

Factory Physics For Managers How Leaders Improve Performance In A Post Lean Six Sigma World

The Product Wheel (PW) design process has practical methods for finding the optimum sequence, minimizing changeover costs, and freeing up useful capacity. So much so, that the DuPont Company and Exxon Mobil are just a few companies that have used the product wheel concept to achieve and sustain a competitive advantage. Breaking down a fairly comple

Most decisions and plans in a firm require a forecast. Not matching supply with demand can make or break any business, and that's why forecasting is so invaluable. Forecasting can appear as a frightening topic with many arcane equations to master. For this reason, the authors start out from the very basics and provide a non-technical overview of common forecasting techniques as well as organizational aspects of creating a robust forecasting process. The book also discusses how to measure forecast accuracy to hold people accountable and guide continuous improvement. This book does not require prior knowledge of higher mathematics, statistics, or operations research. It is designed to serve as a first introduction to the non-expert, such as a manager overseeing a forecasting group, or an MBA student who needs to be familiar with the broad outlines of forecasting without specializing in it.

Mastering the Supply Chain is an introduction to supply chain management. The book integrates theory with practice and aims to create a cross-functional mindset in students and practitioners. It provides a wide overview of relevant supply chain concepts and sets out the challenges that need to be overcome in order to find practical ways of implementing these in a real company situation. Readers are continuously asked to actively reflect on the choices they make, thus experiencing first-hand the many challenges that good and effective supply chain management presents. Mastering the Supply Chain presents a different way of learning that puts the reader at the heart of a life-like situation, so that they experience the impact of every decision they make, not just in their own 'silo' but across the business. In this way, they will learn that many supply chain concepts are relatively simple to understand, but not so easy to apply in reality. Chapter 6 helps students to pull everything they've learned together and see how the concepts play out in the real world by guiding them through an interactive demonstration of the online business simulation game The Fresh Connection (free access is included with the book). This is a key text for students on supply chain management BScs and MScs as well as background reading for students playing the full version of The Fresh Connection Business Simulation game.

TQM, Reengineering, Theory of Constraints, JIT, Six Sigma, Lean Manufacturing . . . These are just some of the methods that, over the past five decades, have promised to transform any manufacturing firm into a lean, mean, moneymaking machine. While each incorporates certain fundamental truths, strengths, and benefits, they are not panaceas. Nor do they necessarily provide much-needed insight into the science that underlies factory performance. James Ignizio, Ph.D., an internationally recognized performance optimization expert, believes that only a balanced approach will provide the significant and sustainable improvement

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required of firms who will survive and prosper in the twenty-first century. In this breakthrough guide, Dr. Ignizio picks up where such concepts as Six Sigma and Lean Manufacturing leave off to provide you with a holistic, three-dimensional approach to mastering the art and science of manufacturing. Focusing on the three primary enemies of factory performance—complexity, variability, and lackluster leadership—Optimizing Factory Performance cuts to the heart of the problem of less-than-world-class performance and demonstrates how those enemies manifest themselves in companies across manufacturing sectors. Ignizio also explores the insidious effect company politics and flagging commitment to manufacturing performance have on competitiveness. Emphasizing the all-important, often overlooked third dimension of manufacturing—factory protocols—Ignizio describes the types of strategic and tactical changes to physical plant and operating procedures any company can make to achieve performance improvements. In addition, he arms you with powerful, original metrics for measuring and comparing factory performance, as well as a set of interactive simulation models, available online at www.mhprofessional.com/ignizio. Running throughout the book is an often amusing, always instructive account of the fictional high-tech firm, Muddle, Inc., which helps support the concepts discussed in the real world of manufacturing, while reinforcing key lessons learned. Read *Optimizing Factory Performance* and find out how to transform your organization into the kind of fast, agile manufacturer that delivers the right products to the right customers at the right time—every time.

Lean Process Creation teaches the specific frames—the 6CON model—to look through to properly design any new process while optimizing the value-creating resources. The framing is applicable to create any process that involves people, technology, or equipment—whether the application is in manufacturing, healthcare, services, retail, or other industries. If you have a process, this approach will help. The result is 30% to 50% improvement in first-time quality, customer lead time, capital efficiency, labor productivity, and floorspace that could add up to millions of dollars saved per year. More important, it will increase both employee and customer satisfaction. The book details a case study from a manufacturing standpoint, starting with a tangible example to reinforce the 6CON model. This is the first book written from this viewpoint—connecting a realistic transformation with the detailed technical challenges, as well as the engagement of the stakeholders, each with their own bias. Key points and must-do actions are sprinkled throughout the case study to reinforce learning from the specific to the general. In this study, an empowered working team is charged with developing a new production line for a critical new product. As the story unfolds, they create an improved process that saves \$5.6 million (10x payback on upfront resource investment) over the short life cycle of the product, as well as other measurable benefits in quality, ergonomics, and delivery. To an even greater benefit, they establish a new way of working that can be applied to all future process creation activities. Some organizations have tried their version of Lean process design following a formula or cookie-cutter approach. But true Lean process design goes well beyond forcing concepts and slogans into every situation. It is purposeful, scientific, and adaptable because every situation starts with a unique current state. In addition, Lean process design must include both the technical and social aspects, as they are essential to sustaining and improving any system. Observing the recurring problem of reworking processes that were newly launched brought the authors to the conclusion

that a practical book focused on introducing the critical frames of Lean process creation was needed. This book enables readers to consider the details within each frame that must be addressed to create a Lean process. No slogans, no absolutes. Real thinking is required. This type of thinking is best learned from an example, so the authors provide this case study to demonstrate the thinking that should be applied to any process. High volume or low, simple or complex mix, manufacturing or service/transactional—the framing and thinking works. Along with the thinking, readers are enabled to derive their own future states. This is demonstrated in the story that surrounds the case study.

