



DSS's SIX SIGMA CONSULTING PRACTICE

Apart from providing software services and products to domestic and overseas clients, DSS is seriously committed to quality and process improvement. All our services and product offerings are focused on achievement of quality through on-line monitoring of processes, followed by continuous process improvement using proven problem solving methodology. Our Six Sigma consulting practice is a part of our serious commitment to quality and process improvement.

We began with deployments in the Manufacturing and Transactional Services companies. However, with the strategic alliance with Six Sigma Advantage Inc. of USA, we have extended this to Software & IT sector as well.

WHAT GIVES DSS AN EDGE IN THE SIX SIGMA PRACTICE?

- **As a result of the experience gained during several successful Six Sigma deployments, DSS has evolved its own well-defined implementation methodology called "SSIM",** which ensures successful implementation of Six Sigma at our customers' locations. This encompasses all aspects of Six Sigma from concept introduction, project identification & implementation, deployment strategy, Green / Black Belt training, tollgate reviews and final project evaluation.
- **DSS is among the very few companies in the world who not only offer the above mentioned services, but have also developed our own software products,** which greatly facilitate such implementations. Interestingly, development of these products started with our engagement with customers for TQM assignments. The deep understanding and knowledge base gained in the process led to our entry into the Six Sigma arena.
- **DSS's proprietary software product "Solutions Process" - which enables the Green and Black Belts to complete a Six Sigma project with ease and speed in a well planned and efficient manner - is unique,** in that it provides all the most commonly used management, quality and statistical tools in one integrated tool box.
- With this background, and strengthened by its extensive software development experience of over 30 years in the international markets, DSS decided to extend its Six Sigma practice to Software, IT and ITES industry. **As applying Six Sigma to software needed a unique and specialised approach, DSS formed an exclusive strategic alliance with Six Sigma Advantage Inc. of USA (SSAI), who are the pioneers in this space,** in order to make our offerings the best available.
- **This comprehensive coverage makes DSS truly a ONE-STOP-SHOP for Six Sigma in Manufacturing & Transactional Services as well as Software & IT industries.**
- As a matter of fact, our commitment to Six Sigma initiative is characterized by our in-depth involvement in implementation at customer sites in order to ensure success. **It has been rewarding to note that an ROI of over 100% in the first year itself is not uncommon.**



WHAT IS SO SPECIAL ABOUT SSAI?

- **SSAI team members have been continuously involved in product and process improvement in services, engineering, software and technology for more than 40 years.** This has resulted in SSAI being recognized as perhaps the most authoritative particularly in the Six Sigma for Software and IT space.
- **SSAI's unique copyrighted training materials** including the original case studies, specifically designed for the Software and IT sectors, are available for our internal as well as client training programs.
- **SSAI pioneered the "Six Sigma for Software" concept.** They were the first to offer fully integrated DFSS and DMAIC Six Sigma training designed for software and IT.
- **SSAI, in alliance with Software Engineering Institute (SEI)** of Carnegie Mellon University, were the first to develop training that integrates Six Sigma with CMMI (widely accepted in the software industry as the “best practice standard “to guide world class software development). SSAI have been accepted by SEI as an authorised partner to provide CMMI training and related services.
- **SSAI have joined forces with Motorola University, set up by Motorola Inc. (who invented Six Sigma in 1986),** to create a version of Six Sigma training intended specifically for the Software and Technology domains.
- **SSAI's Six Sigma Professionals have worked with some of the most successful Six Sigma deployments,** including at GE, Citicorp, Bank of New York, Motorola, Bechtel, Seagate Technologies, IDX, Xerox, Samsung and many others.
- **SSAI have created a mechanism for on-going connection to the rapidly expanding Six Sigma for Software community** through their association with www.software.iSixSigma.com. This is a unique industry specific portal created in association with iSixSigma, the leading Six Sigma site on the web (over 350,000 hits per month).

OUR SIX SIGMA SERVICE OFFERINGS

The portfolio of Six Sigma service offerings of DSS is extensive – both, for the Manufacturing & Transactional Services sector as well as for the Software, IT & ITES sector. The services mentioned below are available to the corporates as also to individuals through open enrollment programs.

1. Concept Introduction Seminars

These seminars present Six Sigma as a methodology to organize the tools of the trade in a way that they can be applied to business issues that really matter, by people who really care.

TOPICS COVERED: Introduction to Six Sigma, Difference & Amalgamation with other Quality Initiatives like CMM(I) and ISO 9001-2000, Advantages & Financial Benefits, Practical Applicability to Your Organisation, Broad Roadmap for Implementation, DSS as Your Implementation Partner, Case Studies.

For companies seriously considering implementing Six Sigma, these concept introduction sessions are held exclusively, on their own premises, in the form of Executive Overviews. Participants are top management and senior divisional / departmental executives. The session focuses attention on the belief that Six Sigma initiative is to increase revenue through improved customer satisfaction and to reduce costs by minimizing defects and rework. Participants are encouraged to explore, discuss and resolve how Six Sigma fits into their overall strategy, integrates with other initiatives, and applies within their respective domains and the company as a whole.

