The Principles Of Product Development Flow Second Generation Lean Product Development

How do today's most successful tech companies—Amazon, Google, Facebook, Netflix, Tesla—design, develop, and deploy the products that have earned the love of literally billions of people around the world? Perhaps surprisingly, they do it very differently than the vast majority of tech companies. In INSPIRED, technology product management thought leader Marty Cagan provides readers with a master class in how to structure and staff a vibrant and successful product organization, and how to discover and deliver technology products that your customers will love—and that will work for your business. With sections on assembling the right people and skillsets, discovering the right product, embracing an effective yet lightweight process, and creating a strong product culture, readers can take the information they learn and immediately leverage it within their own organizations—dramatically improving their own product efforts. Whether you're an early stage startup working to get to product/market fit, or a growth-stage company working to scale your product organization, or a large, long-established company trying to regain your ability to consistently deliver new value for your customers, INSPIRED will take you and your product organization to a new level of customer engagement, consistent innovation, and business success. Filled with the author's own personal stories—and profiles of some of today's most-successful product managers and technology-powered product companies, including Adobe, Apple, BBC, Google, Microsoft, and Netflix—INSPIRED will show you how to turn up the dial of your own product efforts, creating technology products your customers love. The first edition of INSPIRED, published ten years ago, established itself as the primary reference for technology product managers, and can be found on the shelves of nearly every successful technology product company worldwide. This thoroughly updated second edition shares the same objective of being the most valuable resource for technology product managers, yet it is completely new—sharing the latest practices and techniques of today's most-successful tech product companies, and the men and women behind every great product.

An authoritative guide to new product development for early career engineers and engineering students Managing Technology and Product Development Programmes provides a clear framework and essential guide for understanding how research ideas and new technologies are developed into reliable products which can sold successfully in the private or business marketplace. Drawing on the author's practical experience in a variety of engineering industries, this important book fills a gap in the product development literature. It links back into the engineering processes that drives the actual creation of products and represents the practical realisation of innovation. Comprehensive in scope, the book reviews all elements of new product development. The topics discussed range from the economics of new product development, the quality processes, prototype development, manufacturing processes, determining customer needs, value proposition and testing. Whilst the book is designed with an emphasis on engineered products, the principles can be applied to other fields as well. This important resource: Takes a holistic approach to new product development Links technology and product development to business needs Structures technology and product development from the basic idea to the completed off-the-shelf product Explores the broad range of skills and the technical expertise needed when developing new products Details the various levels of new technologies and products and how to track where they are in the development cycle Written for engineers and students in engineering, as well as a more experienced audience, and for those funding technology development, Managing Technology and Product Development Programmes offers a thorough understanding of the skills and information engineers need in order to successfully convert ideas and technologies into products that are fit for the marketplace.

Innovation is the engine that drives much of what is called success in business and industry. Incorporating the fundamental principles of lean manufacturing and the rules and behaviors of structured innovation into the development process, innovative lean development unleashes the creativity of everyone involved in developing new products, services, or processes; speeds the process; and leads to higher quality. Written by two experts who have successfully made the road by walking it for more than 20 years, Innovative Lean Development: How to Create, Implement and Maintain a Learning Culture Using Fast Learning Cycles focuses on six key areas necessary for dramatic development. It shows you how to — 1. Identify and fill user gaps 2. Use multiple learning cycles 3. Stabilize the development process 4. Capture knowledge 5. Use rapid prototyping 6. Apply lean management principles, including learning cycles and visual boards Applying these principles, the authors have helped development teams cut development time in half and increase speed to market, while delivering award-winning, quality solutions. In this manual, they share those examples while providing a road map that all companies can follow to reach a lean development culture, one where creative thinking and practice converge in ways that lead to innovation, improvement, and success.

Visible knowledge is a tool nearly lost in the West, but it has been used to great effect by Toyota in its 50-year march from noncompetitiveness to its current status as the second largest automobile company in the world. It is key for the 50% growth in market share Toyota plans for this decade despite worldwide overcapacity in the auto business. This book presents the reader with a systematic approach to create, capture, and display knowledge in a way that allows development teams to optimize the design of their products and production processes. Visible knowledge not only applies to knowledge management, but provides a means of collaboration to facilitate better decision-making in the development process. This book has evolved out of a manuscript that Allen Ward, the foremost U.S. expert on lean product development, was writing at the time of his untimely death. It is not intended to be a treatise of Lean product development methods. Quite the opposite—it is focused on one small piece, "visible knowledge." It is, however, one technique that Dantar Oosterwal and Durward Sobek have found to be very effective at Harley-Davidson and other places, and a tool that can make a difference whether used by itself or as a starting point for a larger journey into Lean product development. In completing this work, Oosterwal and Sobek kept the aim true to Allen's original intent. The preface and first three chapters are essentially Allen's original intellectual contribution. They have made editorial changes to improve readability and clarity of explanation. Throughout, they have attempted to preserve Allen's voice in the writing, even keeping the narrative in first person as it was originally written. They have also added a fourth chapter that highlights some practical ways to apply the ideas presented in earlier chapters, illustrated with case examples from their experience.

