LEARNING MADE EASY

Supply Chain Management

for dummies®

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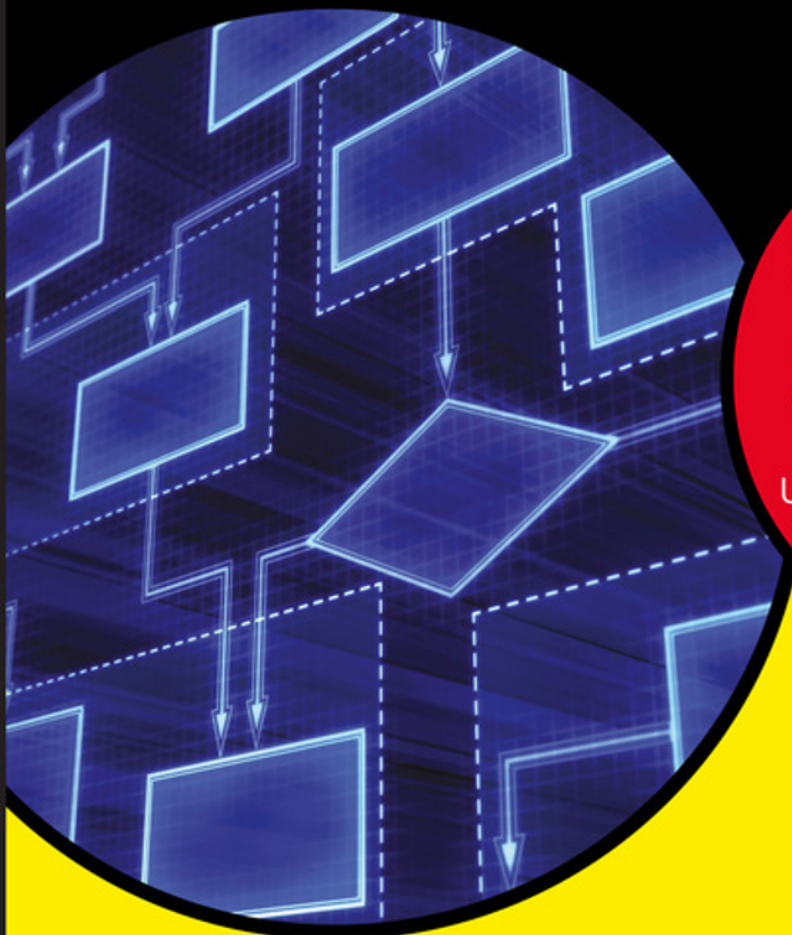

- Apply the SCOR model to understand your business
- Identify the best software and automation processes
- Use analytics and metrics to recognize business risks

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Certified Supply Chain Professional

Supply Chain Management

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Published by: **John Wiley & Sons, Inc.,** 111 River Street, Hoboken, NJ 07030-5774, www.wiley.com

Library of Congress Control Number: 2017958142

ISBN: 978-1-119-41019-5 (pbk); 978-1-119-41020-1 (ebk); 978-1-119-41021-8 (ebk)

Manufactured in the United States of America

10 9 8 7 6 5 4 3 2 1

Contents at a Glance

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Introduction

Supply chain management is about seeing your business as an interconnected system. *Supply Chain Management For Dummies* covers the tools, rules, and language that you need to understand how the parts of your company's supply chain fit together. The book also shows you how to plan and manage your supply chain in ways that reduce costs, increase profits, and minimize risks.

About This Book

Many books treat supply chain management as part of operations, logistics, or procurement, but this book takes a broader approach, showing that those functions are interconnected parts of a system.

I include lots of everyday examples that make it easy to understand each step in any supply chain, and that show how virtually any company can employ supply chain principles.

Most people get to see only a small part of the supply chains that they work in. This book helps you understand all the other processes and systems that feed into your supply chain, as well as how decisions that you make affect others up and down the supply chain, including your customers and suppliers. The book uses language that's easy to understand and is organized in a way that makes access to specific topics easy.

Foolish Assumptions

In writing this book, I assumed that supply chain management is important to you because

- You need to understand it for your current job.
- You need to understand it for a future job.
- You need to explain it to other people so that they can do their jobs better.

I assume that you have some connection to supply chain management, probably because you've studied or worked in logistics, operations, or procurement. I assume that you may have been taught to see supply chain management from a narrow, functional perspective rather than as an end-to-end, integrated system.

