

Lean Process Measurement And Lean Tools Techniques

Lean transformations are decidedly more challenging when the math is inconsistent with lean principles, misapplied, or just plain wrong. Math should never get in the way of a lean transformation, but instead should facilitate it. Lean Math is the indispensable reference for this very purpose. A single, comprehensive source, the book presents standard and specialized approaches to tackling the math required of lean and six sigma practitioners across all industries—seasoned and newly minted practitioners alike. Lean Math features more than 160 thoughtfully organized entries. Ten chapters cover system-oriented math, time, the “-ilities” (availability, repeatability, stability, etc.), work, inventory, performance metrics, basic math and hypothesis testing, measurement, experimentation, and more. Two appendices cover standard work for analyzing data and understanding and dealing with variation. Practitioners will quickly locate the precise entry(ies) that is relevant to the problem or continuous improvement opportunity at hand. Each entry not only provides background on the related lean principles, formulas, examples, figures, and tables, but also tips, cautions, cross-references to other associated entries, and the occasional “Gemba Tale” that shares real-world experiences. The book consistently encourages the practitioner to engage in math-assisted plan-do-check-act (PDCA) cycles, employing approaches that include simulation and “trystorming.” Lean Math truly transcends the “numbers” by reinforcing and refreshing lean thinking for the very purpose of Figuring to Improve.

REVIEWER COMMENTS “Hamel and O’Connor provide both the novice and experienced lean practitioner a comprehensive, common-sense reference for lean math. For example, I know that our Lean Support Office team would have gladly used dozens of Lean Math entries during a recent lean management system pilot. The concepts, context, and examples would have certainly helped our execution and provided greater clarity during our training activities. Lean Math is a must have book for Lean Support Office people!”

—Dave Pienta, Director, Lean Support Office, Moog, Inc. Aircraft Group “A practical math book may sound like an oxymoron, but Lean Math is both pragmatic and accessible.

Hamel and O’Connor do an excellent job keeping the math as simple as possible, while bringing lean principles to the forefront of the discussion. The use of insurance and healthcare industry examples especially helps simplify the translation for lean practitioners in non-manufacturing industries. Readers will be able to use the numerous tables and figures to clearly illustrate and teach lean concepts to others. Lean Math is a reference book that every lean practitioner or Black Belt should have in their library!” —Peter Barnett, MBB, Liberty Management System Architect, Liberty Mutual Insurance

“Lean Math is a comprehensive reference book within which the lean practitioner can quickly find straightforward examples illustrating how to perform almost any lean calculation. Equally useful, it imparts the importance of the relevant lean principal(s). While coaching some recent transformation efforts, I put Lean Math to the test by asking several novice practitioners to reference it during their work. They were promptly rewarded with deeper insight and effectiveness—a reflection of this book’s utility and value to the lean practitioner.” —Greg Lane, international lean transformation coach, speaker, and author of three books including, “Made-to-Order Lean: Excelling in a High-Mix, Low-Volume Environment”

“While the technical, social, and management sciences behind lean must be learned by doing, their conceptual bases are absolutely validated by the math. This validation is particularly crucial to overcoming common blind spots ingrained by traditional practice. Hamel and O’Connor’s text is a comprehensive and readable resource for lean implementers at all levels who are seeking a deeper understanding of lean tools and systems. Clear diagrams and real-world examples create a bridge for readers between theory and practice—theory proven by practice. If math is the language of science, then Lean Math is indeed the language of lean science.” —Bruce Hamilton, President, Greater Boston Manufacturing Partnership, Director Emeritus for the Shingo Institute

“Mark and Michael have done a tremendous service for the lean community by tackling this daunting subject. There are so many ways to quantify value, display improvement, and define complex problems that choosing the right methods and measures becomes an obstacle to progress. Lean Math helps remove that obstacle. Almost daily, operations leaders in every industry need the practical math and lean guidance in these pages. Now, finally, we have it in one place. Thank you.” —Zane Ferry, Executive Director, National Operations, QMS Continuous Improvement, Quest Diagnostics

“Too many lean books dwell on principles, but offer little to address critical how-to questions, such as, ‘How do I use these concepts to solve my specific problem?’ With plain English explanations, simple illustrations, and examples across industries, Lean Math bridges a long-standing gap. Hamel and O’Connor’s Lean Math is sure to become a must-have reference for every lean practitioner working to improve performance in any modern workplace.” —Jeff Fuchs, Executive Director, Maryland World Class Consortia, Past Chairman, Lean Certification Oversight Committee

“Lean Math fills a huge gap in the continuous improvement library, helping practitioners to translate data, activities, and ideas into meaningful information for effective experimentation and intelligent decisions. This reference comes at a critical time for the healthcare industry as we struggle to improve quality, while controlling costs. Though we don’t make widgets, our people, processes, and patients will benefit from the tools provided in this reference. The numerous examples, as well as the Gemba Tales scattered throughout the book, bring life to the principles and formulas. Lean Math is impressive in both scope and presentation of content.” —Tim Pettry, Senior Process Improvement Specialist, Cleveland Clinic

“Lean Math is a great book for those times when only the correct answer will do. The math, along with the Gemba Tales, are helpful for those in the midst of the technical aspects of a transformation, as well as those of us who once knew much of this but haven’t used it in a while.” —Beau Keyte, organization transformation and performance improvement coach, author of two Shingo-Award winning books: “The Complete Lean Enterprise” and “Perfecting Patient Journeys”

“Math and numbers aren’t exclusively the domain of six sigma! Toyota leaders describe lean as an organizational culture, a managerial approach, and a philosophy. They also maintain that the last piece of lean is technical methods, which includes the math we need for properly sizing inventory levels, validating hypotheses, gauging improvement, and more. Lean Math is a useful book that compiles important mathematical and quantitative methods that complement the people side of lean. Hamel and

*O'Connor are extremely qualified to deftly explain these methods. Lest you think it's a dry math text, there are Gemba Tales and examples from multiple industries, including healthcare, which illustrate these approaches in very relatable ways.” —Mark Graban, Shingo-Award winning author, speaker, consultant, and blogger “When you begin a lean journey, it's like starting an exercise regimen—the most important thing is to start. But as you mature, and as you achieve higher levels of excellence, rigor becomes increasingly important. Lean Math provides easy, elegant access to the necessary rigor required for effective measurement and analysis and does so in practical terms with excellent examples.” —Misael Cabrera, PE, Director, Arizona Department Environmental Quality
SSD Global study and reference guide for Black and Master Black Belt practitioners and candidates.*