The ability to bring new and innovative products to market rapidly is the prime critical competence for any successful consumer-driven company. All industries, especially automotive, are slashing product development lead times in the current hyper-competitive marketplace. This book is the first to thoroughly examine and analyze the truly effective product development methodology that has made Toyota the most forward-thinking company in the automotive industry. Winner of the 2007 Shingo Prize For Excellence In Manufacturing Research! In The Toyota Product Development System: Integrating People, Process, and Technology, James Morgan and Jeffrey Liker compare and contrast the world-class product development process of Toyota with that of a U.S. competitor. They use extensive examples from Toyota and the U.S. competitor to demonstrate value stream mapping as an extraordinarily powerful tool for continuous improvement. Through examples and case studies, this book illustrates specific techniques and proven practices for dealing with challenges associated with product development, such as synchronizing multiple disciplines, multiple function workload leveling, compound process variation, effective technology integration, and knowledge management. Readers of this book can focus on optimizing the entire product development value stream rather than focus on a specific tool or technology for local improvements.

Efficient management of product information is vital for manufacturing enterprises in this information age. Considering the proliferation of product information, tight production schedules, and intense market competition, human intelligence alone cannot meet the requirements of efficient product development. Technologies and tools that support information management are urgently needed. This volume

presents the design reuse methodology to support product development. Significant efforts have been made to create an intelligent and optimal design environment by incorporating the contemporary technologies in product family design, artificial intelligence, neural networks, information theories, etc. This volume covers both theoretical topics and implementation strategies, with detailed case studies to help readers gain an insight in areas such as product information modeling, information analysis, engineering optimization, production cost estimation, and product performance evaluation.

Quality Management System Handbook for Product Development Companies describes a systematic approach for quality management and continuous improvement via a formal management system. The approach centers on a high-level process for defining a QMS from essential prerequisites to improvement mechanisms. The book outlines the five major QMS

From near-extinction in the early eighties, Harley-Davidson rose to worldwide recognition and is still today one of the great, iconic American motorcycle brands. In this insider guide, former Harley-Davidson executive Dantar Oosterwal offers an exclusive look at how Harley-Davidson was able to adapt in an ever-changing world to stay on top and stay in existence. In The Lean Machine, readers learn about Harley-Davidson's secret weapon and go-to formula for outstanding success: Knowledge-Based Product Development. Rooted in Japanese productivity improvement techniques, this method helped Harley realize an unprecedented fourfold increase in throughput in half the time--powering annual growth of more than ten percent. Winner of the 2017 Shingo Prize for Literature, The Lean Machine--which is part business journal, part analysis, and part step-by-step toolkit--takes readers through the day-to-day transformation at Harley and identifies universal change and improvement issues so that companies in any industry can incorporate this game-changing system--with predictably excellent results.

Huawei has become China's most prominent multinational company and a leader in the ICT sector. Given unprecedented access to the company, the authors of this book examine the management transformation of Huawei from its inception in 1987 until 2019, observing in detail not only the creation of its organizational routines but also the breaking of routines across most major functional areas: Management, Product Development, HR, Supply Chain, Finance, R&D, Intellectual Property, and International Business. 'Dynamic capabilities' are central to theories of competitive advantage and this book highlights Huawei as an ideal case study for the successful implementation of change routines and change-supporting values. The chapters cover all the major change initiatives the firm has undertaken since 1996 to import best practices from the West, with the help of consultants. The insights presented in the book will be particularly interesting for academics in the field of strategy, management, and business history.

Introduces a realistic approach to leading, managing, and growing your Agile team or organization. Written for current managers and developers moving into management, Appelo shares insights that are grounded in modern complex systems theory, reflecting the intense complexity of modern software development. Recognizes that today's organizations are living, networked systems; that you can't simply let them run themselves; and that management is primarily about people and relationships. Deepens your understanding of how organizations and Agile teams work, and gives you tools to solve your own problems. Identifies the most valuable elements of Agile management, and helps you improve each of them.