I assume that you want to understand how decisions made in one part of a supply chain can influence the results in another part. Many companies have made bad choices with expensive consequences simply because they didn't recognize the effects of those choices on their supply chains. In most companies, more than 70 percent of costs and 100 percent of revenues depend on supply decisions. It's definitely worth the time and energy to understand how to efficiently manage a supply chain.

Icons Used in This Book

Icons emphasize a point to remember, a danger to be aware of, or information that you may find helpful.

The Tip icon marks tips (duh!) and shortcuts that you can use to make supply chain management easier.

Remember icons mark information that's especially important to know. To siphon off the most important information in each chapter, skim the paragraphs that have these icons.

The Technical Stuff icon marks information of a highly technical nature that you can normally skip.

The Warning icon tells you to watch out! It marks important information that may save you headaches.

Where to Go from Here

You can read this book in different ways, depending on why you're reading it. You can certainly start at the beginning and skip the things you already know, but I've written the book so that you can start reading anywhere that catches your eye and then hunt for additional bits that sound interesting.

If your goal is to discover what supply chain management is, start with Part 1. If you're trying to get a sense for how the pieces of a supply chain fit together in a framework, read about the Supply Chain Operations Reference (SCOR) model in Part 2. If you need to get a handle on the technologies that are key to supply chain management, check out Part 3. If you're looking for ways to drive strategic value for your company by using supply chain management tools, jump into Part 4. Finally, Part 5 is packed with information that can help you grow your career in supply chain management.


TIP

Some of the material in this book will be useful if you're preparing for a supply chain certification such as Certified Supply Chain Professional or SCPro (see Chapter 20), but you shouldn't use it as a substitute for the official study guides.

No matter how you go through the book, you'll eventually want to read all the chapters. Each chapter is useful on its own, but the book as a whole helps you see how interconnected the parts of a supply chain are and why you need to think about all of them when you make decisions that affect your business, your customers, and your suppliers.


TIP

For some helpful information about how to describe supply chain management, how to lead supply chain projects, and how to use the Supply Chain Operations Reference model, check out the Cheat Sheet for this book by visiting `www.dummies.com` and entering the book's title in the search field.

1 Getting Started with Supply Chain Management

IN THIS PART . . .

Simplify the concept of supply chain management by breaking it into pieces.

Analyze supply chain management from different perspectives to see why it is important.

Align supply chain management with the goals of your business.

Optimize supply chain performance to drive better results for you, your suppliers, and your customers.

IN THIS CHAPTER

- Understanding complex business challenges
- Focusing on supply chain tasks
- Understanding supply chain management principles
- Getting started with the new supply chain agenda

Chapter 1

The Growing Demand for Supply Chain Management

These days, it's hard to find a copy of *The Wall Street Journal* that doesn't have the phrase *supply chain* somewhere on the first page. You hear about supply chains everywhere: in company reports, on the news, and even in casual conversation. But it hasn't always been that way. Only in the past 30 years has supply chain management gone from being a vague academic concept to a critical business capability. This chapter covers why supply chain management has become so important and explains the process for building best-in-class supply chain management into your company.

Defining Supply Chain Management

In spite of the current hype, supply chains aren't really that new. Entrepreneurs have been buying things from suppliers and selling products to customers for almost as long as people have inhabited the earth. However, supply chain *management* is new. In fact, the basic principles of supply chain management only

began to take shape in the 1980s, at about the same time that personal computers came onto the business scene. You can see the trend clearly by using Google's N-Gram Viewer, shown in Figure 1-1, which shows how often the term "supply chain" has been used in book titles.

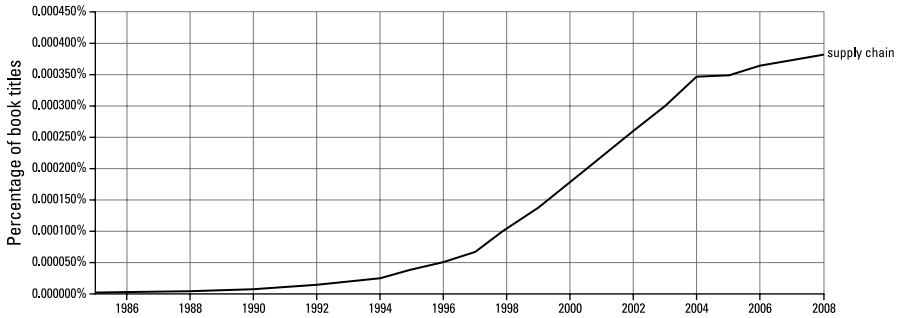

FIGURE 1-1: Frequency that "supply chain" has appeared in book titles.