It is estimated that U.S. manufacturers are currently operating at only 65 percent effectiveness in implementing Lean production. Covering the fundamentals needed to be competitive in today's marketplace, *Beyond Lean Production: Emphasizing Speed and Innovation to Beat the Competition* provides readers with the tools to help their organizations achieve 100 percent effectiveness in Lean production. Explaining that overseas factories can't compete with U.S. factories in speed of delivery to domestic customers, the book provides the understanding required to add speed and urgency in all that you do in the office and the factory. It explains how to eliminate waste so you can meet and even exceed your customers' expectations regarding service, quality, and cost. The book is organized into two phases. The first phase, *Holding Actions*, covers the fundamentals needed to hold your position against the competition until you can implement the methods described in phase II of the book. It presents 12 little-known tools and strategic weapons that you can immediately put to use to improve on your current competitive position. Phase II, *The Business Command Center*, presents unique and powerful concepts that can be used with the fundamentals covered in phase I. Explaining how to use speed as a competitive weapon, the book will help you to remove the obstacles that interfere with continuous flow manufacturing. It presents the concept of circulatory management that can put a stop to the ever-increasing layers of management with decreasing ownership. By implementing the holding action and the business command center described in this book, you can significantly improve your odds of beating the competition at home and overseas.

Explaining how to implement and sustain a top-down strategy for manufacturing excellence, *The 12 Principles of Manufacturing Excellence: A Leader's Guide to Achieving and Sustaining Excellence* provides a comprehensive, proven approach for delivering world-class performance while also cultivating the right culture through leadership and mentoring. Tapping into four decades of leadership experience, 35 years of it in the manufacturing industry, Larry Fast explains how to achieve vertical and horizontal alignment across your organization. He details a clear pathway to excellence via the 12 Principles of Manufacturing Excellence and provides a method for tracking progress—plant by plant and function by function. Emphasizing the importance of using Lean and Six Sigma tools to improve your business, the book: Integrates strategy and leadership development Paves a path for culture change—Operator-Led Process Control (OLPC)—that prepares hourly employees to take control of their processes and prepares management to enable them to do it Details an audit process for tracking progress and ensuring sustainability Includes a CD with color versions of the images in the book as well as a sample Manufacturing Excellence Audit, a sample Communications Plan, and a sample Training Plan that can all be easily customized for the reader's use This resource-rich book will allow you to spell out

leadership expectations and provide your employees and associates with a clear understanding of their individual roles. Helping you keep everyone in your organization focused during the quest towards sustainable manufacturing excellence, the accompanying CD supplies the tools you and your team will need to pursue it with passion, confidence, and urgency. Listen to what Larry Fast has to say about his new book, *The 12 Principles of Manufacturing Excellence*. Part One — Part Two

While there are numerous Lean Certification programs, most companies have their own certification paths whereby they bestow expert status upon employees after they have participated in or led a certain number of kaizen events. Arguing that the number of kaizen events should not determine a person's expert status, *The Lean Practitioner's Field Book: Proven, Practical, Profitable and Powerful Techniques for Making Lean Really Work* outlines a true learning path for anyone seeking to understand essential Lean principles. The book includes a plethora of examples drawn from the personal experiences of its many well-respected and award-winning contributors. These experts break down Lean concepts to their simplest terms to make everything as clear as possible for Lean practitioners. A refresher for some at times, the text provides thought-provoking questions with examples that will stimulate learning opportunities. Introducing the Lean Practitioner concept, the book details the five distinct Lean Practitioner levels and includes quizzes and criteria for each level. It highlights the differences between the kaizen event approach and the Lean system level approach as well as the difference between station balancing and baton zone. This book takes readers on a journey that begins with an overview of Lean principles and culminates with readers developing professionally through the practice of self-reliance. Providing you with the tools to implement Lean tools in your organization, the book includes discussions and examples that demonstrate how to transition from traditional accounting methods to a Lean accounting system. The book outlines an integrated, structured approach identified by the acronym BASICS (baseline, analyze, suggest solutions, implement, check, and sustain), which is combined with a proven business strategy to help ensure a successful and sustainable transformation of your organization.

The phenomenon of globalization has increased in recent decades due to the opening of borders in Eastern Europe and the sudden emergence of other countries in the global trade economy. Yet, the process of becoming global to get access to growing markets or to achieve quality, service, and/or cost advantages from the reconfigured Value Chains is one of the most complex processes that companies undertake. *Global Production Networks: Operations Design and Management* addresses the challenges that companies face and proposes a range of innovative methodological approaches when designing and implementing global manufacturing and logistics networks. The book provides principles, tools, and techniques to help managers and practitioners tackle the design and management of global manufacturing and logistics networks. It presents guidelines based on the key activities and decisions of operations management for companies that have begun the internationalization process over the past few years, focusing on small and medium enterprises, and includes case studies that show best practices and recent trends. The author has worked closely with researchers and practitioners throughout the world to offer a methodological answer for the analysis and design of global networks with productive multilocation as well as the design of plants, warehouses, and supplier

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networks in new international contexts. The text also outlines the GlobOpe (Global Operations) framework and roadmap that outlines a logical path to identifying sources of competitiveness when designing and managing Global Production Networks. The process of internationalization in global markets has often been tackled from the business point of view, but rarely from the perspective of the production and logistics systems that support it. This book takes an in-depth look at the strategy of production and logistics operations, providing a roadmap for managers who need to analyze, assess, define, and deploy the operations strategy in their companies.