Lean Software Development: An Agile Toolkit Adapting agile practices to your development organization Uncovering and eradicating waste throughout the software development lifecycle Practical techniques for every development manager, project manager, and technical leader Lean software development: applying agile principles to your organization In Lean Software Development, Mary and Tom Poppendieck identify seven fundamental "lean" principles, adapt them for the world of software development, and show how they can serve as the foundation for agile development approaches that work. Along the way, they introduce 22 "thinking tools" that can help you customize the right agile practices for any environment. Better, cheaper, faster software development. You can have all three–if you adopt the same lean principles that have already revolutionized manufacturing, logistics and product development. Iterating towards excellence: software development as an exercise in discovery Managing uncertainty: "decide as late as possible" by building change into the system. Compressing the value stream: rapid development, feedback, and improvement Empowering teams and individuals without compromising coordination Software with integrity: promoting coherence, usability, fitness, maintainability, and adaptability How to "see the whole"–even when your developers are scattered across multiple locations and contractors Simply put, Lean Software Development helps you refocus development on value, flow, and people–so you can achieve breakthrough quality, savings, speed, and business alignment.

The revolutionary guide that challenged businesses around the world to stop selling to their buyers and start answering their questions to get results; revised and updated to address new technology, trends, the continuous evolution of the digital consumer, and much more In today's digital age, the traditional sales funnel—marketing at the top, sales in the middle, customer service at the bottom—is no longer effective. To be successful, businesses must obsess over the questions, concerns, and problems their buyers have, and address them as honestly and as thoroughly as possible. Every day, buyers turn to search engines to ask billions of questions. Having the answers they need can attract thousands of potential buyers to your company—but only if your content strategy puts your answers at the top of those search results. It's a simple and powerful equation that produces growth and success: They Ask, You Answer. Using these principles, author Marcus Sheridan led his struggling pool company from the bleak depths of the housing crash of 2008 to become one of the largest pool installers in the United States. Discover how his proven strategy can work for your business and master the principles of inbound and content marketing that have empowered thousands of companies to achieve exceptional growth. They Ask, You Answer is a straightforward guide filled with practical tactics and insights for transforming your marketing strategy. This new edition has been fully revised and updated to reflect the evolution of content marketing and the increasing demands of today's internet-savvy buyers. New chapters explore the impact of technology, conversational marketing, the essential elements every business website should possess, the rise of video, and new stories from companies that have achieved remarkable results with They Ask, You Answer. Upon reading this book, you will know: How to build trust with buyers through content and video. How to turn your web presence into a magnet for qualified buyers. What works and what doesn't through new case studies, featuring real-world results from companies that have embraced these principles. Why you need to think of your business as a media company, instead of relying on more traditional (and ineffective) ways of advertising and marketing. How to achieve buy-in at your company and truly embrace a culture of content and video. How to transform your current customer base into loyal brand advocates for your company. They Ask, You Answer is a must-have resource for companies that want a fresh approach to marketing and sales that is proven to generate more traffic, leads, and sales.

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/yIIJEMJIcyA

About the Second Edition: "... a clear and thorough understanding of how the industry as a whole competes, succeeds, and in some instances fails to bring new products to the marketplace.... delivers helpful information in a concise, organized style, bringing together diverse elements of the food industry that are all important for a new product introduction into the marketplace.... [a] should-have reference book for anyone involved in developing new food products working in or with the food industry." —Journal of Product Innovation Management, Vol. 23, No. 3 See what's new in the Third Edition: Examination of modern marketing techniques such as neuromarketing technology, test market modeling software, and social network marketing Exploration of economic challenges and how to do more with less to combat rising food commodity prices and lower carbon footprint Cohesive overview of all aspects of new food product development technologies and advances In-depth review of techniques of new product development and simulated test markets Expanded discussion of the problems specific to product development for the food service industry With new material highlighting the latest trends and science in marketing and electronic communication and their combined effect on market research, New Food Product Development: From Concept to Marketplace, Third Edition, describes stages of development in detail, beginning with sources of ideas and moving through development, final screening, and introduction into the marketplace. Drawing on his extensive experience in new food product development, the author outlines ways a company can organize for new product development and optimize available resources. He focuses on the roles, functions, and interactions of the members of the food product development team, other company departments, and outside resources in the food product development process. A well-grounded, broad perspective in the fundamentals of the new food development process in industry, this new edition of a bestseller clearly delineates cost-effective best practices for bringing new products to market.