2. Management Workshop on Six Sigma in Software, IT & ITES

Applying Six Sigma to Software & IT needs a specialised approach. Simply modifying the conventional Six Sigma methodology used for manufacturing industry is not sufficient to address the problems faced by Software & IT industry.

The objective of this one day's workshop is to introduce the concept of Six Sigma and highlight its practical applicability in the Software and IT industry to the participants which will include members of the top management team (CEO, CFO, CMO), executive managers and other key process owners. This will ensure that the participants become familiar with the Six Sigma concept, an integrated DMAIC & DMADV approach for Software, IT & ITES, the various tools and analysis techniques and methodologies, and a typical roadmap for implementing Six Sigma in their organization.

TOPICS COVERED: Introduction to Six Sigma (including the specialised approach for Software & IT), Six Sigma Methodologies (DMAIC / DFSS / Integrated Approach), Implementation in Software & IT, Infrastructure (Organisation, Roles & Responsibilities), Six Sigma Deployment (Roadmap, ROI, How to Get Maximum Return, Integration with Other Quality Initiatives), Tools for Implementation, Case Studies.

The Management Workshop is offered (a) either as a part of our consultancy assignment for a company, or (b) as a standalone in-house program requested for by a company, or (c) as an open individual enrollment program.

3. Six Sigma Deployment Strategy

Successful implementation of Six Sigma in an organisation is largely dependent on the involvement of top management as well as senior divisional/departmental executives in formulating the deployment strategy and thereafter implementing it.

As such, this two days' session - offered as a part of our consultancy engagements - begins with the Executive Overview, and is followed by the Management Workshop during which the deployment strategy is developed. This session clearly outlines how Six Sigma will be implemented in an organisation, and seeks the involvement of Senior Management, HODs and other persons concerned with this implementation.

TOPICS COVERED: Six Sigma Concept Introduction, Advantages & Financial Benefits, Methodologies Used, Roles & Responsibilities, Selection of Projects for Six Sigma implementation, Developing Project Charters, Roadmap for Six Sigma Implementation

4. Champion Training

Champions are the senior business executives who, depending on the size of the organisation, head a department, a business unit or a major function in an organisation. They finalize project charter, determine project scope, select team members and Green/Black Belts and resolve any road blocks in the progress of a project. With the overall responsibility for the success of the project, Champions need to act as the link between the Senior Management and the project teams.

Champions are trained on the basic Six Sigma concepts, DMAIC process, project charter preparation, tollgate reviews and project evaluation. Before this training session ends, Champions are involved, along with the Senior Management, in selecting the projects for Six Sigma implementation.

5. Green Belt Training

Green Belts are the persons, trained on the improvement methodology of Six Sigma, who will lead a process or quality improvement team as "part" of their job. The Green Belts serve an important role - that of percolating the Six Sigma culture across a wider cross section of the organisation.

We provide Green Belt training for the corporates as well as under open individual enrollment, both being conducted as a comprehensive hands-on experience, with lectures and appropriate case studies and exercises. This imparts in-depth knowledge of Six Sigma methodology; effective leadership of a Six Sigma team in terms of product value, schedule and cost; an ability to manage project risk.

This training comprises the following two stages.

- (i) **DMAIC:** This consists of phased modules like Define & Measure, Analyse, Improve & Control. In case of Manufacturing and Transactional Services companies which have consulting engagements with DSS, these training modules are spread across 10 training days. In case of Manufacturing and Transactional Services companies without any consulting engagements with DSS for Six Sigma implementation, Software & IT companies, as also open enrollment/public training, they are spread across 5 to 6 training days.
- (ii) **DFSS (DMADV):** For Software & IT sector, the DMAIC training is followed by 5 to 6 training days of DFSS (DMADV) training.

For DMAIC as well as DFSS (DMADV), in case of corporates which have consultancy engagements with DSS, the phased training modules are interspersed with a month long live project assigned to each candidate. In case of corporates without any consulting engagements with DSS for Six Sigma implementation and in case of open enrollment/public, the training is for a contiguous period of 5 to 6 days and, instead of a live project, a case study is used during the training. This hands-on approach gives the students the opportunity to immediately apply the knowledge gained to real life situations.

Note: Whereas for the Manufacturing and Transactional Services verticals, major emphasis of the training is on the DMAIC methodology, for the Software and IT sector, there is a definite need for the Belts to be trained in the DFSS methodology as well. As such, we cover DFSS training as a separate module, which is strongly recommended for the Software and IT people – but is not applicable for the Manufacturing and Transactional Services people.



For Software, IT and ITES companies the training methodology will follow the specialised integrated approach as per the content developed specifically for this industry by Six Sigma Advantage Inc., USA who are our exclusive alliance partners.

The Green Belt training is offered (a) either as a part of our consultancy assignment for a company, or (b) as a standalone in-house program requested for by a company (Minimum 12 candidates per batch), or (c) as an open individual enrollment program.