In 2005, Goodyear's research and development (R&D) engine was not performing up to its full potential. The R&D organization developed high-quality tires, but the projects were not always successful. Goodyear embarked on a major initiative to transform its innovation creation processes by learning, understanding, and applying lean product development principles. Within five years, Goodyear saw its product development cycle times slashed by 70 percent, on-time delivery performance rise close to 100 percent, and throughput improve three-fold – all achieved with no increase in the R&D budget. *Lean-Driven Innovation: Powering Product Development at The Goodyear Tire & Rubber Company* describes in great detail how the Goodyear team was able to achieve such significant improvements. Revealing the ups and downs of this successful transformation, the book shares experiences of how this seismic change was managed, how people were engaged, and how Goodyear dramatically reinvigorated its product development and innovation processes—and, in the process, delivered substantial more value to customers and to the company. The book also explains how lean product development helped Goodyear dramatically improve revenue by having every new product available when the market needed it. Presenting wide-ranging perspectives from all levels of leadership, this book is ideal for anyone in R&D daring to take on a lean initiative in R&D or who is struggling with a lean transformation that is not delivering to its full potential. Since the book focuses on universal lean principles, it is as insightful to other manufacturing and nonmanufacturing disciplines in any industry as well. The book presents invaluable insights gained by the author during his 36 years within Goodyear, of which 10 have been directly involved in trying to develop, implement, and sustain lean to achieve the company's business objectives. It distills ideas, practices, failures, and successes into key principles that lean product development practitioners can easily implement. After reading this book, you will gain a practical path for applying lean to the innovation processes of your organization, including where to begin and what to do, regardless of the industry and the status of your transformation. Watch Norbert Majerus discuss *Lean-Driven Innovation* at: <https://youtu.be/yIIJEMJlcyA>

Alex Rogo is a harried plant manager working ever more desperately to try and improve performance. His factory is rapidly heading for disaster. So is his marriage. He has ninety days to save his plant - or it will be closed by corporate HQ, with hundreds of job losses. It takes a chance meeting with a colleague from student days - Jonah - to help him break out of conventional ways of thinking to see what needs to be done. Described by *Fortune* as a 'guru to industry' and by *Businessweek* as a 'genius', Eliyahu M. Goldratt was an internationally recognized leader in the development of new business management concepts and systems. This 20th anniversary edition includes a series of detailed case study interviews by David Whitford, Editor at Large, *Fortune* Small

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Business, which explore how organizations around the world have been transformed by Eli Goldratt's ideas. The story of Alex's fight to save his plant contains a serious message for all managers in industry and explains the ideas which underline the Theory of Constraints (TOC) developed by Eli Goldratt. Written in a fast-paced thriller style, *The Goal* is the gripping novel which is transforming management thinking throughout the Western world. It is a book to recommend to your friends in industry - even to your bosses - but not to your competitors!

Praise for *The Lean Six Sigma guide to Doing More with Less* "At Frito Lay, we have applied many of the concepts and tools in this book, and we are realizing a five to seven times return on our annual Lean Six Sigma investment." —Tony Mattei, Lean Six Sigma Director, Frito Lay "Ecolab has experienced a sustainable, competitive advantage through Lean Six Sigma. The principles in this book are helping us drive greater value for our share-holders, better service for our customers, and talent development opportunities for our associates." —Jeffrey E. Burt, Vice President and Global Deployment Leader, Lean Six Sigma, Ecolab "This book gives excellent insights into Lean Six Sigma and its strong impact within different industries. We used Lean Six Sigma in numerous process improvement projects, which, in turn, helped to create momentum and set up a process improvement culture. Amid a challenging economic environment, we are accelerating this initiative globally." —Satheesh Mahadevan, Directeur des Processus, Société Générale "Our Lean Six Sigma deployment of the concepts and tools described in this book is transforming our business—with tangible benefits for our employees, customers, suppliers, and shareholders." —Jeffrey Herzfeld, Sr. Vice President and General Manager, Teva Pharmaceuticals USA "We have deployed the holistic Lean Six Sigma strategy described by Mark George across our enterprise. It is providing remarkable returns for Unum." —Bob Best, Chief Operating Officer, Unum "The Lean Six Sigma Guide to Doing More with Less presents a comprehensive view of operations transformation, the approaches required for success, leadership's role, and the competitive advantage that results. Transformational changes are enabling us to do more with less, by investing and working smarter." —Ted Doheny, President and COO, Joy Mining Machinery

