOOLS

Among the tools you will learn, we cover creating and using planning guides for more effective experiments, process evaluation and comparison, comparative studies of process performance, framework for P-Optimizations, factorial selection and coding, two level factorial designs, significant test for non-linear effects, fast screening of factors, linear regression, sum of squares, and F-statistics.

SKILLS

- Diffuse problems with long-term solutions
- Improve quality of products by optimizing process variables
- Reduce material waste due resulting from quality problems
- Increase productivity by reducing quality problems
- Reduce the cost of production due to ability to detect quality problems faster
- Incorporate Total Quality Management and "Do it right the first time, every time"
- Provide a clear picture of process optimization
- Enhance staff morale through quality improvement by scientific means
- Apply statistical techniques to the creation of experiements
- Utilize Multifactor Studies to address complex issues
- Use efficient screening designs to ensure that the data collected is as useful as possible
- Analyze experiments with Multiple Regression tools.
- Learn Strat-Ease analysis and simulation tools

FORMAT

This course is conducted over 4 days.

REQUIREMENTS

Participants should be able to use high-school level algebra.

WHO SHOULD ATTEND

Quality managers, quality engineers, SPC coordinators, consultants, design engineers, R&D personnel, and product/process engineers

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