Pharmaceutical manufacturers are constantly facing quality crises of drug products, leading to an escalating number of product recalls and rejects. Due to the involvement of multiple factors, the goal of achieving consistent product quality is always a great challenge for pharmaceutical scientists. This volume addresses this challenge by using the Quality by Design (QbD) concept, which was instituted to focus on the systematic development of drug products with predefined objectives to provide enhanced product and process understanding. This volume presents and discusses the vital precepts underlying the efficient, effective, and cost effective development of pharmaceutical drug products. It focuses on the adoption of systematic quality principles of pharmaceutical development, which is imperative in achieving continuous improvement in end-product quality and also leads to reducing cost, time, and effort, while meeting regulatory requirements. The volume covers the important new advances in the development of solid oral dosage forms, modified release oral dosage forms, parenteral dosage forms, semisolid dosage forms, transdermal drug, delivery systems, inhalational dosage forms, ocular drug delivery systems, nanopharmaceutical products, and nanoparticles for oral delivery.

Web designers are no longer just web designers. To create a successful web product that's as large as Etsy, Facebook, Twitter, or Pinterest–or even as small as a tiny app–you need to know more than just HTML and CSS. You need to understand how to create meaningful online experiences so that users want to come back again and again. In other words, you have to stop thinking like a web designer or a visual designer or a UX designer or an interaction designer and start thinking like a product designer. In this breakthrough introduction to modern product design, Etsy Creative Director Randy Hunt explains the skills, processes, types of tools, and recommended workflows for creating world-class web products. After reading this book, you'll have a complete understanding of what product design really is and you'll be equipped with the best practices necessary for building your own successful online products.

This book explores the evolution of products from the beginning idea through mass-production. Rather than prescribing a one-size-fits-all process, the authors explain the theory behind product development and challenge readers to develop their own customized development process uniquely suited for their individual situation. In addition to theory, the book provides development case studies, exercises and self-evaluation criteria at the end of each chapter, and a product development reference that introduces a wide variety of design tools and methods. Class-tested for three consecutive years by hundreds of students in four different courses, the book is an ideal text for senior design classes in mechanical engineering and related disciplines as well as a reference for practicing engineers/product designers.

Looking to become a product manager and launch your product career? Get best practices on leading without authority, building products, and acing your PM interviews that I learned on the job at Amazon, Facebook, and other leading technology companies. Updated for 2020, Principles of Product Management is a hands-on, practical guide for new and aspiring product managers. The book has three parts: Principles: Part one covers the leadership principles that PMs use to lead their team to overcome adversity. When your product fails to gain traction, when your team falls apart, or when your manager gives you tough feedback-these are all opportunities to learn principles that will help you succeed. Product development: Part two covers how PMs at Facebook, Amazon, and other top companies build products. We'll walk through the end-to-end product development process- from understanding the customer problem to identifying the right product to build to executing with your team to bring the product to market. Getting the job: Part three covers how you can land a PM job and reach the interview stage at the right company. We'll prep you for the three most common types of PM interviews- product sense, execution, and behavioral-with detailed frameworks and examples for each. Hear directly from product leaders at Airbnb, Amazon, Google, and more on: How to overcome challenging situations from a VP of Product at Amazon. How to build a great product roadmap from product leaders at LinkedIn and Airbnb. How Google, Airbnb, and other top companies evaluate PM candidates from leaders at those companies. How

PMs can grow their career from a Director at Instagram and Twitter. Table of Contents 1. Principles Take Ownership Prioritize and Execute Start with Why Find the Truth Be Radically Transparent Be Honest with Yourself 2. Product Development Product Development Loop Understanding the Customer Problem Selecting a Goal Metric Mission, Vision, and Strategy Building a Product Roadmap Defining Product Requirements Great Project Management Effective Communication Making Good Decisions 3. Getting the Job Preparing for the Transition Making the Transition Finding the Right Company Acing your PM Interviews Product Sense Interview Execution Interview Behavioral Interview Your First 30 Days 4. Product Leader Interviews

Although many companies have introduced product innovation processes, they are still struggling to achieve the financial results they expected. This book shows how to properly balance the need for speed with the drive for profitability. It demonstrates how to maximize the value of a new product portfolio, how to streamline the product innovation process, and how to achieve growth that is both profitable and sustainable. New product success is not simply about developing new products that sell; it's about getting them to market quickly with the lowest cost and the highest return. Dr. Robert G. Cooper and Dr. Scott J. Edgett use their latest research and draw upon their combined 60 years of experience in the field to show you what the companies that continuously win at new products are doing. Top performers have discovered how to properly balance the need for speed with profitability. With a new process they call NexGen(TM) Stage-Gate(R), Dr. Cooper and Dr. Edgett show precisely how you can ensure that your innovation is not only lean and rapid but profitable as well. For more information, visit: www.stage-gate.com

Outlines a revisionist approach to management while arguing against common perceptions about the inevitability of startup failures, explaining the importance of providing genuinely needed products and services as well as organizing a business that can adapt to continuous customer feedback.

