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Six Sigma Software Quality Improvement (Success Stories from Leaders in the High Tech Industry)

Publishers	:	Mc Graw Hill, New York
Authors	:	Vic Nanda, and Jeffrey A. Robinson
Title	:	Six Sigma Software Quality Improvement (Success Stories from Leaders in the High Tech Industry)
Year of Publication	:	2011
Pages	:	611
ISBN	:	9780071700627
Reviewer	:	Krishna B. Misra
Status	:	Review published in IJPE, Vol. 7, No. 5, September 2011, p. 500.

The book consists of the four parts comprising 27 chapters followed by a Foreword by Leslie Jones, Senior Vice President of Motorola Solutions, Inc. and the Editors' Preface:

Chapter 1	Executive Overview of Six Sigma	22 Pages
PART ONE: DMAIC PROJECTS		
Chapter 2	DMAIC Primer	19 Pages
Chapter 3	How Motorola Minimized Business Risk before Changing Business- Critical Applications	22 Pages
Chapter 4	TCS Reduces Turn-around Time for Software Change	28 Pages
Chapter 5	Defect Reductions (a) TCS Success Story (b) Motorola Experience	41 Pages
Chapter 6	Help Desk Improvement (a) EMC Experience (b& c) Infosys Experience	43 Pages
Chapter 7	Productivity Improvement (a) TCS Improves fraud detection (b) Infosys Experience	40 Pages
Chapter 8	DMAIC Conclusions and Lessons Learned	02 Pages

PART TWO: LEAN SIX SIGMA

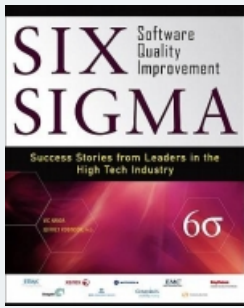
Chapter 9	Lean Primer	18 Pages
Chapter 10	Leaning Six Sigma Projects: How to run a DMAIC Project in Five Days	19 Pages
Chapter 11	How IBM Reduced Help Desk Escalations and Overhead Activity	17 Pages
Chapter 12	Motorola Realizes Significant Cost Avoidance by Streamlining Project Documentation	20 Pages
Chapter 13	Boiling the Ocean with Value Streams, Kaizens, and Kanbans	28 Pages
Chapter 14	How a Global Retailer Improved the Reliability of Software Development and Test Environments	21 Pages
Chapter 15	Lean Conclusions and Lessons Learned	02 Pages

PART THREE: DESIGN FOR SIX SIGMA

Chapter 16	DFSS Primer	14 Pages
Chapter 17	How to Radically Streamline your Business Processes	29 Pages
Chapter 18	How Motorola Reduced the Effort Required for Software Code Reviews	20 Pages
Chapter 19	Predictive Engineering to Improve Software Engineering	14 Pages
Chapter 20	Improving Product Performance using Software DFSS	20 Pages
Chapter 21	High Speed Product Development at Xerox	27 Pages
Chapter 22	How Seagate Technology Reduced Downtime and Improved Availability to 99.99 %	18 Pages
Chapter 23	DFSS Conclusions and Lessons Learned	02 Pages

PART FOUR: SIX SIGMA PROGRAMS

Chapter 24	Cisco successfully Reinvents its Six Sigma Program	10 Pages
Chapter 25	Six Sigma Practice at Thomson Reuters	14 Pages
Chapter 26	How Convergys injected Six Sigma into the Company DNA	16 Pages
Chapter 27	Bumps in the Road	07 Pages
Appendix A: Chapter Tool Matrix		09 Pages
Appendix B: Computing Return on Investment		11 Pages
Glossary		13 Pages
Contributor Biographies		06 Pages
Company Profiles		04 Pages
Index		05 Pages



It is the most comprehensive, complete and structured exposition of the theoretical as well as practical applications of Six Sigma (SS) as demonstrated by the leading software and IT companies of the world such as Motorola (where the SS actually originated), IBM, Seagate, Cisco, Xerox, TCS, Infosys etc. This is one of the best books on SS. It starts with an executive overview of Six Sigma and its implication for software industry where about \$ 60 Billions are lost annually due to software errors. As is apparent from the Table of Contents given above, the book is organized in four parts: the first three parts cover exhaustively the essential elements of Six Sigma, namely, DMAIC, Lean Six Sigma, DMADV and DFSS and at the end of each part important lessons learned through the SS programs conducted by leading companies are highlighted. The fourth part of the book details what Cisco learnt from a failed Six Sigma deployment strategy and succeeded with a revised approach, and how Thomson Reuters and Convergys implemented robust Six Sigma programs from the ground up. These experiences are meant to assure the intending users to look for appropriate reorientation and introspection for substantial improvements in the program. The last chapter of book offers a word of caution to a user company that Six Sigma is not a cure-all remedy and can fail sometimes but with the appropriate motivation and goals and by developing right expertise, the company can turn it into a success story for the company. Therefore, undoubtedly, the subject of Six Sigma has never been treated so exhaustively as in this book by Nanda and Robinson. This reviewer would highly recommend this book to all software industries and educational institutions who would like to learn the nitty-gritty of Six Sigma in depth

-Krishna B. Misra

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Therefore, the Six Sigma method is a very rigorous quality control concept where many organizations are still performing at the three sigma level (McClusky 2000). Six Sigma represents a very heroic target for many organizations, technologies, operations, processes, and projects (Lucas 2002). Business Perspective of Six Sigma In the business world, Six Sigma can be defined as a “business strategy used to improve business profitability, to improve the effectiveness and efficiency of all operations to meet or exceed customer’s needs and expectations” (Anthony and Banuelas 2001). This is the Six Sigma project leader. The Black Belt works on Six Sigma projects full time, and may lead four to six projects per year.

Six Sigma quality improvement process is something that can prove to be bliss by boosting your flagging sales and translate it into mounting profits. There are many leading and well-known organizations availing the services of professionally certified Six Sigma people to meet the quality standards and satiate customer's expectations. The results have been nothing short of remarkable. Six Sigma approach truly has the tremendous potential to improve the quality of products and services dramatically. The best part is that you don't even have to pay through your nose to take the advantages. A well Using Software to Support Lean Six Sigma Programs. While it is possible to collect and analyze data and develop Lean Six Sigma projects by hand, there is a plethora of software available to support these efforts. Successful Lean Six Sigma programs often start with a holistic look at manufacturing operations and understanding the Value Stream Map to understand where and how improvements can provide the most valuable returns. By clearly stating the business goals that one intends to address with Lean Six Sigma programs and projects, we establish an expected financial return to the business that is measurable and verifiable.