Book Reviews

Kaizen Kanban: A Visual Approach to Create Prioritized Project Pipelines. 2016. Fabrice Bouchereau. Milwaukee, WI: ASQ Quality Press. 144 pages.

This book explains how to create a visual system (kanban) that shows which process improvement projects (kaizen) a team should tackle next. The book is straightforward, easy to read, and focused on creation of the visual project management system. The author provides clear instructions on how to create such a system without getting into a discussion of process improvement methodologies or how to convince leadership that this is an appropriate use of resources. For the book to have the greatest benefit, the reader should have a multitude of improvement opportunities and be at the point of needing to determine which ones should be tackled.

Part I accounts for nearly three quarters of the book. Using a case study approach, the author explains how a change agent can use common tools and techniques to help an organization prioritize opportunities for process improvement. The case study approach provides the reader with a scenario, problems, and personalities that are relatable and familiar. There are plenty of opportunities for improvement, but individuals have different priorities that align with their specific areas of responsibility, and functional responsibilities are unclear. The company is struggling to remain competitive in a shifting marketplace.

Before launching into the actual project, the author dedicates a chapter to the topic of prework, which is an often overlooked but critically important task. Quality professionals are often tasked with facilitating improvement efforts throughout an organization. The prework chapter provides good advice on how to prepare for the first team meeting by drafting a charter, walking the process, developing an agenda, and selecting a team. This chapter offers useful advice not only for preparing to lead a process improvement team, but also for any situation where the reader may be unfamiliar with the details of a certain process, facility, or organization and needs to quickly acclimate.

Once the case study is described, the author uses the story to lead the reader through the entire problem-solving process, working through individual tools or techniques in sequence. Each chapter focuses on a single topic, resulting in concise chapters that provide step-by-step "how to" instructions, including definitions of key terms accompanied by numerous figures. Many of the figures are grouped together in series, illustrating how the tool would look as it is used by a team and accompanied by text explaining the process in detail. This design results in a book that will guide the reader through the entire process of creating a project prioritization pipeline; it also enables the reader to easily refer to a single chapter as a "how to" reference for a specific tool or technique. This structure makes this book a useful reference for early-career quality professionals who may not yet be familiar with some of the techniques, as well as more seasoned professionals who may not routinely use specific tools and need a quick review.

Part II of *Kaizen Kanban* is dedicated to facilitation. Similar to part I, this section provides practical advice and basic information that can help facilitators avoid, minimize, or be prepared to address some of the most common pitfalls associated with team projects. Even if the reader has considerable team experience, there is still value in revisiting these topics, and it is important to remember that the "soft skills" associated with facilitation often play a significant role in the success of a team effort. The author offers sound advice that will be useful to anyone stepping into the position of facilitator, particularly those who are new to that role.

While *Kaizen Kanban* is a quick read, it's full of lots of information and would be a good reference text, particularly for those new to the profession. Experienced

professionals and organizational leaders would also benefit from reading this book and could use it to consider the value of implementing a visual kaizen kanban board. The concept of creating a visual system that tells improvement teams which projects are pre-approved and what to work on next is a logical next step for organizations that do not yet have this capability.

Reviewed by
Rebecca Simmons

The Code Economy: A Forty-Thousand Year History. 2017. Philip E. Auerswald. New York, NY: Oxford University Press. 304 pages.

Are humans doomed? Will computer code replace humans in the future economy? Should humans worry that they will become irrelevant? The reassuring answer, according to economist Philip Auerswald in his newest book *The Code Economy*, is "no, not likely." Auerswald takes a fresh look at questions similar to those posed by Erik Brynjolfsson and Andrew McAfee in their 2014 book, *The Second Machine Age* (reviewed in *Quality Management Journal* in January 2016). While many of the conclusions Auerswald reaches echo those of Brynjolfsson and McAfee, he takes a very different and much broader path to get there, and arrives at a conclusion that paints a more holistic picture of what it means to be human.

The Code Economy's key observation: replace the word "code" with the word "recipe" and it becomes possible to fit today's disruptive innovations into the puzzle of all of history's other innovations. Beginning 40,000 years ago, the story of code is traced from counting and agriculture, all the way to artificial intelligence. Auerswald builds a framework that logically and coherently captures the evolution of economic theory as it co-evolves with the recipes, or code, that drive human production. He seeks to bring balance to an economics that has been overly focused on consumption and consumer choice by illuminating the technology and drive to create that underlies the human quest for meaning.