Our economy and future way of life depend on how well American manufacturing managers adapt to the dynamic, globally competitive landscape and evolve their firms to keep pace. A major challenge is how to structure the firms environment so that it attains the speed and low cost of high-volume flow lines while retaining the flexibility and customization potential of a low-volume job shop. The books three parts are organized according to three categories of skills required by managers and engineers: basics, intuition, and synthesis. Part I reviews traditional operations management techniques and identifies the necessary components of the science of manufacturing. Part II presents the core concepts of the book, beginning with the structure of the science of manufacturing and a discussion of the systems approach to problem solving. Other topics include behavioral tendencies of manufacturing plants, push and pull production systems, the human element in operations management, and the relationship between quality and operations. Chapter conclusions include main points and observations framed as manufacturing laws. In Part III, the lessons of Part I and the laws of Part II are applied to address specific manufacturing management issues in detail. The authors compare and contrast common problems, including shop floor control, long-range aggregate planning, workforce planning

and capacity management. A main focus in Part III is to help readers visualize how general concepts in Part II can be applied to specific problems. Written for both engineering and management students, the authors demonstrate the effectiveness of a rule-based and data driven approach to operations planning and control. They advance an organized framework from which to evaluate management practices and develop useful intuition about manufacturing systems.

Boots on the ground manufacturing professionals with over 50 collective years of experience on the plant floor. The book provides a practical guide to daily leadership in the manufacturing environment. The work is educational, inspiring, and entertaining to all markets interested in management and leadership improvements.

W. Edwards Deming's central premise was that improvements in product quality would increase productivity, improve competitive position, and help ensure long-term survival. Point 12 of his landmark 14 Points for Management says that management's job is to remove the barriers that keep people from taking pride in their work. That's exactly what this

Manufacturing models - Assembly lines : reliable serial systems - Transfer lines and general serial systems - Shop scheduling with many products - Flexible manufacturing systems - Machine setup and operation sequencing - Material handling systems - Warehousing : storage and retrieval systems - General manufacturing systems : analytical queueing models - General manufacturing systems : empirical simulation models.

Standardized Work refers to the process of finding and applying the best operational methods that will lead to cost reduction, better product quality, and increased operator safety. This book, the latest in a series dedicated to Standardized Work, focuses on operator training and auditing. It describes the methods and tools used to train operators and then check their work against the standard defined in Standardized Work forms. It also discusses how to introduce these tools in the most effective way. Following in the tradition of the other books in this series, *Implementing Standardized Work: Training and Auditing* covers essential knowledge using a compelling story format. It follows Thomas, a young, high-potential plant manager in an industrial group, as he deploys Standardized Work to turn around a plant that is losing money. This latest installment recounts the next steps in his process—preparing for training, conducting the training itself, and introducing an auditing process to measure its success. The book explains how to structure and present the newly improved operational methods to facilitate the training. It introduces the Job Breakdown Sheet, which gives operators the "why" for actions and provides illustrations covering key points. The book presents a customized version of the training industry's four-step training method that provides simple actionable tools that will help you perform quick and effective operator training. It also provides a number of key tips to ensure the successful establishment of auditing processes. *Implementing Standardized Work: Training and Auditing* provides you with the right tools and the right processes to train and sustain Standardized Work. Everyone's role, from the plant manager to the operator, is described and illustrated by simple examples in this book. Covering the essentials of training and auditing in a streamlined, easy-to-understand format, this book can have you applying its concepts in just one day.

Production Planning and Control draws on practitioner experiences on the shop floor, covering everything a manufacturing or

industrial engineer needs to know on the topic. It provides basic knowledge on production functions that are essential for the effective use of PP&C techniques and tools. It is written in an approachable style, thus making it ideal for readers with limited knowledge of production planning. Comprehensive coverage includes quality management, lean management, factory planning, and how they relate to PP&C. End of chapter questions help readers ensure they have grasped the most important concepts. With its focus on actionable knowledge and broad coverage of essential reference material, this is the ideal PP&C resource to accompany work, research or study. Uses practical examples from the industry to clearly illustrate the concepts presented Provides a basic overview of statistics to accompany the introduction to forecasting Covers the relevance of PP&C to key emerging themes in manufacturing technology, including the Industrial Internet of Things and Industry 4

Japanese industry is the envy of the world for its efficient and humane management practices. Yet, as William Tsutsui argues, the origins and implications of "Japanese-style management" are poorly understood. Contrary to widespread belief, Japan's acclaimed strategies are not particularly novel or even especially Japanese. Tsutsui traces the roots of these practices to Scientific Management, or Taylorism, an American concept that arrived in Japan at the turn of the century. During subsequent decades, this imported model was embraced--and ultimately transformed--in Japan's industrial workshops. Imitation gave rise to innovation as Japanese managers sought a "revised" Taylorism that combined mechanistic efficiency with respect for the humanity of labor. Tsutsui's groundbreaking study charts Taylorism's Japanese incarnation, from the "efficiency movement" of the 1920s, through Depression-era "rationalization" and wartime mobilization, up to postwar "productivity" drives and quality-control campaigns. Taylorism became more than a management tool; its spread beyond the factory was a potent intellectual template in debates over economic growth, social policy, and political authority in modern Japan. Tsutsui's historical and comparative perspectives reveal the centrality of Japanese Taylorism to ongoing discussions of Japan's government-industry relations and the evolution of Fordist mass production. He compels us to rethink what implications Japanese-style management has for Western industries, as well as the future of Japan itself.