Lately there's been a great deal of talk around Lean execution. But, some people speak of Lean, some speak of Six Sigma and some use a combination of the two. But, what's the difference? How do you know what's right for your organization? As the market place tightens and companies are fighting for every dollar of revenue, they need to adopt innovative methods to create more efficient processes that will give them a competitive edge of their closest rivals; this is the basis for Lean Six Sigma. Unlike traditional Six Sigma, Lean Six Sigma uses some of the methodology from lean manufacturing along with the Six Sigma approach. Many organizations see Lean Six Sigma as the evolution of the Six Sigma methodology rather than a modification. Lean Six Sigma takes the fundamentals of Six Sigma and incorporates the cost reduction principles of Lean Manufacturing. The perfect prescription for any organization Increasingly popular with large and mid-sized companies around the world, Lean Six Sigma is the new hybridization of Six Sigma and Lean methodologies, and there is no better approach for achieving operational excellence in an organization. But how do you implement Lean Six Sigma, and what does it entail? The Complete Idiot's Guide to Lean Six Sigma answers this question with unprecedented clarity and turnkey elegance. Part one gives you all the background you need to understand Lean Six Sigma - what it is, where it came from, what it has done for so many organizations and what it can do for you and your company. Parts two and three of the book give you a prescribed yet flexible roadmap to follow in selecting, enacting and realizing improvements from Lean Six Sigma projects. Within this step-by-step structure, the authors demonstrate when and how to use the many Lean Six Sigma statistics and 'tools', packing the pages with diagrams, real-life examples, templates, tips and advice. If you are a Green Belt or a Black Belt, or trainee, these two parts will be invaluable to you. The Complete Idiot's Guide to Lean Six Sigma is the first book of its kind to integrate the Lean Six Sigma tools within a clear stepwise progression, so readers know when and how to actually apply them in their jobs. As such, this book is superior as a companion to any corporate or organizational Lean Six Sigma 'deployment'. No more complex hodgepodge. Other books about Lean and/or Six Sigma tend to provide a lot of good information, tools and statistics, but mostly in a disconnected way, not in a way that is straightforward and user friendly. This makes an already complex subject seem still complex to the neophyte reader. On the other hand, the structure and progression of this book unfolds Lean Six Sigma in a way that a reader can easily become a user, and move more quickly from knowledge to application. Therefore, using The Complete Idiot's Guide to Lean Six Sigma, you know why the statistics are important and where to use them, because this is made clear. You know how and when to use a Pareto Chart, or do a Stakeholder Analysis, or conduct a Failure Mode and Effects Analysis (FMEA). You not only get fully primed on all the parts and parcels of Lean Six Sigma, but you truly learn enough to become dangerous - in a good way! In a way that makes you more valuable to your organization. Also for Lean Six Sigma leaders, not just practitioners. Just as a Lean Six Sigma practitioner follows a proven formula for process improvement, a Lean Six Sigma Leader generally follows a process for achieving organizational transformation. This is why the final part of the book focuses on what a Lean Six Sigma leader or Champion needs to know and do to be successful - again according to a detailed step-by-step process that can be followed exactly or modified to fit specific needs. This includes: ? Identifying and selecting Lean Six Sigma projects. ? Understanding the process of organizational transformation. ? Installing an infrastructure for Lean Six Sigma deployment.

A Practical Guide

Measuring and Improving Performance

A Roadmap to High Reliability Using Lean, Six Sigma, and Change Leadership

Mindset for Successful Implementation of Improvement Projects

A Guide to Six Sigma and Process Improvement for Practitioners and Students

Lean Software Development in Action

Lean Math: Figuring to Improve

A hybrid methodology, Lean Six Sigma (LSS) is designed to accommodate global challenges and constraints by capitalizing on Six Sigma and Lean Thinking. LSS incorporates best practices from programs such as the International Organization for Standardization (ISO), Capability Maturity Model, and Total Quality Management. International Lean Six Sigma practitioners must understand the dynamics of LSS, along with its cultural aspects and regulations. Lean Six Sigma: International Standards and Global Guidelines, Second Edition provides this understanding. The book assumes that the overall goal of operational excellence is to ensure that organizational tasks and activities are being performed to the best of their process capabilities. It defines continuous improvement as activities that support and empower environments to make flexible decisions that lead to ongoing improvement and effectiveness. Coverage includes: New global LSS standards International implementation of process improvement programs New international LSS applications International Lean Six Sigma areas of competency The book defines many of the terms popularized by process improvement programs, such as center of excellence and business transformation. It documents these practices and explains how

to perform future activities in accordance with the recorded practices. Exploring international approaches to Lean Six Sigma, it details the new ISO Standard for Six Sigma and also addresses the role of project management in LSS. Illustrating the synergies between Lean and Six Sigma and how they partner with other process improvement programs and initiatives, this book is an ideal study guide for those preparing to take the LSS Black Belt certification exam.

Most startups fail. But many of those failures are preventable. The Lean Startup is a new approach being adopted across the globe, changing the way companies are built and new products are launched. Eric Ries defines a startup as an organization dedicated to creating something new under conditions of extreme uncertainty. This is just as true for one person in a garage or a group of seasoned professionals in a Fortune 500 boardroom. What they have in common is a mission to penetrate that fog of uncertainty to discover a successful path to a sustainable business. The Lean Startup approach fosters companies that are both more capital efficient and that leverage human creativity more effectively. Inspired by lessons from lean manufacturing, it relies on “validated learning,” rapid scientific experimentation, as well as a number of counter-intuitive practices that shorten product development cycles, measure actual progress without resorting to vanity metrics, and learn what customers really want. It enables a company to shift directions with agility, altering plans inch by inch, minute by minute. Rather than wasting time creating elaborate business plans, The Lean Startup offers entrepreneurs—in companies of all sizes—a way to test their vision continuously, to adapt and adjust before it's too late. Ries provides a scientific approach to creating and managing successful startups in an age when companies need to innovate more than ever.

