Safety and Security
Exploring supply chain risk and the foundations of work

Supply Chain Security: International Practices and Innovations in Moving Goods Safely and Efficiently
Edited by Andrew R. Thomas
Published in 2010
Praeger
476 pages

Terrorists, criminals, and pirates are just some of the security threats faced by supply chains today. This two-volume set provides a number of different perspectives on supply chain security issues and grounds the reader in realities faced by every manufacturing organization. The book discusses in detail the underground economy of stolen goods—those that “fell off the truck”—as well as other, deeply criminal activities, including drug smuggling and human trafficking.

Topics include aviation security, the identification of possible terrorist targets, and mobilizing a workforce after an emergency. The set opens with a provocative examination of criminal behavior as it relates to supply chain theft: “Given an opportunity, most people will steal something at some point in their lives. It could be from their employer, a business, or even a friend or neighbor. As abhorrent and cynical as it may sound, theft is a condition of life to which we seemingly have adapted.” While the book doesn’t get any rosier from here, it has made its point. Theft, terrorism, and criminal behavior are a reality, and the best forms of prevention are acknowledgement and preparation. As the author states, “Cargo, cash, and data do not disappear on their own.”

The first volume focuses on exploring the historical context and current operating environments where supply chain security is essential. This includes a look at transportation outlets, the criminal mind-set, and complexities of risks. The second volume changes focus to emerging issues, including concrete steps for organizations and governments to counter the inherent risks in moving goods and people safely and efficiently.

Supply Chain Security is written from a global perspective, with authors contributing from several different countries. This provides valuable insights across the entire topic. The issues faced by one country are—not surprisingly—similar to those faced by other countries, especially as supply chains reach across the world.

Perhaps you do not think supply chain security is an issue you need to deal with. Perhaps you think it is someone else’s responsibility. However, the reality is that security is everyone’s concern. Consider purchasing this two-volume set and implementing its recommendations. It might just be the difference between a secure supply chain and a vulnerable one.

Making Work Visible: Ethnographically Grounded Case Studies of Work Practice
Edited by Margaret H. Szymanski and Jack Whalen
Published in 2011
Cambridge University Press
374 pages

Ever since Frederick Taylor developed his concept of scientific management, people have examined the process of work with the goal of improving production. They’ve timed processes, plotted with statistic process control, and mapped worker movements to reduce the waste of unnecessary motion. Today, people still attempt to increase productivity without increasing costs using quantitative methods—but in this book, the authors instead use a decidedly qualitative method.

Making Work Visible applies what is referred to as an ethnographic approach to the process of work. In this methodology, borrowed from the field of anthropology, a researcher immerses him or herself into a culture to study it. In this case, that culture is the work environment. The goal is for the researcher to become a participant in the work process and record observations as a firsthand witness.
Through this lens, the book examines different work situations and draws conclusions from the observations. Each chapter is contributed by a different individual, so there are many perspectives presented. The work situations mostly are those of field technicians at Xerox and focus on copiers and related equipment; however, the lessons are universal. One intriguing insight comes from the book’s foreword. A situation is described in which a master troubleshooter challenges a researcher to solve a problem with a malfunctioning copier. The troubleshooting manual suggests to run 1,000 copies of a test sheet, sort through the output, find the few bad copies, and compare them against a master copy—a time-consuming and wasteful endeavor. The master troubleshooter scoffs at that process and supplies a more efficient approach. Using bad copies users had thrown away in the trash can next to the malfunctioning copier, the troubleshooter examines those copies and diagnoses the problem from the naturally available—and more realistic—evidence. Imagine adopting a similar technique to look at scrap on a production line or a product that your customer believes is not up to spec.

Making Work Visible is heavy on the research principles of ethnographic approaches, and its rigor is not for the casual reader. However, if you seek a look at the world of work and methodologies beyond typical lean improvement techniques or scientific management-based performance improvements, then this book is for you.

Principles of Sequencing and Scheduling
By Kenneth R. Baker and Dan Trietsch
Published in 2009
John Wiley and Sons
493 pages

Effective scheduling of work orders, customer delivery dates, and receipt of raw materials is critical to the efficient operation of supply chains and manufacturing plants. Missing a date or delivery or breaking a promise results in complications and lost customers. A system that can combine optimal scheduling with maximum flexibility is the desire of every plant manager. This book by Baker and Trietsch steps in with a strong theoretical background and practical examples, tips, and techniques. Principles of Sequencing and Scheduling is arranged in a classic textbook format. In the first chapter, the authors provide a solid foundation to scheduling theory and introduce common, core ideas. Then, they build from the basic models, starting with single-machine sequencing and moving to more complex concepts, such as network methods for project scheduling and integer-based programming models. The book flows from specific concepts into more general conclusions and insights.

Dozens of scheduling concepts are presented, including the reduction of mean flow time, stochastic balance principles, and permutation schedules. Each topic is presented straightforwardly and provides the reader with a general understanding of the principles within. For example, in chapter 5, the authors discuss earliness and tardiness costs and examine the implications of the earliness versus tardiness criterion in the basic, single-machine model. They describe the goal of scheduling, which is to create a perfect on-time schedule—easy in theory, but not in practice. Recognizing this, the authors then describe methods for comparing imperfect schedules and weighing suboptimal performance. The reader is walked through several theorems to minimize deviations from a common due date and an algorithm for solving the basic earliness-tardiness problem, followed by an example of the algorithm at work.

This textbook aims to provide a solid foundation for anyone studying sequencing and scheduling. Each chapter offers problems and exercises, formulas and theorems, and extensive references. Practitioners who are invested in the theory and application of sequencing and scheduling will benefit the most from this book and will gain a greater understanding of the mathematical background upon which the modern practice of scheduling is constructed. Anyone who programs sequencing and scheduling software should study and learn this book inside and out. But for the everyday practitioner, some elements may be more than is needed.

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