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2nd Edition

Supply Chain Management

for dummies®

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- Apply supply chain models to understand business
- Identify the best software to automate processes
- Use analytics and metrics to mitigate business risks

Daniel Stanton

Supply Chain Management

2nd Edition

by Daniel Stanton,
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for dummies®
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Supply Chain Management For Dummies®, 2nd Edition

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Supply Chain Management For Dummies®

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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 risk.

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 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 in a 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. Many companies have made bad choices with expensive consequences simply because they didn't recognize the effects of those choices on their supply chains. When you consider that more than 70 percent of costs and 100 percent of revenue depend on supply decisions, it's clearly worth the time and energy to understand how to manage a supply chain efficiently.

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 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.

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

WARNING 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 chapters work together to help 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 SCOR Model, check out the Cheat Sheet for this book by visiting https://www.dummies.com and entering the book's title in the search field.

Part 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’s 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.

Chapter 1

The Growing Demand for Supply Chain Management

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**

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 35 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. Supply chain *management* is new, however. In fact, the basic principles of supply chain management 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 illustrates how often the term *supply chain* has been used in book titles.

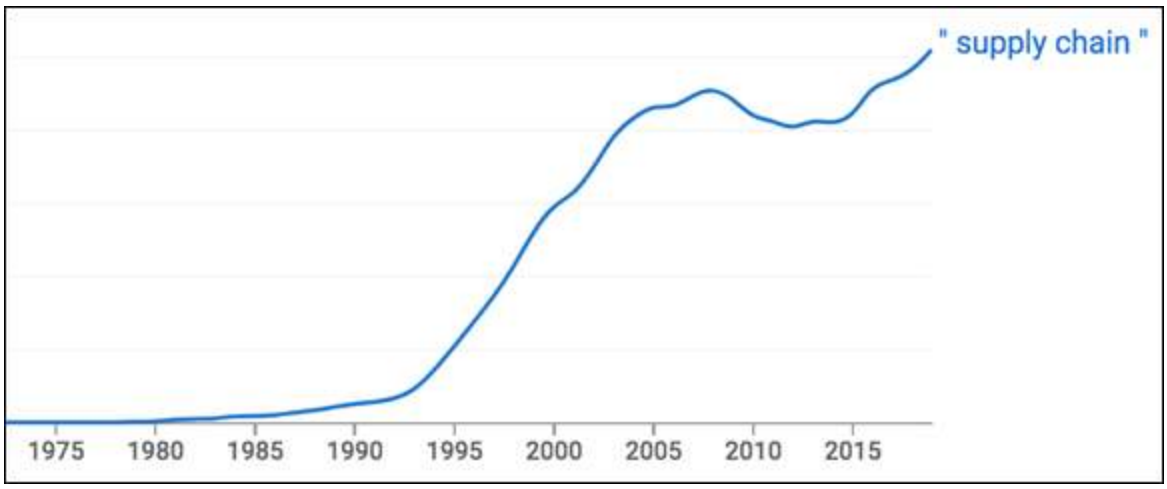

FIGURE 1-1: Frequency of *supply chain* in book titles.

Supply chain management is the planning and coordination of all the people, processes, and technology involved in creating value for a company. Managing a supply chain effectively involves aligning all the work inside your company with the things that are happening outside 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, it has value.

Negotiating prices, scheduling manufacturing, and managing logistics all affect the value equation for a company, and they're critical to a supply chain, but because they're 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, making it more important to align the various functions in a supply chain. 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. A sales rep might hit her quota by landing a huge deal with a customer, for example, but the deal might be unprofitable for the company because of the costs it will drive to the logistics and manufacturing functions. Sales, logistics, manufacturing, procurement, and all 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 it spends (costs) is your profit. In other words, your profit is 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. By implementing lean manufacturing, for example, 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, and at a reasonable cost.

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

Keeping all the parts of the supply chain aligned is key to ensuring that revenue is greater than costs and running any business successfully. That's 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 possibilities that the future holds, try to imagine each one as a series of events, and then think about how it would affect your business.

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

- Which scenarios are most important to you.

- What you'll do — and how — in each scenario. (Each scenario calls for a different plan.)
- How you can tell when a scenario is becoming reality. You need to have triggers that help you decide when to implement which plan. Then the job of supply chain management becomes a process of sensing and responding to those triggers.