This is the first book that comprehensively describes the underlying principles that create flow in product development processes. It covers 175 principles organized into eight major areas. It is of interest to managers and technical professionals responsible for product development processes.

This book is designed to provide the body of knowledge (BoK) required by candidates studying for PDMA's New Product Development Professional certification examination. The guide is divided into seven chapters, consistent with the seven topics used as a basis for the NPDP examination. These are: 1. Strategy 2. Portfolio management 3. New products process 4. Culture, organization, and teams 5. Tools and metrics 6. Market research 7. Life cycle management These chapters will cover the fundamental principles of product development and product management, which can be applied to a wide range of product and service industries. The information is intended to provide the basis for ongoing learning and continuous improvement, both in the individual and their organization. Clearly, there is a wide variation across industries. The type of products or services, the markets, organization size, and structure all contribute to differences in the approach to product development and product management. It is not possible to address the full range of specific practices and processes used in all industries. Instead, this book focuses on the fundamental principles that underpin successful product development and product management across a broad range of industries and individual organizations. Throughout the book we endeavor to provide relevant examples of the specific ways in which these fundamental principles are applied to a range of product and service situations. The material provided as the basis for the NPDP certification can be applied to the full range of product development projects included in most company portfolios: - New-to-the-company products or services - Line extensions - Cost reductions - Product or service improvements - features, functionality, aesthetics Throughout each chapter we have provided self-learning exercises. These are intended to encourage the reader to relate the specific material covered in that chapter to their own organization and personal experiences. These exercises are optional and are not a required component for successful certification.

The missing manual on how to apply Lean Startup to build products that customers love The Lean Product Playbook is a practical guide to building products that customers love. Whether you work at a startup or a large, established company, we all know that building great products is hard. Most new products fail. This book helps improve your chances of building successful products through clear, step-by-step guidance and advice. The Lean Startup movement has contributed new and valuable ideas about product development and has generated lots of excitement. However, many companies have yet to successfully adopt Lean thinking. Despite their enthusiasm and familiarity with the high-level concepts, many teams run into challenges trying to adopt Lean because they feel like they lack specific guidance on what exactly they should be doing. If you are interested in Lean Startup principles and want to apply them to develop winning products, this book is for you. This book describes the Lean Product Process: a repeatable, easy-to-follow methodology for iterating your way to product-market fit. It walks you through how to: Determine your target customers Identify underserved customer needs Create a winning product strategy Decide on your Minimum Viable Product (MVP) Design your MVP prototype Test your MVP with customers Iterate rapidly to achieve product-market fit This book was written by entrepreneur and Lean product expert Dan Olsen whose experience spans product management, UX design, coding, analytics, and marketing across a variety of products. As a hands-on consultant, he refined and applied the advice in this book as he helped many companies improve their product process and build great products. His clients include Facebook, Box, Hightail, Epocrates, and Medallia. Entrepreneurs, executives, product managers, designers, developers, marketers, analysts and anyone who is passionate about building great products will find The Lean Product Playbook an indispensable, hands-on resource.

Explaining how to use Lean principles to drive innovation and strategic portfolio planning, The Innovative Lean Enterprise: Using the Principles of Lean to Create and Deliver Innovation to Customers outlines simple, yet powerful, visual Lean tools that can enhance idea generation and product development. It starts with a discussion of Lean principles and then identifies the applicable portions of Lean that can drive customer value. The book discusses customer value in the form of the benefits your customers desire. It walks you through the processes of using Lean techniques to effectively evaluate the quality of any prospective marketing opportunity and includes examples from a variety of industries, including healthcare. The text discusses value creation, reduction of waste, entrepreneurial system designer, set-based concurrent engineering, and Lean project management. It also includes numerous examples of visual management tools as they apply to innovation to help you develop the understanding required to achieve a competitive advantage for your brand, division, or company through Lean.

In the digital economy, businesses need to adapt quickly to satisfy customers' constant demands for new and updated products. But too many organizations are held back by antiquated IT mindsets that separate developmental groups from the rest of the team. To stay ahead of the competition, you need to embrace enterprise-wide thinking that gets everyone--from engineering to the C-suite--on the same page and speaking the same language. The Product Mindset approaches product development from a bold, new direction, based on a shared internal outlook that drives focus, speed, experimentation, and innovation from a wide variety of stakeholders. David DeWolf and Jessica Hall provide you with all the tools you'll need to revitalize your company's methodologies, reframe its culture, and help your company thrive in the digital marketplace. If your business is shackled to an IT mindset, break free from the past and discover the fast track to future success.