6. Black Belt Training

Black Belts are the persons selected, usually selected from the Green Belts, to spearhead process improvement projects under the Six Sigma implementation, on a "full-time" basis. They are responsible for driving business results through application of Six Sigma tools and techniques, by increasing customer satisfaction levels and business productivity.

Currently we provide Black Belt training only for the corporates, and this is conducted as a comprehensive hands-on experience, with appropriate case studies and exercises. Apart from imparting in-depth knowledge of Six Sigma methodology and effective leadership of Six Sigma teams in terms of reviewing plans, data analysis and management liaison, this covers need to maintain business focus in their work areas, transfer of learning, ability to manage program risk and wherewithal in supporting Green Belt projects.

This training comprises the following three stages.

- (i) **DMAIC:** This consists of phased modules like Define, Measure, Analyse, Improve, Control. In case of Manufacturing and Transactional Services companies which have consultancy engagements with DSS for Six Sigma implementation (during which a Green Belt training assignment would have preceded this Black Belt training), these training modules take up a contiguous period of 5 training days. The same holds true in case of Software & IT companies without any consultancy engagements with DSS for Six Sigma implementation. In both these cases, this contiguous training period is followed by a live project. In the absence of a consultancy assignment with DSS for Six Sigma implementation, the training period for the candidates from the Manufacturing and Transactional Services companies is spread across 15 training days, the phased training modules being interspersed with a month long live project.
- (ii) **DFSS (DMADV):** For the Software & IT companies without any consulting engagements with DSS for Six Sigma implementation, the DMAIC training is followed by 5 contiguous training days of DFSS (DMADV) training. This is followed by the candidates working on a live project. Persons who have already undergone the DFSS (DMADV) stage under Green Belt training are not required to go through this stage of training.
- (iii) **Special Analytical Tools (only for Software & IT companies):** For Software & IT companies, DMAIC and DFSS (DMADV) are followed by 5 contiguous training days during which subjects like Nonlinear Regression, Probability Models, 2 Way ANOVA, Computational Intelligence Tools etc. are covered.

Note: Whereas for the Manufacturing and Transactional Services verticals, major emphasis of the training is on the DMAIC methodology, for the Software & IT sector, there is a definite need for the Belts to be trained in the DFSS methodology as well. As such, we cover DFSS training as a separate

module, which is strongly recommended for the Software and IT people – but is not applicable for the Manufacturing and Transactional Services people.

For Software, IT and ITES companies the training methodology will follow the specialised integrated approach as per the content developed specifically for this industry by Six Sigma Advantage Inc., USA who are our exclusive alliance partners.

The Black Belt training is offered (a) either as a part of our consultancy assignment for a company, or (b) as a standalone in-house program requested for by a company (Minimum 8 candidates per batch).

7. Consultancy for Six Sigma Implementation

Six Sigma implementation is, to a large extent, the company's own prerogative and responsibility. DSS, acting as a catalyst, adds significant value to this initiative by working out - in consultation with the company's decision makers – a clear cut roadmap, providing the necessary training, participation in periodic reviews and guiding the teams at various stages of the whole process.

The fees for our consultancy services, which include the following activities, will depend on the scope of the Six Sigma initiative and the size of the Six Sigma projects that the company wants to cover. As such, these charges can be quoted on a case-by-case basis.

- Executive Overview
This 3 to 4 hours' session with the top / senior management introduces the Six Sigma concept and what is involved in its implementation. It focuses attention on increasing revenue through improved customer satisfaction and reducing costs by minimizing rework.
- Formulation of Six Sigma Deployment Strategy
 - Management Workshop – This 1 or 2 days' workshop, held with the senior management and other key process owners participating, serves as the kick off point for Six Sigma deployment in the company.
 - Selection of Projects for Six Sigma:Wave 1 – This includes estimation of potential savings of each project.
 - Selection of Champions and Project Leaders – This includes defining their roles and responsibilities.
 - Formation of Steering Committee.
 - Developing Project Charter Framework.
 - Identifying Methodology for Fine-tuning Projects.
 - Establish Methodology of Project Progress Review.
- Deployment of Six Sigma:Wave 1
 - Fine-tuning the Selected Projects.
 - Completion of Project Charters – This includes establishing methodology to calculate potential savings, and calculation of potential financial benefits.
 - Green Belts Training & Projects Execution.
 - Projects Progress Review – Apart from progress reviews with the Champions, this includes a Tollgate Review with the Steering Committee at the end of each stage.
 - Six Sigma Awareness Training – These 3 hour sessions are conducted in batches of approximately 25 employees concerned with the selected projects.



- Deployment of Six Sigma: Wave 2
 - Selection of Black Belt candidates from those trained as Green Belts.
 - Black Belt Training & Critical Projects Execution.
- Deployment of Six Sigma: Wave 3

During this phase, DSS, acts as consultants to help the Black Belts train additional persons on a need basis, and complete the projects.

Note: The number of waves that an organisation may need for Six Sigma initiative to stabilize depends on the size and scope of the selected projects and, more importantly, the involvement of the top management.

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