Supply chain management is the planning and coordination of all of the people, processes, and technology involved in creating value for a company. Managing a supply chain effectively involves coordinating all of the work inside of your company with the things that are happening outside of your company. In other words, it means looking at your business as a single link in a long, end-to-end chain that supplies something of value to a customer.

TIP

The word "value" shows up a lot when people talk about supply chain management. Basically, value means "money." If a customer is willing to pay for something then it has value.

Negotiating prices, scheduling manufacturing, and managing logistics all impact the value equation for a company, and they are critical to a supply chain, but because they are so interdependent, it's a bad idea to manage them separately, in silos. As companies grow larger, supply chains get longer, and the pace of business gets faster, which means it becomes more important to keep the various functions in a supply chain aligned. Ironically, many of the strategies and metrics that businesses relied on in the past, and that managers have been taught to use, can actually drive the wrong behaviors. For example, a sales rep might hit her quota by landing a huge deal with a customer, but the deal might be unprofitable for the company because of the costs it will drive for the logistics and manufacturing functions. So sales, logistics, manufacturing, procurement, and all of your other functions need to be aligned to ensure that the business is pursuing profitable deals.

TIP

The difference between the amount of money your company brings in (revenue) and the amount of money that you spend (costs) is your profit. In other words, your profit is simply the amount of value that you have captured from your supply chain.

On the other hand, companies that do a good job of managing their supply chain are better able to take advantage of value-creation opportunities that their competitors might miss. For example, by implementing lean manufacturing, companies can reduce inventories. By being responsive to customer needs, they can build stronger relationships with their customers and grow their sales. By collaborating closely with their suppliers, they can get access to the materials they need, when they need them, at a reasonable cost.

TIP

Part 4 of this book is all about ways you can use supply chain management to create more value.

In most companies today, more than 70 percent of the costs and 100 percent of the revenues are dependent on how the supply chain is managed. So keeping all of the parts of the supply chain aligned is key to running any business successfully. That is why supply chain management has become so important, so quickly.

Exploring Complex Business Challenges

Managing a business is like playing a full-contact sport: So many moving pieces are involved, and so many things can change in an instant, that making long-term plans is virtually impossible. How can you really plan for commodity price swings, natural disasters, and financial meltdowns? You can't. You can't ignore those possibilities, either. Instead, you need to think about them and design your business so that it can function well under a range of scenarios. In other words, you need to think about the many different possibilities that the future holds, try to imagine them as a series of events, and then think about how each of them would affect your business.

To use scenario planning to prepare for the unknown and the unknowable, you need to know three really important things:

- Which scenarios are most important to you.
- What you'll do — and how — in each scenario. (In other words, each scenario calls for a different plan.)
- How you can tell when a scenario is becoming reality. (In other words, as Yossi Sheffi, the Elisha Gray Professor of Engineering Systems at the Massachusetts Institute of Technology says, you need to have "sensors in the ground" to help you decide when to implement which plan. Then the job of supply chain management becomes a process of sensing and responding.)

You need to determine how your business will sense what is happening and how it will respond. Figure 1-2 shows how your sensors help you recognize which scenario is unfolding so that you can implement the proper plan.

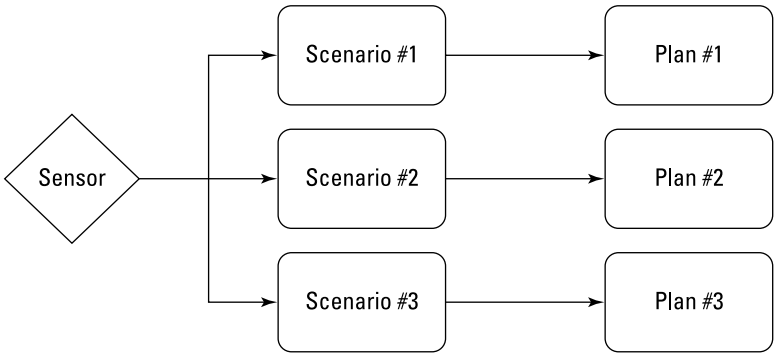

FIGURE 1-2: Scenario-planning model.

I can explain this concept with a few practical examples:

- You run a manufacturing company that imports products from overseas, so you need to consider what you'd do if one of your inbound shipments is lost at sea, impounded by customs, captured by pirates, or caught in a port strike. Options might include shutting down your factory until the issue is resolved. You might also consider placing a new order with a different supplier so that you don't have to close the factory. In an extreme case, you might even declare *force majeure* and tell your customers that you won't be able fulfill your commitments to them.

