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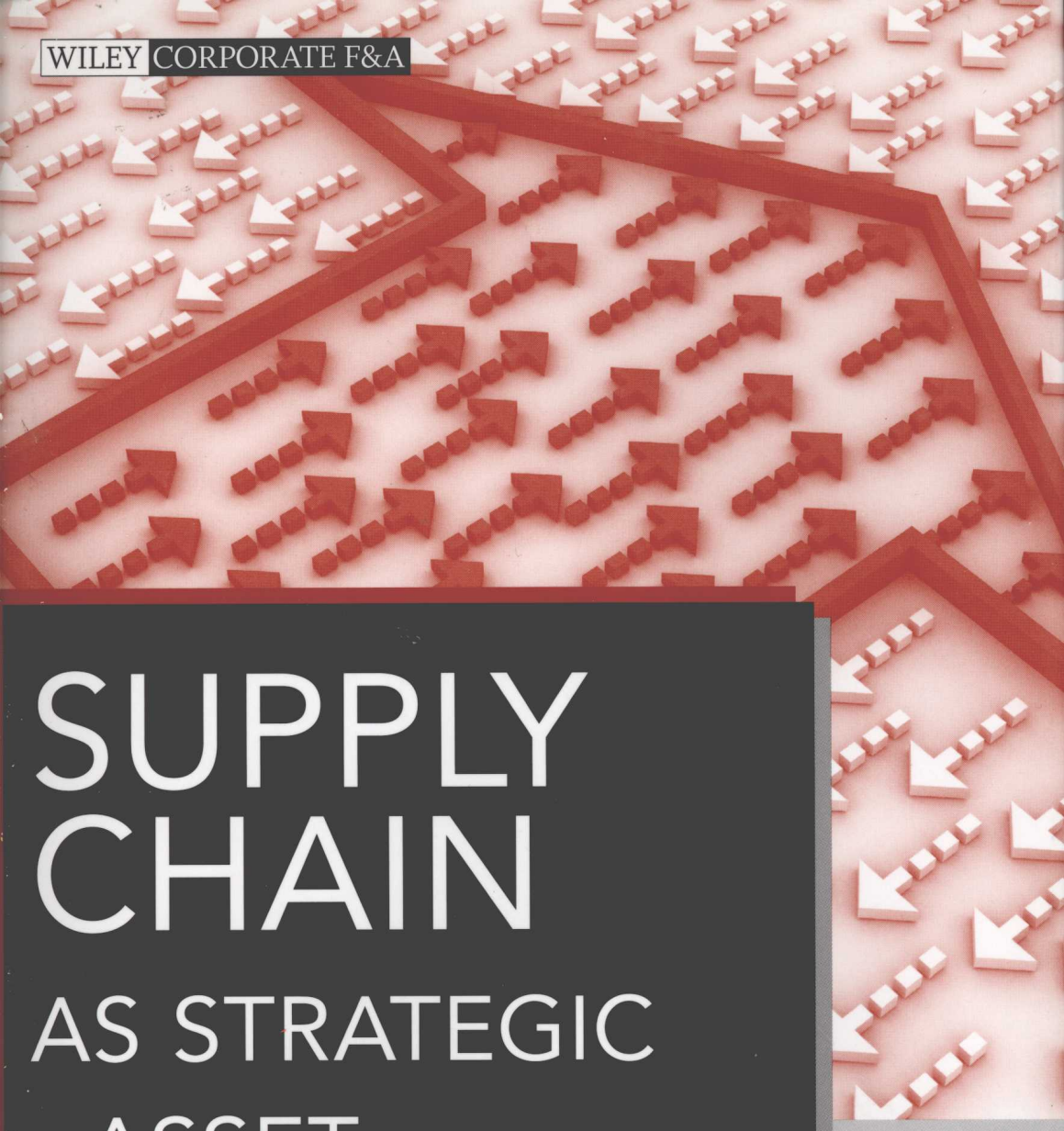

SUPPLY CHAIN AS STRATEGIC ASSET

The Key to Reaching Business Goals

VIVEK SEHGAL

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Additional Praise for
Supply Chain as Strategic Asset: The Key to Reaching Business Goals

"*Supply Chain as Strategic Asset* serves as a great prequel to *Enterprise Supply Chain Management*. Sehgal's new book helps wrap the framework of strategic planning around the supply chain capabilities previously covered. The combination of business theory with practical case studies and examples help drive home valuable lessons that executives should take to heart."