Today, the application of lean principles is not limited to the shop floor: it is extended to the entire enterprise. Knowledge-based activities, in particular, product development, can significantly benefit from the application of lean principles. R&D intensive organizations such as aerospace have started to implement lean in their product development processes, however, the performance measurement systems that are in place are obsolete and do not promote lean goals and principles. These methods are not capable of measuring the benefits of adopting lean initiatives in the product development process. In this research, a lean engineering performance measurement (LEPM) model is developed that takes into account key lean principles and performance indicators and measures the performance of the engineering process from a lean perspective. This model was implemented in the engineering process of a case company to measure and promote lean initiatives.

Until now, Lean thinking has been narrowly focused on physical processes, causing serious shortcomings and failures in obtaining Lean benefits. Lean Performance ERP Project Management integrates strategy, people, process, and information technology into a project management methodology that applies Lean thinking to all processes. It uses Lean princ

Lean Performance ERP Project Management

The Complete Idiot's Guide to Lean Six Sigma

Lean Six Sigma - Green Belt Training

Operational Excellence with Lean Six Sigma

Sustainability

Tools and Methods for Process Acceleration

Lean Manufacturing and Six Sigma

Although Lean and Six Sigma appear to be quite different, when used together they have shown to deliver unprecedented improvements to quality and profitability. The Lean Six Sigma Black Belt I Methods for Process Acceleration explains how to integrate these seemingly dissimilar approaches to increase production speed while decreasing variations and costs in your organization. Presented as a practical guide, you can use to immediately determine the sources of the problems in your organization, the book is based on a recent survey that analyzed Six Sigma tools to determine which are the most beneficial. As the most commonly used tools, it also includes coverage of those used a minimum of two times on every five Six Sigma projects. Filled with diagrams of the tools you'll need, the book supplies a step-by-step help you for organize and process the vast amount of information currently available about Lean, quality management, and continuous improvement process applications. It begins with an overview of the LSS system, followed by little-known tips for using Lean Six Sigma (LSS) effectively. It examines the LSS quality system, its supporting organization, and the different roles involved. Identifying the theories required to implement a Lean system, the book describes the new skills and technologies that you need to master to be certified at the Lean Six Sigma Black Belt (LSSBB) level. It also covers the advanced non-statistical tools new to the LSSBB body of knowledge. Presenting time-tested insights of a distinguished group of authors, the book provides the understanding required to select the solutions that best fit your organization's culture. It also includes exercises, worksheets, and templates you can easily customize to create your own handbook for continuous process improvement. Designed to make the methodologies you learn in this book will help Black Belts and Senseis better engage their employees, as well as provide an integrated and visual process management structure for reporting and sustaining continuous improvement initiatives.

Utilizing the 3Ms of Process Improvement in Healthcare supplies step-by-step guidance on how to use the 3Ms of change leadership to improve healthcare processes. Complete with forms, templates, and case studies, it illustrates the proper application of the 3Ms. It weaves stories throughout the book of role models who have succeeded, as well as common pitfalls to avoid.

This book illustrates how goal-oriented, automated measurement can be used to create Lean organizations and to facilitate the development of Lean software, while also demonstrating the practical application of software development by combining tried and trusted tools. In order to be successful, a Lean orientation of software development has to go hand in hand with a company's overall business strategy. The interrelated aspects require special attention: measurement and experience management. In this book, Janes and Succi provide the necessary knowledge to establish “Lean software company thinking” using the latest approaches to software measurement. A comprehensive, company-wide measurement approach is exactly what companies need in order to align their activities to the demands of their business strategy, etc. With the automatic, non-invasive measurement approach proposed in this book, even small and medium-sized enterprises that do not have the resources to introduce heavy measurement can make their software development processes considerably more Lean. The book is divided into three parts. Part I, “Motivation for Lean Software Development,” explains just what “Lean Product Development” is and how advantageous to apply Lean concepts to software engineering, and which existing approaches are best suited to achieving this. Part II, “The Pillars of Lean Software Development,” presents the t

software development: Non-invasive Measurement, the Goal Question Metric approach, and the Experience Factory. Finally, Part III, "Lean Software Development in Action," shows how different to enable Lean Thinking in software development. The book primarily addresses the needs of all those working in the field of software engineering who want to understand how to establish an efficient development process. This group includes developers, managers, and students pursuing an M.Sc. degree in software engineering.

Lean Manufacturing, also called lean production, was originally created in Toyota after the Second World War, in the reconstruction period. It is based on the idea of eliminating any waste in the work or task that does not add value and requires resources. It is considered in every level of the industry, e.g. design, manufacturing, distribution, and customer service. The main wastes are: over-producing; waiting time of operators and machines; unnecessary transportation; waste in the process itself; excess stock of material and components; non value-adding motion; defects in quality. The diversities are covered from algorithms, mathematical models, and software engineering by design methodologies and technical or practical solutions. This book intends to provide the reader with a comprehensive state, cases studies, hardware and software solutions, analytics, and data science in dependability engineering.

Implementing the Virtual Supply Chain

Combining Six Sigma Quality with Lean Production Speed

Handbook for Implementing Process Improvement with Lean Six Sigma

International Standards and Global Guidelines, Second Edition

CHI Lean Six Sigma Fundamentals

Lean Project Delivery and Integrated Practices in Modern Construction

Get the Tools You Need to Build a Lean, Mean Business Machine

This book is a comprehensive guideline for the Management of processes and quality by applying LEAN and SIX SIGMA. It includes various statistical tools and applications for Minitab. Additional several Management tools and models are presented, useful in combination with a SIX SIGMA approach. Lean - SIX SIGMA is a powerful tool for Management and improvements in efficiencies to be applied on all levels in an organization. SIX SIGMA is also used to solve complex problems in the process or can be developed as a company value or company culture, dedicated to quality and change. With the necessary support by Senior Management all key staff members in the company should familiar with the methodologies presented here to achieve the benefits from Lean - SIX SIGMA.