The Principles of Product Development FlowSecond Generation Lean Product DevelopmentCeleritas Pub

Explains the basics of food technology and new product development from initial planning through formulation, market research, manufacturing and product launchCarefully outlined test protocols plus quantified sensory, financial and feasibility analysisRecaps key technical concepts across the entire food science curriculum Developed as a comprehensive guide to how food products are planned, budgeted, manufactured and launched, this original textbook forms a cohesive introduction to all phases of food product development. A unique feature of the book is that it reviews the main concepts of food chemistry, ingredient functionality, additives, processing, quality control, safety, package labeling and more-—virtually the entire food technology curriculum. With this specialized information as context, the book spells out the procedures needed to formulate, cost-justify and test market safe and profitable new products that meet regulatory guidelines and consumer expectations. The technical exposition is highlighted by case studies of novel food items introduced by U.S. companies. Syllabus-ready and furnished with back-of-chapter questions and projects, the volume is highly suited for university courses, including the capstone, as well as in-house and team training short courses in industry.

The discovery of market needs and the manufacture of a product to meet those needs are integral parts of the same process. Since most textbooks on new product development are written from either a marketing or an engineering perspective, it is important for students to encounter these two aspects of product development together in a single text. Product Design: Practical Methods for the Systematic Development of New Products covers the entire new product development process, from market research through concept design, embodiment design, design for manufacture, and product launch. Systematic and practical in its approach, the text offers both a structured management framework for product development and an extensive range of specific design methods. Chapters feature "Design Toolkits" that provide detailed guidance on systematic design methods, present examples with familiar products, and conclude with reviews of key concepts. This major text aims to turn the often haphazard and unstructured product design process into a quality-controlled, streamlined, and manageable procedure. It is ideal for students of engineering, design, and technology on their path to designing new products.

As competition in the manufacturing sector intensifies, excellence in new product development has become a mandate. Renowned author, educator, and lean product development expert Ron Mascitelli takes the reader through his Event-Driven Lean Product Development process, from its beginnings in innovation, effective problem-solving, knowledge creation, and organizational learning, through to the rapid commercialization of highly successful products. This proven and practical approach balances all aspects of market success: customer value, profitability, time-to-market, and quality. Specific topics covered in this Event-Driven Lean Product Development framework include: - Selecting and prioritizing new product opportunities that have a high probability of market success.- Optimizing the productivity of finite development resources, and arbitrating resource conflicts in a multi-project environment.- Implementation of a practical, flexible, event-driven process that ensures the highest degree of cross-functional collaboration at every stage in new product development.- Managing the day-to-day efforts of developers and project teams through Visual Workflow Management.- Capturing the voice-of-the-customer in every new product by systematically identifying and ranking differentiation opportunities.- Building a realistic project schedule that is created and owned by the developers themselves.- Proactively identifying project risks and mitigating them through systematic (A3) problem-solving.- Employing rapid cycles of learning and set-based design to close knowledge gaps and build a foundation of high-value knowledge for future projects.- Implementing the Production Process Preparation (3P) methodology to maximize the manufacturability and quality of each new product. Mastering Lean Product Development represents the definitive roadmap to achieving breakthroughs in speed, efficiency, and customer value for any firm engaged in new product development.

There are many publications on PRINCE2. Most of these publications describe the theory of PRINCE2. This book however deals with a practical approach for formal reports: how it can be achieved that PRINCE2 works better in practice? The existing PRINCE2 report templates cannot be used easily. Of course the process approach in PRINCE2 remains viable, but in this book the PRINCE2 documents are the key. The reader gets a practical help for implementing PRINCE2. This helps project managers and project executives to manage and control in an efficient manner.

Shows you what it takes to develop products that blow your users away—and take market share from your competitors. This book will explain how the principles behind agile product development help designers, developers, architects, and product managers create awesome products; and how to look beyond a shiny user interface to build a great product. Most importantly, this book will give you a shared framework for your product development team to collaborate effectively. Product development involves several key activities—including ideation, discovery, design, development, and delivery—and yet too many companies and innovators focus on just a few of them much to the detriment of the product's success in the marketplace. As a result we still continue to see high failure rates in new product development, be it inside organizations or startups. Unfortunately, or rather fortunately, these failures are largely avoidable. In the last fifteen years, advances in agile software development, lean product development, human-centered design, design thinking, lean startups and product delivery have helped improve individual aspects of product development. However, not enough guidance has been available to integrate them in the context of the product development life cycle. Until now. Product developer extraordinaire Tathagat Varma in Agile Product Development integrates individual knowledge areas into a fiel d manual for product developers. Organized in the way an idea germinates, sprouts, and grows, the book synthesizes the body of knowledge in a pragmatic way that is more natural to the entire product creation process rather than from individual practices that constitute it. In today's hyper-innovative world, being first to the market, or delivering feature-loaded products, or even offering the latest technology doesn't guarantee success anymore. Sure, those elements are all needed in the right measures, but they are not sufficient by themselves. And getting it right couldn't be more important: Building products that deliver awesome user experiences is the top

challenge facing businesses today, especially in a post-Apple world where user experience and design has been elevated to a cult status.