  
  TECHNICAL STUFF

  Force majeure is a legal concept that is used in contracts to justify why someone is unable to meet their obligations. Basically, it means that there was a problem that they could not have predicted, prepared for, or prevented.

- You work for a wholesaler that has been selling a product at a steady rate for months, and one month, the company sells twice as much as normal. You don't have enough inventory to fill all your customer orders, and now you also have back orders to fill. You may even be at risk of losing some big sales and big customers. You might decide to place bigger orders in the future and keep more inventory on hand. That means you'll be investing more working capital into inventory. If sales drop off in the future, you'll have to figure out what to do with that extra inventory.

- You work for a transportation company. The company's customers pay you to deliver their products around the world, and they count on your deliveries to help them meet their commitments to their own customers, so your ability to deliver on time is essential to them. Suddenly, a volcano in a distant part of

the world spews ash far into the sky, making it dangerous for airplanes to fly on a heavily traveled flight path. You could reroute your planes, but this is an expensive process that involves developing flight plans, scheduling airplanes, and finding available crews. Alternatively, you could tell your customers that their deliveries are on hold until normal operations can resume.

Thousands of companies have had to face every one of these scenarios in the past few years. In every case, making the right decision about how to respond requires understanding supply chains and supply chain management.

TIP

There's more information about supply chain scenario planning, and a link to the MIT Scenario Planning Toolkit, in Chapter 18.

Some supply chain management professionals are generalists and others are specialists. Supply chain experts who are generalists look at the big picture, whereas the specialists focus on a particular step in the supply chain. A good way for you to start learning about supply chain management is to take a look at some of the general principles.

The next sections cover ten supply chain management principles, five supply chain tasks, and the five steps to implement a new supply chain agenda. Each of these sections provides a slightly different perspective on supply chain management, but you'll see that they are really just different ways of describing the same challenge. The supply chain management principles are a way of describing the essence of supply chain management. The five supply chain tasks are more like the job description for a supply chain manager. And the new supply chain agenda is a strategy for helping a company to plan and implement effective supply chain management practices.

Operating Under Supply Chain Management Principles

Many people try to describe supply chain management by talking about what they do, which is a bit like describing a cake by giving someone a recipe. A different approach is to describe what supply chain management actually creates. To continue the cake example, that means describing how the finished cake tastes and what it looks like.

The ten principles illustrated in Figure 1-3 do a good job of describing supply chain management.

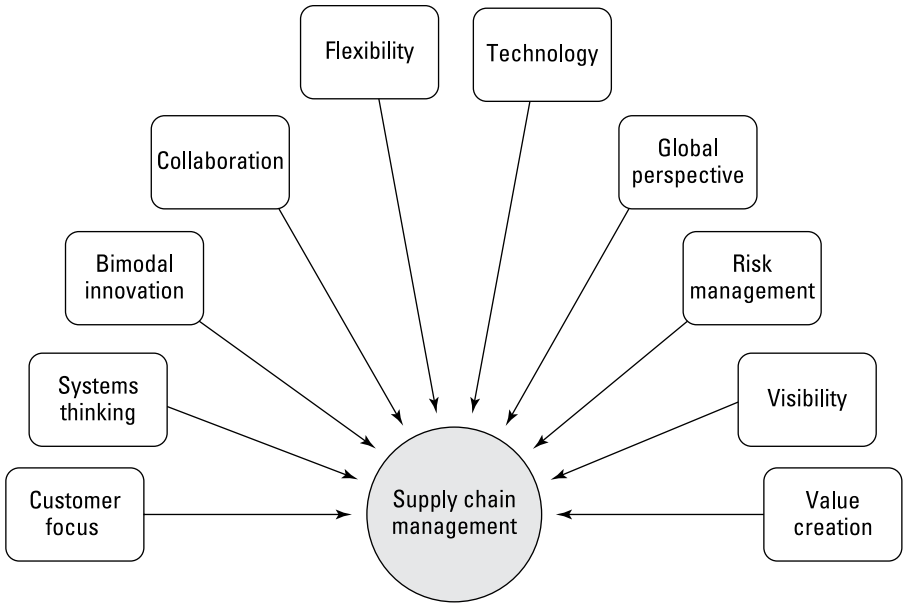

FIGURE 1-3: Supply chain management principles.