"This remarkable book combines practical advice, ready-to-use techniques, and a deep understanding of why this is the right way to develop software. I have seen software teams transformed by the ideas in this book." --Mike Cohn, author of Agile Estimating and Planning "As a lean practitioner myself, I have loved and used their first book for years. When this second book came out, I was delighted that it was even better. If you are interested in how lean principles can be useful for software development organizations, this is the book you are looking for. The Poppendiecks offer a beautiful blend of history, theory, and practice." --Alan Shalloway, coauthor of Design Patterns Explained "I've enjoyed reading the book very much. I feel it might even be better than the first lean book by Tom and Mary, while that one was already exceptionally good! Mary especially has a lot of knowledge related to lean techniques in product development and manufacturing. It's rare that these techniques are actually translated to software. This is something no other book does well (except their first book)." --Bas Vodde "The new book by Mary and Tom Poppendieck provides a well-written and comprehensive introduction to lean principles and selected practices for software managers and engineers. It illustrates the application of the values and practices with well-suited success stories. I enjoyed reading it." --Roman Pichler "In Implementing Lean Software Development, the Poppendiecks explore more deeply the themes they introduced in Lean Software Development. They begin with a compelling history of lean thinking, then move to key areas such as value, waste, and people. Each chapter includes exercises to help you apply key points. If you want a better understanding of how lean ideas can work with software, this book is for you." --Bill Wake, independent consultant In 2003, Mary and Tom Poppendieck's Lean Software Development introduced breakthrough development techniques that leverage Lean principles to deliver unprecedented agility and value. Now their widely anticipated sequel and companion guide shows exactly how to implement Lean software development, hands-on. This new book draws on the Poppendiecks' unparalleled experience helping development organizations optimize the entire software value stream. You'll discover the right questions to ask, the key issues to focus on, and techniques proven to work. The authors present case studies from leading-edge software organizations, and offer practical exercises for jumpstarting your own Lean initiatives. Managing to extend, nourish, and leverage agile practices Building true development teams, not just groups Driving quality through rapid feedback and detailed discipline Making decisions Just-in-Time, but no later Delivering fast: How PatientKeeper delivers 45 rock-solid releases per year Making tradeoffs that really satisfy customers Implementing Lean Software Development is indispensable to anyone who wants more effective development processes--managers, project leaders, senior developers, and architects in enterprise IT and software companies alike.

Written to address the growing demand for Lean Six Sigma expertise, this text provides a step-by-step Define-Measure-Analyze-Improve-Control (DMAIC) process, that describes how to use the tools appropriate for each phase and provide data where tools can be practiced by students. Applying Lean Six Sigma in Health Care trains students on performance improvement techniques and current terminology so that they will be prepared to conduct Lean Six

Sigma projects in large health care systems and support the physicians and nurses running these projects. With a focus on application, students learn and utilize the DMAIC process, by applying it to an improvement project that is carried through the text.

Lean Thinking was launched in the fall of 1996, just in time for the recession of 1997. It told the story of how American, European, and Japanese firms applied a simple set of principles called 'lean thinking' to survive the recession of 1991 and grow steadily in sales and profits through 1996. Even though the recession of 1997 never happened, companies were starving for information on how to make themselves leaner and more efficient. Now we are dealing with the recession of 2001 and the financial meltdown of 2002. So what happened to the exemplar firms profiled in Lean Thinking? In the new fully revised edition of this bestselling book those pioneering lean thinkers are brought up to date. Authors James Womack and Daniel Jones offer new guidelines for lean thinking firms and bring their groundbreaking practices to a brand new generation of companies that are looking to stay one step ahead of the competition.

The Lean Six Sigma Black Belt Handbook

Linking Human Capital to Lean Six Sigma - A New Blueprint for Creating High Performance Companies

From Concept to Cash

Banish Waste And Create Wealth In Your Corporation

Success using lean Six Sigma in terms of operations and business processes

Lean Six Sigma Demystified, Second Edition

Lean Six Sigma

The Texas Environment For Innovation (TEFI) commissioned the Performance Excellence team to build a foundation of process improvement (PI) within the CHI Texas region to facilitate our transformation towards innovative practices. Building a strong PI foundation begins with creating process improvement resources throughout the system that have expertise in various operational areas. These carefully selected resources are trained in the structured Lean Six Sigma process improvement methodology of Define, Measure, Analyze, Improve and Control. Paramount in this methodology is the use of data to validate process issues and identify proven ways to effectively improve work through the elimination of wasteful, repetitive steps and maintaining the gains through post implementation monitoring. The Lean Six Sigma Green Belt Training and Certification program is taught and managed by the TEFI Performance Excellence team. This group of experts is "teaching people how to fish" and providing continuous coaching of resources so the Texas Division can maximize the opportunities to improve current work processes and pave the way for innovative practices. Some modules from this Green Belt training will be offered as individual "Leadership Development" classes in FY18. We encourage feedback on this program and which modules are most helpful. Greg Balfany Division Director for Performance Excellence and Productivity CHI St. Luke's Health - Texas Division.

The Breakthrough Program for Increasing Quality, Shortening Cycle Times, and Creating Shareholder Value In Every Area of Your Organization Time and quality are the two most important metrics in improving any company's production and profit performance. Lean Six Sigma explains how to impact your company's performance in each, by combining the strength of today's two most important initiatives Lean Production and Six Sigma into one integrated program. The first book to provide a step-by-step roadmap for profiting from the best elements of Lean and Six Sigma, this breakthrough volume will show you how to: Achieve major cost and lead time reductions this year Compress order-to-delivery cycle times Battle process variation and waste throughout your organization Separately, Lean Production and Six Sigma have changed the face of the manufacturing business. Together, they become an unprecedented tool for improving product and process quality, production efficiency, and across-the-board profitability. Lean Six Sigma introduces you to today's most dynamic program for streamlining the performance of both your production department and your back office, and providing you with the cost reduction and quality improvements you need to stay one step ahead of your competitors. "Lean Six Sigma shows how Lean and Six Sigma methods complement and reinforce each other. It also provides a detailed roadmap of implementation so you can start seeing significant returns in less than a year."--From the Preface Businesses fundamentally exist to provide returns to their stakeholders. Lean Six Sigma outlines a program for combining the synergies of these two initiatives to provide your organization with greater speed, less process variation, and more bottom-line impact than ever before. A hands-on guidebook for integrating the production efficiencies of the Lean Enterprise with the cost and quality tools of Six Sigma, this breakthrough book features detailed insights on: The Lean Six Sigma Value Proposition How combining Lean and Six Sigma provides unmatched potential for improving shareholder value The Lean Six Sigma Implementation Process How to prepare your organization for a seamless incorporation of Lean Six Sigma tools and techniques Leveraging Lean Six Sigma Strategies for extending Lean Six Sigma's reach within and beyond your corporate walls "Variation is evil."--Jack Welch Six Sigma was the zero-variation quality lynchpin around which Jack Welch transformed GE into one of the world's most efficient and valuable corporations. Lean Production helped Toyota cut waste, slash costs, and substantially improve resource utilization and cycle times. Yet, as both would admit, there was still room for improvement. Lean Six Sigma takes you to the next level of improvement, one that for the first time unites product and process excellence with the goal of enhancing shareholder value creation. Providing insights into the application of Lean Six Sigma to both the manufacturing processes and the less-data-rich service and transactional processes, it promises to

revolutionize the performance efficiencies in virtually every area of your organization as it positively and dramatically impacts your shareholder value.