Here is the first comprehensive approach to managing design-in-process inventory from the bestselling author of "Developing Products in Half the Time". Donald Reinertsen reveals a transparent system for tracking, measuring, and managing invisible "design-in-process" inventory to achieve lower costs, higher profits, and better processes. 20 line drawings.

It's no secret that some of the most successful companies, such as 3M, Procter & Gamble, Microsoft, and Mercedes-Benz, are also known for their new product development strategies. Creating and Marketing New Products and Services teaches the key business and marketing principles needed to successfully design and launch new products and services in today's global market. It begins by providing the foundation required to understand the role of new product development in the innovating organization. The book emphasizes marketing research techniques that can help firms identify the voice of the customer and incorporate these findings into their new product development process. It addresses the role of sustainability in innovation, open innovation strategies, and international co-development efforts of new products and services. Explaining how to manage the development and marketing of new products and services, this book will teach you how to: Select a new product strategy that matches the needs of your organization Set up a disciplined process for new product development Define target market opportunities and search out high potential ideas Understand customer needs, structure them, and prioritize the needs to clearly define the benefits and values that your product will deliver Integrate marketing, engineering, R&D, and production resources to design a high-quality product that satisfies customer needs and delivers value Forecast sales before market launch based on testing of the product and the marketing plan The concepts discussed in the book can help to boost innovation and improve the performance of any type of organization. Some of the concepts presented are generic and others must be modified for each application. Together, they can lead to greater profitability and reduced risk in the new product development activities within your organization.

As tech giants and startups disrupt every market, those who master large-scale software delivery will define the economic landscape of the 21st century, just as the masters of mass production defined the landscape in the 20th. Unfortunately, business and technology leaders are woefully ill-equipped to solve the problems posed by digital transformation. At the current rate of disruption, half of S&P 500 companies will be replaced in the next ten years. A new approach is needed. In Project to Product, Value Stream Network pioneer and technology business leader Dr. Mik Kersten introduces the Flow Framework—a new way of seeing, measuring, and managing software delivery. The Flow Framework will enable your company's evolution from project-oriented dinosaur to product-centric innovator that thrives in the Age of Software. If you're driving your organization's transformation at any level, this is the book for you.

An increasingly important feature across the technical textile industry is to produce textiles faster and to have more effective new product development (NPD). New product development in textiles: Innovation and production not only provides a fascinating overview of how products are launched, but is also a source of practical guidance for developing textile products successfully. Part one provides a general overview of innovation and textile product development that introduces the reader to the principles of developing and defining new products. Part two goes on to discuss a collection of international studies from across the textile industry. Chapters describe actual new product development projects, identifying the problems that were faced and what can be learnt from these projects, such as customer co-creation and methods for reducing the risk in NPD. Topics range from technical textiles and apparel to the end uses of textiles used within the automotive and packaging industries. With its distinguished editor and international team of expert contributors New product development in textiles: Innovation and production is an essential guide for academics and textile development professionals worldwide, in sectors ranging from design, production and marketing through to management. Provides a fascinating overview of how products are launched A source of practical guidance for developing textile products successfully Covers topics from technical textiles and apparel to the end uses of textiles used within the automotive and packaging industries

Diploma Thesis from the year 1999 in the subject Engineering - Mechanical Engineering, grade: 1, Massachusetts Institute of Technology, language: English, abstract: The following thesis elucidates the impact of the product design and the product development process on the design of a manufacturing system. In contrast to integrate constraints and restrictions of the manufacturing system and its processes into the initial design of a product, attributes and characteristics of the product design are analyzed by the way they influence and restrict the design of a manufacturing system. The upcoming hypothesis of this thesis claims latter approach to be the natural and logical one. A sophisticated design theory known as Axiomatic Design [Suh 1990] is used to embed the design of a manufacturing system into the design of the product and the product development system. The generic derivation of such an integrated design framework will allow a broad application to manufacturing and product development system design. The following paragraph outlines the background and the issues related to the motivation for this thesis. In the next step, the thesis objectives and hypothesis are stated, marking the scope and content of this academic discussion. Finally, a brief overview is provided about the content and structure of each chapter.