Auerswald is not a starry-eyed utopian—he pragmatically addresses the growing problem of the increasingly unequal distribution of wealth in society. Readers will gain an understanding of his application of the concept of "sequential bifurcation" to economics. They will also see how *The Code Economy* echoes the recent work in psychology, sociology, management, education, and other fields that increasingly focus on how the need to find meaning and purpose in life underlies the drive to do everything.

Reviewed by
Morgan C. Benton

Risk-Based, Management-Led, Audit-Driven Safety Management Systems. 2016. Ron C. McKinnon. Boca Raton, FL: CRC Press. 233 pages.

Every minute, two people die as a result of work-related accidents, injuries, or diseases. Safety management systems (SMS), which "control all forms of accidental loss by identifying, analyzing, and reducing risks," can mitigate these forms of loss. In addition, SMS can reduce damage to equipment and property, limit harm to the environment, and protect against "hidden costs" like those due to poor quality. As a result, most quality managers will encounter SMS in their work, but it can be difficult to find a resource that covers standards, hazard analysis, audit, inspection, and implementation. This reference covers that gap well.

In this book, McKinnon summarizes tips and lessons learned from more than four decades as a senior and executive-level manager responsible for implementing and operating SMS. The first six chapters provide conceptual information explaining how SMS can be organized at a high level, including plan-do-check-act (PDCA), ISSMEC, the NOSA five-star system, and the British Safety Council five-star audit system. Pages 72–75 present a "requirements document" of sorts, articulating essential needs for an SMS, including defining objectives, presenting key definitions, and ensuring that responsibility, authority, and accountability are well defined.

Starting in chapter 7 (Safety Leadership and Organization – Part 1), an example SMS with five parts and 84 subelements is presented. It is used as a unifying principle for the recommendations in

chapters 7–13. These sections cover electrical, mechanical, and personal safeguarding; emergency preparedness, fire prevention, and protection; and accident and near-miss incident recording and investigation.

What this book lacks in organization it makes up for in comprehensiveness and conciseness. Readers can turn to any page and uncover at least one nugget of insight that yields an "aha" moment. For these reasons, McKinnon's book should be of interest to quality managers at all levels and to engineers who are moving into the role of safety manager. It can be used as a template to guide the initiation of a new SMS, as a reference to use as the basis for gap analysis of an existing SMS, or to provide new ideas for how to organize SMS and measure safety performance.

Reviewed by
Nicole M. Radziwill

Introduction to SolidWorks: A Comprehensive Guide with Applications in 3D Printing. 2016. Godfrey C. Onwubolu. Boca Raton, FL: CRC Press. 1,165 pages.

The technique of solid modeling in computer-aided design (CAD) is becoming a more central skill for quality professionals involved in business, design, and engineering. Business analysts may need to reference dimensions and tolerances on drawings and assemblies, either in-house or from suppliers, to ensure quality requirements are being met. Designers may need to prototype products or portions of products, and generate artifacts using 3D printing. Engineers at all levels may require more finely tuned skills in engineering design, including power integration, CAM design, and working with special materials like sheet metal.

SolidWorks is one enterprise-class commercial package that is available for solid modeling to support professionals at all levels, from novice to advanced. (Other packages in this class include AutoCAD, Autodesk Fusion 360, SketchUp, Inventor, and Wolfram's Mathematica, among others.) The purpose of this review is not to advocate SolidWorks as a software package, but rather to assess the value of this book for readers who already use or are considering using the tool in their organizations. The book's stated goal is to be a resource for users at all levels.

The book consists of four sections and is organized according to skill level: Introductory Engineering Design, Intermediate Engineering Design, Advanced Engineering Design, and Introductory 3D Printing. The first section provides step-by-step instructions for creating parts and assemblies. The second section covers custom surfaces and boundaries, gears, animation, and rendering. The third (and most advanced) section addresses mold design, design for sheet metal, routings, power transmission elements, CAMs, dies, and threads. There is an excellent chapter on geometric dimensioning and tolerancing, with exercises that are ideal for a course where lab equipment is not readily available. The final section, which presumes only a low intermediate skill level, discusses additive manufacturing in the context of design for assembly and prepares the reader to use this software to generate models for 3D printing.

Early chapters do not presume a background in engineering design, solid modeling, or SolidWorks. One strength of this book is that theoretical concepts are addressed whenever relevant; for example, when the software calculates the volume of a part, the integral calculus solution is provided for comparison. This makes the book particularly useful as an educational tool for students at the community college or undergraduate levels or for people in vocational training programs. Overall, this book is strong, practical, eminently readable, and demonstrably achieves its goals. This comprehensive SolidWorks reference manual may be the only book one needs on the subject.

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Nicole M. Radziwill