Customer focus

Supply chain management starts with understanding who your customers are and why they're buying your product or service. Any time customers buy your stuff, they're solving a problem or filling a need. Supply chain managers must understand the customer's problem or need and make sure that their companies can satisfy it better, faster, and cheaper than any competitors can.

Systems thinking

Supply chain management requires an understanding of the end-to-end system — the combination of people, processes, and technologies — that must work together so that you can provide your product or service. Systems thinking involves an appreciation for the series of cause-and-effect relationships that occur within a supply chain. Because they are complex systems, supply chains often behave in unpredictable ways, and small changes in one part of the system can have major effects somewhere else.

Bimodal innovation

The world of business is changing quickly, and supply chains need to keep up by innovating. Supply chains need continuous process improvement, or sustaining innovation, to keep pace with competitors. Lean, Six Sigma, and the Theory of

Constraints (see Chapter 4) are process improvement methods that can help with this task. Continuous process improvement isn't sufficient, though, because new technologies can disrupt industries. This effect is called *disruptive innovation.* When a new solution for a customer's needs emerges and becomes accepted, this solution becomes the new dominant paradigm. In other words, if you're in the business of making buggy whips, you need to figure out how to make buggy whips better, faster, and cheaper than your competitors do, and at the same time, you need to figure out what the new dominant paradigm is going to be so that you know what you're going to make when buggy whips are replaced by a different technology.

Collaboration

Supply chain management can't be done in a vacuum. People need to work across silos inside an organization, and they need to work with suppliers and customers outside the organization. A "me, me, me" mentality leads to transactional relationships where people focus on short-term opportunities while ignoring the long-term results. This actually costs more money in the long run because it creates a lack of trust and an unwillingness to compromise among the players in the supply chain. An environment in which people trust one another and collaborate for shared success is much more profitable for everyone than an environment in which each person is concerned only with his or her own success. If you believe that you'll be doing more business together in the future, and that the business with a particular customer will be profitable, then you are more likely to give them a deal on the products they are buying from you today. Also, a collaborative type of environment makes working together a lot more fun.

Flexibility

Because surprises happen, supply chains need to be flexible. Flexibility is a measurement of how quickly your supply chain can respond to changes, such as an increase or decrease in sales or a disruption in supplies. This flexibility often comes in the form of extra capacity, multiple sources of supply, and alternative forms or transportation. Usually, flexibility costs money, but it also has value. The key is understanding when the cost of flexibility is a good investment.

Suppose that only two companies in the world make widgets, and you need to buy 1,000 widgets per month. You may get a better price on widgets if you buy all of them from a single supplier, which would lower your supply chain costs. But you'd have a problem if that supplier experiences a flood, fire, or bankruptcy and can't make widgets for a while. You may save on your purchase price for the widgets, but you're stuck if anything goes wrong with that supplier.

If you bought some of your widgets from the other supplier — even at a higher cost — you wouldn't be hurt as badly if the first supplier stopped making widgets. In other words, having a second supplier provides flexibility.


TIP

Think of the extra cost that you pay to the second supplier as a kind of insurance policy. You're paying more up front to have that insurance policy, but in return, you're increasing the flexibility of your supply chain.

Technology

The rapid evolution of technology, for moving physical products and for processing information, has transformed the way that supply chains work. A few years ago, we ordered things from a catalog, mailed in checks, and waited for our packages to be delivered. Today, we order products on our phones, pay for them with credit cards, and expect real-time updates until those packages are delivered to our doorsteps. Supply chain management requires understanding how technologies work and how to use them to create value at each step in the supply chain.

Global perspective

The ability to share information instantly and to move products around the world cheaply means that every company today operates in a global marketplace. No matter what product or service you provide, your company is global. As a supply chain manager, you must recognize that how your business depends on global factors to supply inputs and drive demand for outputs. You also need to think globally about the competition. After all, your company's real competitive threat could be a company you've never heard on the other side of the planet.

Risk management

When you combine high performance requirements with complicated technologies and dependence on global customers and suppliers, you have a recipe for chaos. There are lots variables, and lots of things can go wrong. Even a small disturbance, like a shipment that gets delayed, can lead to a series of problems further down the supply chain, such as stockouts, shutdowns, and penalties. Supply chain management means being aware of risks and implementing processes to detect and mitigate threats. Stability may be the key to making supply chains work smoothly, but risk management is the key to avoiding or minimizing the costs of dealing with surprises. Done well, risk management can provide opportunities to capture value during times of uncertainty.