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

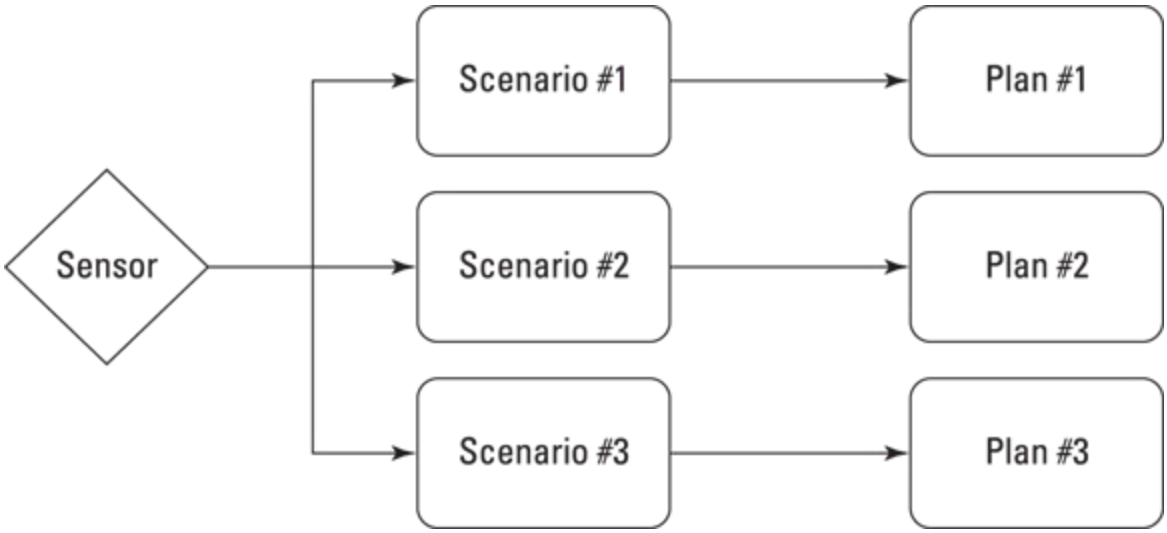

FIGURE 1-2: Scenario-planning model.

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. One option might be shutting down your factory until the issue is resolved. You might also consider placing a new order with a

different supplier. In an extreme case, you might declare *force majeure* and tell your customers that you won't be able fulfill your commitments to them.

Force majeure is a legal concept used in contracts to free one or both parties from liability if they're unable to meet their obligations due to an extraordinary circumstance.

- 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 sales and 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 in inventory, and 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. Therefore, 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 use a heavily traveled flight path. You could reroute your planes, but this process is an expensive one 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.

You can find more information about supply chain scenario planning, as well as a link to the MIT Scenario Planning Toolkit, in Chapter 18.

Some supply chain management professionals are generalists, and others are specialists. Generalists look at the big picture; specialists focus on a particular step in the supply chain. A good way for you to start learning about supply chain management is to think like a generalist and become comfortable with some of the general principles.

The next sections cover ten supply chain management principles, five supply chain tasks, and the five steps for implementing a new supply chain agenda. Each section provides a slightly different perspective on supply chain management, but the sections explain the same challenge in different ways. The supply chain management principles express the essence of supply chain management. The five supply chain tasks are like the job description of a supply chain manager. And the New Supply Chain Agenda is a strategy for planning and implement effective supply chain management practices.

Operating Under Supply Chain Management

Principles

Many people try to define 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 explain what supply chain management creates. To continue the cake analogy, that approach communicates how the finished cake tastes and what it looks like.

The key supply chain management principles illustrated in Figure 1-3 are good places to start.

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 understanding 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 appreciation of the series of cause-and-effect relationships that occur within a supply chain. Because these systems are complex, 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. Two kinds of innovation are important for supply chains:

- **Sustaining innovation:** *Sustaining innovation* is built on continuous process improvement techniques such as Lean, Six Sigma, and the Theory of Constraints (see Chapter 4). Sustaining innovation isn't sufficient, though, because new technologies can disrupt industries. So you also need to pursue disruptive innovation.
- **Disruptive innovation:** *Disruptive innovation* introduces a product, process, or service that creates new markets and destroys established paradigms. When a disruptive solution is accepted, it becomes the new dominant paradigm. 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, as well as what the new