When I was first given the job of managing a small plastics factory back in 1989, I quickly realized that most of the books and teaching on Lean Manufacturing were designed for big companies and were not relevant to my factory. —Tim Mclean The last 25 years has seen Tim lead and assist over 100 small to medium-sized enterprise (SME) manufacturing operations. This experience has now been condensed in to *Grow Your Factory, Grow your Profits: Lean for Small and Medium-Sized Manufacturing Enterprises*, a start-to-finish guide on how to run a successful small and medium-sized manufacturing operation. The book presents case studies, practical examples, illustrations, charts, and pictures from real SME manufacturers to provide straightforward solutions to the issues facing every growing manufacturing business. In the book, Tim McLean explains: How to recruit the right people and design the right organization How to empower those people to take accountability and free yourself up from day to day "fire fighting" How to develop a Lean Plant Layout that will maximize productivity and optimize the use of space How to manage materials in order to slash inventory and shortages How to schedule production in order to cut lead times, cut

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inventory, and delight customers How to get started on a Lean transformation when you lack the resources of a big company The book details how SMEs differ from large organizations and why the approach to improvement must also be different. Covering the complete life cycle of small and medium-sized manufacturers, the book addresses a different SME manufacturing issue in each chapter. This enables readers to tackle issues at their own pace and in their own order of priority. *Grow Your Factory, Grow Your Profits* is essential reading for owners, managers, and operational leaders in the 90 percent of manufacturing enterprises that are small or medium sized.

The definitive history of America's greatest incubator of innovation and the birthplace of some of the 20th century's most influential technologies "Filled with colorful characters and inspiring lessons . . . The Idea Factory explores one of the most critical issues of our time: What causes innovation?" —Walter Isaacson, *The New York Times Book Review* "Compelling . . . Gertner's book offers fascinating evidence for those seeking to understand how a society should best invest its research resources." —*The Wall Street Journal* From its beginnings in the 1920s until its demise in the 1980s, Bell Labs-officially, the research and development wing of AT&T-was the biggest, and arguably the best, laboratory for new ideas in the world. From the transistor to the laser, from digital communications to cellular telephony, it's hard to find an aspect of modern life that hasn't been touched by Bell Labs. In *The Idea Factory*, Jon Gertner traces the origins of some of the twentieth century's most important inventions and delivers a riveting and heretofore untold chapter of American history. At its heart this is a story about the life and work of a small group of brilliant and eccentric men-Mervin Kelly, Bill Shockley, Claude Shannon, John Pierce, and Bill Baker-who spent their careers at Bell Labs. Today, when the drive to invent has become a mantra, Bell Labs offers us a way to enrich our understanding of the challenges and solutions to technological innovation. Here, after all, was where the foundational ideas on the management of innovation were born.

If you're aware of the tremendous improvements achieved in productivity and quality as a result of employee involvement, then you'll appreciate the great value of creating a visual factory. This book explains why conventional work areas, where fragmented information flows from "top to bottom," must be replaced by the "visual workplace," where information flows in every direction. It details how visual management can make the factory a place where workers and supervisors freely communicate so that every employee can take improvement action. The author's year-long worldwide research resulted in an abundance of practical recommendations. The communication techniques he suggests will: Foster cohesion within groups of employees. Turn fault-based into fact based communication. Overcome such problems as absenteeism and high defect rates. Stimulate an unending flow of suggestions from employees. A valuable resource for plant, operations, and human relations managers, this text discusses how successful companies develop meeting and communication areas, communicate work standard production controls such as kanban, and make goals and progress visible. Over 200 diagrams and photos illustrate the numerous visual techniques discussed. If your manufacturing organization is slow and inefficient, it's time to slim down. Here's a proven "weight loss" plan. As project management techniques become ubiquitous in the workplace, more and more people find themselves challenged by

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bureaucracy, unruly team members, and irrational customers. This compelling (and sometime humorous) book follows the day-to-day trials and tribulations of a team working to commercialize an innovative new product. The team faces commonplace issues such as corporate leadership and strategy; impacts on sales and marketing; finance; operations; design; production and the supply chain. Presented in diary format to make for an engaging read, each chapter ends with a lesson on what could have improved the team's performance, focusing on the four "Ps" of project management: processes, people, parts, and phenomena. Sneak a peek in this diary to discover the Good, the Bad and the Utterly Random concerning one of the most essential, unpredictable and unsung responsibilities in business.

If you're a manager of a supply chain operation, or a student learning about supply chain management, this book will provide not only an overview of supply chain management but also a framework for subsequent, more detailed study in various aspects of supply management. This book reviews the evolution of supply chain management concepts and discusses trends in global markets and strategic competitiveness. It then focuses on the major issues involved in managing a competitive supply chain including: forecasting, inventory management, distribution, dealing with uncertainty, reverse logistics, and customer service. Coverage of the dynamic, evolving issues pertaining to supply chains that affect the global business community concludes the book. With this book in hand, you'll be better equipped to conceptualize the management of supply chains as a collection of business processes; identify primary and secondary value chain processes; distinguish between the umbrella term, "supply chain management," and its component functions; and understand the basic tools of forecasting and the need for accurate data and forecasts on which to base supply chain management decisions.