With over 50% new content, this update of industry classic "Developing Products in Half the Time" reveals how engineers and manufacturing, design, and marketing managers can dramatically accelerate product development projects--from packaged goods to medical electronics--while simultaneously improving quality.

Product development, from refining an established product range to developing completely new products, is the lifeblood of the food industry. It is, however, a process fraught with risk, often ending in failure. What are the keys to making the process a success? Based on a wealth of experience gathered over 40 years, Food Product Development provides the answers. After an introductory chapter, the first half of the book considers the four core elements of product development: the overall business strategy which directs product development, the various steps in the product development process itself, the knowledge required to fuel the process and, last but not least, keeping product development focused on consumer needs and aspirations. The second part of the book looks at managing the product development process in practice with four case studies of successful product launches. It also discusses how to evaluate and improve the process to make future product innovation more successful. Filled with examples and practical suggestions, and written by a distinguished team with unrivalled academic and industry expertise, Food Product Development will be an essential guide for R & D and product development staff, and all managers concerned with this key issue throughout the food industry. Mary D.

Earle and Richard L. Earle are both Professors Emeritus in Massey University, New Zealand. Mary Earle is a pioneer in product development research, and both she and her husband have worked with industry on numerous product development projects. Allan M. Anderson is Chief Executive of the New Zealand Dairy Research Institute, the central R & D organisation for the New Zealand dairy industry, and has extensive experience of managing successful product development projects.

Product development teams today face an increasingly complex set of ethical problems. How do we protect user privacy? With whom should we partner? Who do we welcome into our online communities? How do we ensure online fairness? How do we keep our users safe? Too often, the first time we consider questions like these is after a complaint in the market--a painful and expensive starting point. At that point, all we can do is react. Instead, it's possible to take a pro-active approach, baking an ethical framework into our product development process. This book is a how-to guide that shows product leaders how to construct and apply a product code of ethics, to roll out the best possible solution, stay above the legal low bar and work with their extended team, including their customers, to raise and meet a higher bar. "Companies are beginning to understand why innovation must be practiced responsibly. What leaders need now is the 'how': actionable, expert advice on embedding ethical practices directly into the product development process. This book is a great place to start." Cennydd Bowles, Designer - Futurist - Director, NowNext - the ethical design and futures studio

"The P-51 Mustang—perhaps the finest piston engine fighter ever built—was designed and put into flight in just a few months. Specifications were finalized on March 15, 1940; the airfoil prototype was complete on September 9; and the aircraft made its maiden flight on October 26. Now that is a lean development process!" —Allen Ward and Durward Sobek, commenting on the development of the P-51 Mustang and its exemplary use of trade-off curves. Shingo Research and Professional Publication Award recipient, 2008 Despite attempts to interpret and apply lean product development techniques, companies still struggle with design quality problems, long lead times, and high development costs. To be successful, lean product development must go beyond techniques, technologies, conventional concurrent engineering methods, standardized engineering work, and heavyweight project managers. Allen Ward showed the way. In a truly groundbreaking first edition of Lean Product and Process Development, Ward delivered -- with passion and penetrating insights that cannot be found elsewhere -- a comprehensive view of lean principles for developing and sustaining product and process development. In the second edition, Durward Sobek, professor of Mechanical and Industrial Engineering at Montana State University—and one of Ward's premier students—edits and reorganizes the original text to make it more accessible and actionable. This new edition builds on the first one by: Adding five in-depth and inspiring case studies. Including insightful new examples and illustrations. Updating concepts and tools based on recent developments in product development. Expanding the discussion around the critical concept of set-based concurrent engineering. Adding a more detailed table of contents and an index to make the book more accessible and user-friendly. The True Purpose of Product Development Ward's core thesis is that the very aim of the product development process is to create profitable operational value streams, and that the key to doing so predictably, efficiently, and effectively is to create useable knowledge. Creating useable knowledge requires learning, so Ward also creates a basic learning model for development. But Ward not only describes the technical tools needed to make lean product and process development actually work. He also delineates the management system, management behaviors, and mental models needed. In this breakthrough text, Ward: Asks fundamental questions about the purpose and "value added" in product development so you gain a crystal clear understanding of essential issues. Shows you how to find the most common forms of "knowledge waste" that plagues product development. Identifies four "cornerstones" of lean product development gleaned from the practices of successful companies like Toyota and its partners, and explains how they differ from conventional practices. Gives you specific, practical recommendations for establishing your own lean development processes. Melds observations of effective teamwork from his military background, engineering fundamentals from his education and personal experience, design methodology from his research, and theories about management and learning from his study of history and experiences with customers. Changes your thinking forever about product development.