Measuring and Improving Performance Information Technology Applications in Lean Systems CRC Press

Lean Systems: Applications and Case Studies in Manufacturing, Service, and Healthcare details the various Lean techniques and numerous real-world Lean projects drawn from a wide variety of manufacturing, healthcare, and service processes, demonstrating how to apply the Lean philosophy. The book facilitates Lean instruction by supplying interactive case studies that enable readers to apply the various Lean techniques. It provides an in-depth discussion of the Lean tools (i.e., VSM, standard work, 5S, etc.) and several real-world case studies and applications of Lean that have shown significant improvement in meeting customer requirements. The case studies follow the Six Sigma framework of Define, Measure, Analyze, Improve, and Control (DMAIC) structure for process improvement. The authors include detailed descriptions of each Lean tool and examples of how each Lean technique was applied to a wide variety of manufacturing, service, and healthcare processes. These in-depth descriptions and case studies can be used by industry professionals and academics to learn how to apply Lean. They provide a detailed, step-by-step approach to Lean and demonstrate how to integrate Lean tools for process improvement and to sustain improvements. But more than this, the approach taken in this book gives readers the tools to effectively apply Lean techniques.

A Project in Industrial Technology

Implementing Lean Six Sigma in 30 Days

Lean Systems

TPS-Lean Six Sigma

Utilizing the 3Ms of Process Improvement in Healthcare

Six Sigma+Lean Toolset

Your LEAN and mean guide to Lean Six Sigma Ready to implement better, faster, cheaper, more-profitable processes in your organization? Lean Six Sigma Demystified, Second Edition, shows you how to use proven techniques for simplifying, streamlining, and optimizing business practices for maximum productivity and profitability. Written in a step-by-step format, this practical guide covers the fundamental methods and tools of Lean Six Sigma. You'll get details on reducing defects and deviation, sustaining improvements, and achieving laser-focused process innovations. Measurement systems analysis (MSA), Design for Lean Six Sigma, and statistical tools such as analysis of variance (ANOVA) are also discussed. Clear examples, helpful diagrams, and concise explanations make it easy to understand the material, and end-of-chapter quizzes and a final exam reinforce key concepts. It's a no-brainer! You'll learn about: The seven speed bumps of Lean Value stream mapping and spaghetti diagramming Control charts, Pareto charts, and Ishikawa diagrams to laser-focus improvements Excel power tools for Lean Six Sigma Lean Six Sigma tar pits Ways to implement Lean Six Sigma to maximize results and minimize costs Simple enough for a beginner, but challenging enough for an advanced student, Lean Six Sigma Demystified, Second Edition, is your shortcut to this powerful improvement methodology. You'll also get a 90-day free trial of Q1 Macros software for Lean Six Sigma.

Master modern Six Sigma implementation with the most complete, up-to-date guide for Green Belts, Black Belts, Champions and students! Now fully updated with the latest lean and process control applications, A Guide to Lean Six Sigma and Process Improvement for Practitioners and Students, Second Edition gives you a complete executive framework for understanding quality and implementing Lean Six Sigma. Whether you're a green belt, black belt, champion, or student, Howard Gitlow and Richard Melnyck cover all you need to know. Step by step, they systematically walk you through the five-step DMAIC implementation process, with detailed examples and many real-world case studies. You'll find practical coverage of Six Sigma statistics and management techniques, from dashboards and control charts to hypothesis testing and experiment design. Drawing on their extensive experience consulting on Six Sigma and leading major Lean and quality initiatives, Gitlow and Melnyck offer up-to-date coverage of: What Six Sigma can do, and how to manage it effectively Six Sigma roles, responsibilities, and terminology Running Six Sigma programs with Dashboards and Control Charts Mastering each DMAIC phase: Define, Measure, Analyze, Improve, Control Understanding foundational Six Sigma statistics: probability, probability distributions, sampling distributions, and interval estimation Pursuing Six Sigma Champion or Green Belt Certification, and more This guide will be an invaluable resource for everyone who is currently involved in Six Sigma implementation, or plans to be. It's ideal for students in quality programs; "Green Belts" who project manage Six Sigma implementations, "Black Belts" who lead Six Sigma teams; "Champions" who promote and coordinate Six Sigma at the executive level; and anyone seeking Six Sigma certification.

Lean Six Sigma is used in all successful businesses in order to maximize results, reduce wastes and satisfy customers. This training is focused on Lean Six Sigma Tools usage, DMAIC Cycle and Lean applications.

This book is for anyone motivated and driven by the desire to create improvements within their team or wider business.

Practitioner's Guide to Statistics and Lean Six Sigma for Process Improvements

Applications and Case Studies in Manufacturing, Service, and Healthcare

Information Technology Applications in Lean Systems

Quality & Process Management for Managers & Professionals

Six Sigma

Utilizing Lean Six Sigma Techniques

The Lean Management Systems Handbook

Six Sigma is a management program that provides tools that help manufacturers obtain efficient, stream-lined production to coincide with ultimate high quality products. Essentials of Lean Six Sigma will show how the well-regarded analytical tools of Six Sigma quality control can be successfully brought into the well-established models of "lean manufacturing, bringing efficient, stream-lined production and high quality product readily together.