In companies that produce goods and services, productivity and efficiency improvements are a constant challenge. This book reviews the differences between productivity and efficiency. It proposes a new method and makes available a computational tool for implementation that contributes to facilitating the use of Data Envelopment Analysis (DEA). The book presents a discussion about productivity and efficiency, illustrating the potentials of use and conceptual differences. It covers the concepts and techniques for analysis of productivity and efficiency, analyzing critical benefits and limitations, explains in detail how to use DEA for analysis, provides innovative methods for using DEA, offers a free online computer tool with a direction guide, shows real empirical applications, and covers other techniques that can be used to complement the analysis performed. The book is for professionals, managers, consultants, students working and taking courses in productive systems of goods and services. Ancillary materials include a free online computer tool to operationalize the concepts and methods proposed in the book, a guide on how to use the method and the software developed for the DEA application. Solutions manual, instructor's manual, PowerPoint slides, and figure slides also will be available upon qualified adoption.

From the award-winning developers of *Factory Physics*—a powerful leadership guide for breakthrough performance A comprehensive guide that cuts through the hodgepodge of copycat initiatives, overblown buzzwords, confusing mathematics, and misguided software, *Factory Physics for Managers* is a breath of fresh air for operations managers and executives. Written by the

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leaders and experts behind the bestselling *Factory Physics*, it's a brilliant crash course in the practical science of operations designed to help you: Achieve best possible profit, cash flow, and customer service Attain highest return with existing Lean, Six Sigma, and ERP initiatives Manage your capacity, inventory, response time, and variability with high predictability Simplify management of complexity using existing IT systems Use the fundamentals of science to ensure your operation's success See your company and procedures more clearly Improve intuition, decision making, and strategy execution A strategy of imitation is not much of a strategy. Most every company uses the common continuous improvement initiatives. This highly accessible guide addresses but goes beyond other business approaches such as Lean, Six Sigma, and Theory of Constraints by offering a customizable plan that you can apply to any manufacturing-based industry or supply chain. You'll discover invaluable tools for developing operations strategy and driving execution by using practical science to assess your procedures, target problems, and find solutions. You'll learn essential life lessons from the best—and worst—practices of corporate leaders like Toyota and Boeing. You'll find ingenious new ways to improve your leadership by predictively managing the tradeoffs that every operation faces—whether it's more or less inventory or capacity, higher or lower customer service, or more or fewer products. Using this approach, you can tackle these natural conflicts in business through a practical, comprehensive science of operations. *Factory Physics for Managers* makes it easier to choose and execute the best strategy for better productivity—and even bigger profits. Praise for *Factory Physics for Managers* “*Factory Physics for Managers* is a proven path to flawless execution and results. Leading vs. following in our industry is predicated on the relentless pursuit of putting order to chaos. *Factory Physics* science and CSuite software have given our organization the ability to plan, predict, model, and execute based on explosive growth and rapid-fire, dynamic changes to our business model. In our case, history is not a good predictor of the future, so we need to deploy our resources wisely, and the *Factory Physics* approach has helped us do just that.” —Larry Doerr, COO, Stratasys “Shows how the science behind Lean initiatives can greatly improve results in terms of productivity and resources.” —Bill Fierle, Vice President and General Manager, TopWorx, Emerson “Brings powerful, accessible science to operations management. The *Factory Physics* playbook enables me to lead the harnessing of our data more effectively for modeling, planning, control, and feedback. Armed with the concepts, common language, and tools in this book, I can partner with operations' leadership to impact the bottom line.” —Jeffrey Korman, CIO, Hu-Friedy Mfg LLC, Chicago

There are hidden laws at work in every aspect of your business. Understand them, and you can create extraordinary growth. Ignore them, and you run the risk of becoming another statistic. It's become almost cliché: 8 out of every 10 new ventures fail. Of the ones that succeed, how many truly thrive-for the long run? And of those that thrive, how many continually overcome their growth hurdles ... and ultimately scale, with meaning, purpose, and profitability? The answer, sadly, is not many. Author Lex Sisney is on a mission to change that picture. After more than a decade spent leading and coaching high-growth technology companies, Lex discovered that the companies that thrive do so in accordance with 6 Laws - universal principles that govern the success or failure of every individual, team, and organization.

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Comprehensive Introduction to Manufacturing Management text covering the behavior laws at work in factories. Examines operating policies and strategic objectives. Hopp presents the concepts of manufacturing processes and controls within a "physics" or "laws of nature" analogy--a novel approach. There is enough quantitative material for an engineer's course, as well as narrative that a management major can understand and apply.

Our economy and future way of life depend on how well American manufacturing managers adapt to the dynamic, globally competitive landscape and evolve their firms to keep pace. A major challenge is how to structure the firm's environment so that it attains the speed and low cost of high-volume flow lines while retaining the flexibility and customization potential of a low-volume job shop. The book's three parts are organized according to three categories of skills required by managers and engineers: basics, intuition, and synthesis. Part I reviews traditional operations management techniques and identifies the necessary components of the science of manufacturing. Part II presents the core concepts of the book, beginning with the structure of the science of manufacturing and a discussion of the systems approach to problem solving. Other topics include behavioral tendencies of manufacturing plants, push and pull production systems, the human element in operations management, and the relationship between quality and operations. Chapter conclusions include main points and observations framed as manufacturing laws. In Part III, the lessons of Part I and the laws of Part II are applied to address specific manufacturing management issues in detail. The authors compare and contrast common problems, including shop floor control, long-range aggregate planning, workforce planning, and capacity management. A main focus in Part III is to help readers visualize how general concepts in Part II can be applied to specific problems. Written for both engineering and management students, the authors demonstrate the effectiveness of a rule-based and data driven approach to operations planning and control. They advance an organized framework from which to evaluate management practices and develop useful intuition about manufacturing systems[Source : 4e de couv.]

Current hype aside, the Internet of Things will ultimately become as fundamental as the Internet itself, with lots of opportunities and trials along the way. To help you navigate these choppy waters, this practical guide introduces a dedicated methodology for businesses preparing to transition towards IoT-based business models. With a set of best practices based on case study analysis, expert interviews, and the authors' own experience, the Ignite | IoT Methodology outlined in this book delivers actionable guidelines to assist you with IoT strategy management and project execution. You'll also find a detailed case study of a project fully developed with this methodology. This book consists of three parts: Illustrative case studies of selected IoT domains, including smart energy, connected vehicles, manufacturing and supply chain management, and smart cities The Ignite | IoT Methodology for defining IoT strategy, preparing your organization for IoT adoption, and planning and executing IoT projects A detailed case study of the IIC Track & Trace testbed, one of the first projects to be fully developed according to the Ignite | IoT Methodology

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"The decades of experience-based wisdom that Graupp, Steward and Parsons share will set you on a new path to a more joyful organization and the tangible results it will produce." Rich Sheridan, CEO, Menlo Innovations; author of Joy, Inc. and Chief Joy Officer "A fine book by skilled practitioners that integrates Kata and TWI, with Strategy Deployment in pursuit of an integrated management system. Well done, Skip, Brad and Patrick." Pascal Dennis, president, Lean Pathways Inc.; author of Lean Production Simplified, Andy & Me, Andy & Me and the Hospital, Getting the Right Things Done, and The Remedy "In this practical and engaging book, Patrick Graupp, Skip Steward, and Brad Parsons give a concise and extremely clear explanation of what systems thinking looks like in a healthcare setting. And they do so in a way that translates easily to any type of organization. Highly recommended!" Alan Robinson, co-author of Ideas Are Free and The Idea-Driven Organization Despite the vast library of knowledge on Lean tools and models, the majority of Lean implementations fail to sustain themselves over time for lack of a functioning management system. In turn, when organizations try to apply a prescribed, one-size-fits-all, management system they inevitably find that what works for others may not work quite as well in their unique situation. Putting the right pieces in the right places is the prime challenge for every organization and no two successful management systems will, or should, be the same. This book provides and examines core principles that must be in place for an organization to find what an effective management system should constitute for them. It outlines key elements and how they work together as a necessary system to achieve overall success. Based on their extensive experience with organizational development and hands-on leadership in policy deployment, TWI and Kata, the authors describe their own journey in helping organizations discover and develop systems that function like well-designed and smooth-running machines while capturing the humanistic aspects of the foundational skills that emphasize the inherent synergy of the system. Readers will learn to help their own organizations "connect the dots" between the various pieces of Lean methodology and effectively create their own management systems that ultimately fulfil customers' needs and expectations.

If you currently employ knowledge workers who do most of their work on computers or with computers, access the Internet, utilize internal and external databases, use e-mail or other new messaging technology, then this book is for you. Quite simply, this handbook is for any organization with a lot of Web DNA that wishes to cut costs, improve performance, and stay perpetually competitive. It is for change agents or managers within those organizations who work with information and want to leverage the latest crop of tool sets to deliver on the promise of Lean for the modern, information-rich office. ... packed with new ideas ... breaks new ground in so many directions — John Bicheno, Director, Lean Enterprise Research Centre, Cardiff Business School ... excellent ... on several levels teaches us how to visualize the depth of hidden wastes in our complex information flows and the large opportunity for improvement that this suggests. — Keith Russell, PhD, Global Continuous Improvement Leader R&D, AstraZeneca Pharmaceuticals Very interesting view on operational excellence, helpful to readers without a background in this area

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of expertise. — Bert Nordberg, President and CEO. Sony Ericsson Congratulations to all the readers holding this book! ... These Lean ideas must be an integral part of the daily operations of your business. I am going to get each and every one of my management team a copy of this brilliant book at the start for our own Lean journey. — Lennart Käll, CEO, Wasa Kredit It's one thing to develop a concept. It's another to make it sing. This is the hymnal. — Dr. Don V. Steward, CEO Problematics, Professor Emeritus, Sacramento State University, inventor of DSM ... a must read for CIOs everywhere." — Julian Amey, Principal Fellow, Warwick University

Presenting an alternate approach to supply chain management, *Lean Supply Chain Management Essentials: A Framework for Materials Managers* explains why the traditional materials planning environment, typically embodied by an Enterprise Resource Planning (ERP) system, is an ineffective support system for a company that wants to adopt Lean practices. It begins by defining supply chain management basics, including roles, objectives, and responsibilities from a traditional framework. Next, it describes Lean basics and explores the conflicts between Lean and the traditional framework. The book focuses on the materials management aspects of Lean, such as leveling work into the value stream, heijunka scheduling, standard work, and the concept of intervals, including Every Part Every Interval (EPEI). By combining traditional materials management tools, such as Sales and Operations Planning (S&OP), with Lean manufacturing approaches and applying them to different manufacturing environments, the authors clarify the logic behind why you are doing what you're doing with Lean components and how they fit together as a system. Specifically, they explain how to: Determine which leveling strategy to use to smooth production Calculate interval to determine lot sizes in various production environments Apply Lean to purchasing, warehouse, and logistics areas Use your value stream map for green initiatives and risk management Replace capacity planning and shop floor control with visual factory, operator balance charts, EPEI, and plan for every part Illustrating why balancing demand and capacity is better than trying to balance supply and demand, the book includes a definitive chart that matches Lean tools to the planning and control charts that have served as the model for ERP systems. It integrates the principles learned from Toyota's fifty-plus-year journey with Lean principles to provide the up-to-date understanding required to approach the application of Lean to your supply chain with a methodology that allows for experimentation, learning, and continuous improvement.