This book offers a thorough, yet concise introduction to the essential mathematics of Six Sigma, with solid case examples from a variety of industrial settings, culminating in an extended case study. Various professionals will find this book immensely useful, whether it be the industrial engineer, the industrial manager, or anyone associated with engineering in a technical or managing role. It will bring about a clear understanding of not only how to implement Six Sigma statistical tools, but also how to do so within the bounds of Lean manufacturing scheme. It will show how Lean Six Sigma can help reinforce the notion of "less is more, while at the same time preserving minimal error rates in final manufactured products. Reviews the essential statistical tools upon which Six Sigma rests, including normal distribution and mean deviation and the derivation of 1 sigma through six sigma Explains essential lean tools like Value-Stream Mapping and quality improvement tools like Kaizen techniques within the context of Lean Six Sigma practice Extended case study to clearly demonstrate how Six Sigma and Lean principles have been actually implemented, reducing production times and costs and creating improved product quality

They have been deploying Lean Six Sigma in various large and medium size companies for many years and have realized excellent results in most instances. We found that while Lean Six Sigma does a great job addressing the primary concerns of manufacturing and service, we felt that there was something missing in the deployment of Lean Six Sigma programs at many companies. Something that could help foster sustainable breakthroughs; something to realize durable performance and sustainable quality enhancement based on a happy and engaged workforce, something to create a real learning organization in which people are working smarter, are committed and improve themselves continuously. We found that the results could be enhanced if the importance of Human Capital is considered as an integral part of the process. We learned that Lean Six Sigma, in itself, does not sufficiently address Human Capital at many companies. While expected results from Lean Six Sigma alone will be good, we believe that adding the human component to Lean Six Sigma has the potential to realize sustainable, long-term growth and produce a transformation into a lean, learning, prosperous organization. That's why we are launching a revolutionary, holistic concept in this book called TPS-Lean Six Sigma. Combining these complimentary processes actively brings human involvement into Lean Six Sigma in a manner that not only stimulates commitment, integrity, work-life balance, and passion, enjoyment at work and employee engagement but also stimulates individual and team learning in order to develop a happy workforce and sustainable performance improvement and quality enhancement for the organization. TPS-Lean Six Sigma is a continuous voyage of discovery involving continuous personal and organizational improvement, development, and learning. The starting point in this concept is a journey to understand personal goals and ambitions of the workforce. Then we take the organizations goals and ambitions and marry them with the workforce, and find the best people for the job. Using our structured approach for aligning the personal scorecards with the organization's scorecard, we are able to create a symbiotic relationship between employees and organizational desires through the establishment of Lean Six Sigma project teams that will enthusiastically drive positive results. TPS-Lean Six Sigma is like a 'turbo-charged' Lean Six Sigma program. All of the proven, sound methodologies of traditional Lean Six Sigma are charged with highly motivated team members. The result is a powerful people driven Lean Six Sigma program called TPS-Lean Six Sigma that leads to a High Performance Culture and allows employees to realize their full potential and contribute creatively while the organization benefits from increased profitability, market share, and customer satisfaction. People are happiest when they are given freedom, challenges, and control over their lives. TPS-Lean Six Sigma also offers a systematic and integrated approach to the transformation of people in organizations, and to impact business strategy, culture, organizational effectiveness and the controllability of business processes. It entails a learning process, which transforms people into happy, inwardly involved, and committed employees. This will not only allow them to contribute exceptionally but will also persuade them to support, defend, and promote their organization. This approach lies at the heart of successful organizational and cultural change. After all, it is difficult to change the organization, but if we change ourselves, the organization will change with us. This unique TPS-Lean Six Sigma system is based on several new models, guidelines and tools that have been proven in practice. It integrates the individual's aspirations with the shared ambition of the organization, balancing the personal with the shared ambition, embedding ethical behavior in the individual's mind and links individual capabilities with an effective talent management process. TPS-Lean Six Sigma and the related new tools provide an excellent and innovative framework for creating sustainable breakthroughs in both the service and manufacturing industries. This new book emphasizes the introduction of a new blueprint, called TPS-Lean Six Sigma, for addressing the primary concerns of manufacturing and service in a more sustainable and humanized way. It leads to a High Performance Culture and allows employees to realize their full potential and contribute creatively while the organization benefits from increased profitability, market share, and customer satisfaction. By way of this book, Hubert Rampersad & Anwar El-Homsi are launching a revolutionary, holistic concept which actively has human capital embedded in Lean Six Sigma in a manner that not only stimulates commitment, integrity, work-life balance, passion, enjoyment at work and employee engagement but also stimulates individual and team learning in order to develop a motivated workforce and sustainable performance improvement and quality enhancement for the organization.

This book is a step-by-step process guide to developing innovative lean layout work right. Written in a story like flow, it will demonstrate a streamlined and proven approach to help you develop effective and optimized layouts for facilities, plants, cells, or other spaces fast with maximum team engagement and creativity. The outcomes will be a detailed layout and a plan for progression to a future state vision that can improve flow, throughput, and space optimization significantly in organizations large and small. This book may give you: Industrial Process Measurement: Guide To Developing Innovative Lean Layout Work Right 3P Industrial Process Automation: What Is An Industrial Chemical Process? Industrial Process Engineer: Develop Several Innovative Layout Options Fast

In the new millennium the increasing expectation of customers and products complexity has forced companies to find new solutions and better alternatives to improve the quality of their products. Lean and Six Sigma methodology provides the best solutions to many problems and can be used as an accelerator in industry, business and even health care sectors. Due to its flexible nature, the Lean and Six Sigma methodology was rapidly adopted by many top and even small companies. This book provides the necessary guidance for selecting, performing and evaluating various procedures of Lean and Six Sigma. In the book you will find personal experiences in the field of Lean and Six Sigma projects in business, industry and health sectors.

Practical Lean Accounting

Applying Lean Six Sigma in Health Care

Projects and Personal Experiences

Lean - Six Sigma

Industrial Process Measurement

Automate the Measurement Process on the Coordinate Measuring Machine Using Lean Six Sigma Methodology

Implementing Lean Software Development

The methods and concepts presented in the bestselling first edition revolutionized the approach to the management and control of Lean companies. Enhanced with extensive end-of-chapter exercises and a CD-ROM with Lean accounting tools, the second edition of this preeminent practitioner's guide is now suitable for classroom use. Practical Lean Accounting Maximise the quality and efficiency of your organisation with Lean Six Sigma Are you looking to make your organisation more effective and productive? If you answered "yes," you need to change the way it thinks. Combining the leading improvement methods of Six Sigma and Lean, this winning technique drives performance to the next level—and this friendly and accessible guide shows you how. The third edition of Lean Six Sigma For Dummies outlines the key concepts of this strategy and explains how you can use it to get the very best out of

your team and your business. The jargon-crowded language and theory of Lean Six Sigma can be intimidating for both beginners and experienced users. Written in plain English and packed with lots of helpful examples, this easy-to-follow guide arms you with tools and techniques for implementing Lean Six Sigma and offers guidance on everything from policy deployment to managing change in your organisation—and everything in between. Gives you plain-English explanations of complicated jargon Serves as a useful tool for businesspeople looking to make their organisation more effective Helps you achieve goals with ease and confidence Provides useful hands-on checklists Whether you want to manage a project more tightly or fine-tune existing systems and processes, the third edition of Lean Six Sigma For Dummies makes it easier to achieve your business goals.

This hands-on book presents a complete understanding of SixSigma and Lean Six Sigma through data analysis and statisticalconcepts In today's business world, Six Sigma, or Lean Six Sigma, is acrucial tool utilized by companies to improve customersatisfaction, increase profitability, and enhance productivity.Practitioner's Guide to Statistics and Lean Six Sigma forProcess Improvements provides a balanced approach toquantitative and qualitative statistics using Six Sigma and LeanSix Sigma methodologies. Emphasizing applications and the implementation of data analysesas they relate to this strategy for business management, this bookintroduces readers to the concepts and techniques for solvingproblems and improving managerial processes using Six Sigma andLean Six Sigma. Written by knowledgeable professionals working inthe field today, the book offers thorough coverage of thestatistical topics related to effective Six Sigma and Lean SixSigma practices, including: Discrete random variables and continuous random variables Sampling distributions Estimation and hypothesis tests Chi-square tests Analysis of variance Linear and multiple regression Measurement analysis Survey methods and sampling techniques The authors provide numerous opportunities for readers to testtheir understanding of the presented material, as the real datasets, which are incorporated into the treatment of each topic, canbe easily worked with using Microsoft Office Excel, Minitab,MindPro, or Oracle's Crystal Ball software packages. Examples ofsuccessful, complete Six Sigma and Lean Six Sigma projects aresupplied in many chapters along with extensive exercises that rangein level of complexity. The book is accompanied by an extensive FTPsite that features manuals for working with the discussed softwarepackages along with additional exercises and data sets. Inaddition, numerous screenshots and figures guide readers throughthe functional and visual methods of learning Six Sigma and LeanSix Sigma. Practitioner's Guide to Statistics and Lean Six Sigma forProcess Improvements is an excellent book for courses on SixSigma and statistical quality control at the upper-undergraduateand graduate levels. It is also a valuable reference forprofessionals in the fields of engineering, business, physics,management, and finance.

Although most agree that Lean Six Sigma is here to stay, they also agree that learning how to sustain the results seems problematic at best and unattainable at worst. Reverting to the old way of doing things is inevitable if sustainability measures are not a part of the methodology. Currently there are no standard resource on how to be sustainable or on using statistical techniques and practices. Until now. Sustainability: Utilizing Lean Six Sigma Techniques not only examines how to use particular lean six sigma tools, but how to sustain results that make companies profitable with continuous improvement. The book demonstrates how to use the Six Sigma methodology to make process-focused decisions that will achieve the goals of sustainability and allow organizations to gain true benefits from process improvements. It covers sustainability and metrics, Lean manufacturing, Six Sigma tools, sustainability project management, sustainability modeling, sustainable manufacturing and operations, decision making, and sustainability logistics. These tools help sustain results while keeping organizations competitive regardless of economic conditions. While continuous improvement techniques look good on paper, the implementation of the techniques can become difficult and challenging to maintain. Without utilizing Lean Six Sigma tools and leading the change, companies will become less and less marketable and profitable. This book supplies a blueprint on achieving sustainable results from high-quality improvements and making organizations competitive and first in class in their marketplace.

Lean Thinking

How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses

Behind the Mask

Practical Bodies of Knowledge

Guide To Developing Innovative Lean Layout Work Right: Which Of The Following Industrial Process Use Waste As A Fuel

The Lean Startup

Lean Engineering Performance Measurement Model

It is no secret that Lean Six Sigma (LSS) is not as popular with small and medium-sized enterprises (SMEs) as it is with larger ones. However, many SMEs are suppliers to larger entities who are pushing for superior quality and world-class process efficiencies from suppliers. Lean Six Sigma for Small and Medium Sized Enterprises: A Practical Guide provides a roadmap for the successful implementation and deployment of LSS in SMEs. It includes five real-world case studies that demonstrate how LSS tools have been successfully integrated into LSS methodology. Simplifying the terminology and methodology of LSS, this book makes the implementation process accessible. Supplies a general introduction to continuous improvement initiatives in SMEs Identifies the key phases in the introduction and development of LSS initiatives within an SME Details the most powerful LSS tools and techniques that can be used in an SME environment Provides tips on how to make the project selection process more successful This book covers the fundamental challenges and common pitfalls that can be avoided with successful introduction and deployment of LSS in the context of SMEs. Systematically guiding you through the application of the Six Sigma methodology for problem solving, the book devotes separate chapters to the most appropriate tools and techniques that can be useful in each stage of the methodology. Keeping the required math and statistics to a minimum, this practical guide will help you to deploy LSS as your prime methodology for achieving and sustaining world-class efficiency and effectiveness of critical business processes.

With the growing business industry there is a large demand for greater speed and quality, for projects of all natures in both small and large businesses. Lean Six Sigma is the result of the combination of the two best-known improvement methods: Six Sigma (making work better, of higher quality) and Lean (making work faster, more efficient). Lean Six Sigma For Dummies outlines they key concepts in plain English, and

shows you how to use the right tools, in the right place, and in the right way, not just in improvement and design projects, but also in your day-to-day activities. It shows you how to ensure the key principles and concepts of Lean Six Sigma become a natural part of how you do things so you can get the best out of your business and accomplish your goals better, faster and cheaper. About the author John Morgan has been a Director of Catalyst Consulting, Europe's leading provider of lean Six Sigma solutions for 10 years. Martin Brenig-Jones is also a Director at Catalyst Consulting. He is an expert in Quality and Change Management and has worked in the field for 16 years.