Score your highest in Operations Management Operations management is an important skill for current and aspiring business leaders to develop and master. It deals with the design and management of products, processes, services, and supply chains. Operations management is a growing field and a required course for most undergraduate business majors and MBA candidates. Now, *Operations Management For Dummies* serves as an extremely resourceful aid for this difficult subject. Tracks to a typical course in operations management or operations strategy, and covers topics such as evaluating and measuring existing systems' performance and efficiency, materials management and product development, using tools like Six Sigma and Lean production, designing new, improved processes, and defining, planning, and controlling costs of projects. Clearly organizes and explains complex topics Serves as a supplement to your Operations Management textbooks Helps you score your highest in your

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Operations Management course Whether your aim is to earn an undergraduate degree in business or an MBA, Operations Management For Dummies is indispensable supplemental reading for your operations management course.

To stay competitive and meet market expectations in a global economy, both domestic and foreign companies must realign their manufacturing processes, make improvements, and increase their manufacturing capabilities. With large numbers of employees working in a network of domestic and foreign facilities, production processes are as varied as the products being produced. Manufacturing managers need a manufacturing plan or strategy that will bring structure to this complex environment. In Manufacturing Strategy: How to Formulate and Implement a Winning Plan, 2nd Edition, John Miltenburg offers a sensible and systematic method to: (1) evaluate domestic and foreign factories and international manufacturing and (2) plan the appropriate manufacturing strategy to be first in the market. Incorporating comments and suggestions from managers who used the first edition of Manufacturing Strategy, John Miltenburg expands and improves on his focus in the areas of: International Manufacturing — where the focus is on a company's international network of factories; Competitive Strategy — where managers must understand the role manufacturing strategy plays in their company's business strategy; and Manufacturing Programs — showing how programs such as quality management, six sigma, agile manufacturing, and supply chain management fit within the manufacturing strategy. Manufacturing Strategy gives managers a common language for dealing with manufacturing problems at both strategic and operational levels. It improves communication between manufacturing managers and those outside manufacturing (who will now have a better understanding of what manufacturing can and cannot do).

“The Business Process Improvement methodology established by Dr. H. James Harrington and his group brings revolutionary improvement not only in quality of products and services, but also in the business processes.” —Professor Yoshio Kondo The Book That Goes Beyond Six Sigma and Lean . . . The Next Evolutionary Step in Business Process Management “Don’t design for Six Sigma—design for maximum performance.” H. James Harrington How would you like to streamline your operations, lower your costs, improve your quality, and increase your profits—all at the same time? It’s not an impossible dream. It’s the next evolutionary breakthrough in process improvement that goes beyond Process Reengineering, TRIZ, Six Sigma, and Lean to deliver actual, quantifiable results. And now it’s yours. Streamlined Process Improvement (SPI) is the powerful new program developed by H. James Harrington. After 40 years of improving processes for IBM, Ernst & Young, the Chinese government, and many other private and governmental organizations, Harrington has become the go-to leader in the field. His revolutionary guide shows you how to: Discover the latest process tools—to make faster, more dramatic improvements using the revolutionary PASIC improvement methodology Use walk-through questionnaires and checklists—to streamline your job, resulting in optimum value to your stakeholders Use the newest methodologies—including simulation modeling, risk analysis, Five Ss, Process Innovation, Information Technology, Lean, and Six Sigma—to take your business to the next level Increase innovation—to drive growth and profits for many years to come Harrington’s groundbreaking system is organized and explained step by step to help you achieve maximum results with a minimum of stress. His simple PASIC approach shows you how to Plan, Analyze, Streamline, Implement,

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and Continuously Improve throughout the entire process. He walks you through the basics of how to analyze each process, how to decide which to focus on first, and how to prepare for organizational change. You'll be surprised by just how quickly you can make things run more efficiently and effectively. With Harrington's proven techniques, you can sell your products and services at a lower price, satisfy your customers, make work more enjoyable for your employees, and still earn greater profits than your competitors. This powerful process guide is the definitive handbook for operations managers, quality consultants, Six Sigma practitioners, knowledge workers, and Lean thinkers for a new generation.

Managers face an infinite range of situations and problems that involve bringing materials and information together to produce and deliver goods and services to customers. In Hopps solid, practical introduction to manufacturing and supply chain dynamics, managers learn how to use the scientific approach to understand why systems behave the way they do as an effective way to deal with almost any scenario they may face. Written in a reader-friendly style, the text includes useful examples from manufacturers as well as service providers, presents the key concepts that underlie the behavior of operations systems in a largely non-mathematical way, contains illustrations and analogies to everyday life, links theory to practice, and reinforces the learning process with end-of-chapter Questions for Thought.

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