Lean Six Sigma is the global standard for organizing the design, data-based improvement and control of business processes. Well-designed and controlled processes are key in achieving and sustaining operational excellence. They ensure the quality of service and care, the reliability and safety of work that is done, and a timely processing with short waiting times. High quality processes will at the same time improve the operation's flexibility. Thereby allowing one to adjust to changes in demand and other circumstances. An organizational capability to harness data-based process improvement, finally, facilitates organizational learning and is foundational for the fruitful implementation of ever increasing digitization and automation opportunities. Lean Six Sigma offers a complete model for shaping modern continuous improvement programs in organizations. The methodology is built on principles and methods for fact-based process improvement that have proven themselves over the last decades, and will continue to do so in the decades to come. Having emerged in manufacturing, the approach continuously evolved and gained tremendous momentum in the services and healthcare industries. This book offers a thorough and pragmatic account of Lean Six Sigma project- and programme implementation with a special focus on applications in services and healthcare organizations.

The current, second edition of this book reflects the 15 years of practical experience with the Six Sigma+Lean toolbox. It is a comprehensive collection of all the tools necessary for project work and running workshops when improving processes. All tools have been illustrated in a clear and comprehensible structure with examples and tips for applying the tools included. The chronology corresponds to the procedure of an improvement project comprising the steps D(efine), M(easure), A(nalyze), I(mprove) and C(ontrol). The most important innovation of this edition is the fact that it guides the user to select the appropriate tool using questions. The paradigm change from a Toolset to a Mindset has proven worthwhile in project work and ensures that corporate problems are addressed with the goal of achieving efficient solutions rather than having a large quantity of perfect tools to choose from. The efficiency factor of work in projects and workshops will therefore improve significantly. Through this paradigm change, connected with its unique structure, this book provides an effective tool not only for project and workshop leaders but also for the executives/sponsors involved who will be guided to solve the given task formulation quickly and in a sustainable way.

Lean Six Sigma for Small and Medium Sized Enterprises

Essentials of Lean Six Sigma

Measure

Lean Six Sigma For Dummies

A Proven System for Measuring and Managing the Lean Enterprise, Second Edition

Lean Six Sigma

Foundations, DMAIC, Tools, Cases, and Certification

Lean Project Delivery and Integrated Practices in Modern Construction is the new and enhanced edition of the pioneering book Modern Construction by Lincoln H. Forbes and Syed M. Ahmed. This book provides a multi-faceted approach for applying lean methodologies to improve design and construction processes. Recognizing the wide diversity in the landscape of projects, and encompassing private and public sector activity, buildings and infrastructure, the book expands upon the detailed coverage of integrated project delivery and new lean tools and techniques to include: Greater emphasis on the importance of creating a lean culture and the initiatives required to transform the industry; Expanded discussions of the foundational writings in lean construction theory; Exploration of the synergies between "lean" and "green" initiatives; Specific procedures for modifying planning and scheduling activities to improve the performance of the project team; Expanded sections on quality, and topics that have become a part of the lean lexicon, such as Choosing by Advantages, "line of balance"/location-based scheduling, virtual design teams, takt time planning and set-based design; Discussion questions for beginners and advanced lean practitioners; and Improved cross-referencing within the text to help the reader navigate the frameworks, techniques and tools to support the application of lean principles. The techniques described here enhance the use of resources, reducing waste, minimizing delays, increasing quality and reducing overall costs. They enable practitioners to improve the quality of the built environment, secure higher levels of customer/owner satisfaction, and simultaneously improve their profitability. This book is essential reading for all those wanting to be at the forefront of construction management and lean thinking.

As a pioneer in Lean improvement methods, Jim Martin was among the first to suggest that truly successful Lean initiatives are those applied across every facet of an organization, not just on the shop floor. Building on this concept, Martin demonstrates that one of the most effective ways to implement operational improvements across an organization is to approach it through the resource that permeates every facet of a modern organization—information technology. Measuring and Improving Performance: Information Technology Applications in Lean Systems explains how the effective use of Lean project management methodologies can increase the productivity of information system deployment in service

and manufacturing organizations. Starting with an overview of Lean and agile project management principles, the author walks readers through the implementation of Lean practices across key aspects of IT systems. Created to provide Lean and Six Sigma practitioners with a clear understanding of the important concepts related to the creation and modification of software to support process improvement activities across Lean systems, this reference book: Details how to apply Lean principles to IT systems on a global scale Explains how to design IT systems capable of meeting evolving customer needs and expectations Covers several project management methods including agile project management (APM), agile unified process (AUP), SCRUM, extreme programming (EP) Identifies the operational issues that can help project execution and those that can hinder it Complete with roadmaps and checklists, this book will help busy IT and Lean professionals discover more efficient ways to monitor business activity, gather business intelligence, manage and analyze business processes, and ultimately—increase overall operational efficiency.

Performance management, the primary focus of a Lean organization, occurs through continuous improvement programs that focus on education, belief systems development, and effective change management. Presenting a first-of-its-kind approach, *The Lean Management Systems Handbook* details the critical components required for sustainable Lean management. Positioning Lean as a management operational philosophy far beyond the traditional set of improvement tools, the book explains how managers at all levels of the organization can integrate Lean into their daily management activities. It defines the Lean philosophy as well as the beliefs and behaviors required to develop a thriving Lean company culture. The book captures the essence of Lean learning and Lean doing and illustrates practical applications of Lean management. It begins by covering the basics that encompass Lean management and leadership in two critical areas: maintenance/control and improvement. After reading this book, you will better understand how to see waste, measure waste, eliminate waste, and develop an active change improvement workplace. You will also gain the practical understanding required to determine which Lean tool is best suited to your particular need for supporting an organization-wide management system. Expounding on essential Lean concepts, this is an ideal guide to help new managers and leaders make the transition from theory to successful application in the field. Complete with brief summaries and examples of the most important tools in Lean management systems development in each chapter, the book provides a reliable roadmap for deploying a Lean management system across your organization, and subsequently across your entire value stream.