—David Landau,
Vice President, Manhattan Associates

"Business processes are the source of competitive advantage in the 21st century. Vivek Sehgal expertly connects the dots between business strategy and supply chain strategy. He explains that supply chain strategy must be derived from business strategy, but also that competitive advantage through supply chain must be built into the processes by pro-active design. The time for pushing industry best practices is over. As Vivek explains, now is the time to pro-actively create superior processes that will result in the creation of competitive advantage."

—Dustin Mattison,
Founder, logipi.com

"It goes without saying that a lot has changed and continues to change in business today. For those businesses with significant working capital commitment and risk associated with a smoothly functioning and adaptable supply chain these are challenging times. There are very few people who can translate the importance of a value added supply chain to a business than Mr. Sehgal. Take the translation one step further and you have a manual that peels back the layers for understanding and actionable knowledge. Like Vivek's previous book this is a must have on the shelf for not only supply chain executives, but those executives who want their supply chain capabilities to be competitive differentiators."

—Craig LaFrance,
Director of Business Development, CDC Software

Supply Chain as Strategic Asset

To Devyani, Parth, and Richa

Preface

CREATING AN EFFECTIVE SUPPLY chain is essential for a business to compete. But the scope of supply chains is so great that it is a tough task simply to *describe* what an effective supply chain is, let alone *create* one. This book provides a valuable road map for defining and creating a supply chain strategy that will help you build an effective supply chain that supports your business strategy. It begins by providing an overview of the development of the strategic management discipline to its current state and then proceeds to define supply chain strategies, reviewing the strengths and weaknesses along with the reasoning behind the selection of one specific strategy over others. It also investigates the relationship between some well-known business strategies and how they may affect the selection of the supply chain strategy.

While there is an abundance of literature on corporate strategy, there is not nearly enough thought given to the area of how the supply chain can support strategy and help achieve business goals. It is hoped that the reader will gain a fresh perspective on thinking strategically about the supply chain. Throughout the book you will also find sidebars with examples from the industry to illustrate a concept or to highlight a point made in the main text. Also covered in the book is the role of technology in this process and how technology, along with the supply chain, is a valuable tool to realize business goals.

The book concludes by showing how the three strategies—business, functional, and technology—need to work together in order to maximize performance. It shows how misalignment among the three creates friction and inefficiencies that prevent organizations from reaching their full potential. As part of the discussion, it explores the organizational structures that may help in establishing the culture for the alignment of the three strategies.

I hope that business and technology managers find this book to be particularly useful, and that it helps clarify how corporate strategies affect their supply chain and technology selections, why this relationship needs to be

clearly understood, and how to create and maintain a nurturing organizational environment that values the convergence of the three strategies.

In my experience, most businesses currently fail to see this relationship. There are several reasons for this: the executive leadership generally grasps the concept of business strategy very well, but very few of them realize how supply chain strategy (as well as other functional strategies) provides them with the tools to realize the goals of their business strategy. The current thinking on supply chain strategy typifies supply chains as lean, agile, speculative, and so on. This is an inherently flawed view, because most supply chains will have to be all of the above to successfully support the complex business models of most modern corporations. This book presents a new way of thinking about supply chain strategy by first establishing the core process of balancing demand and supply and managing the inherent variations in both.

HOW IS THIS BOOK ORGANIZED?

Chapter 1

In this chapter, we provide an overview of the underlying precept of the book, which is the belief that the business strategy of a firm must define and drive the competitive advantages sought by it. In turn, these competitive advantages sustain the development and growth of the business of the firm. The process of the creation of superior business capabilities from the corporate strategy consists of the strategy development, strategy planning, and strategy execution. This chapter provides an overview of the process and describes these steps, and introduces the concepts of functional and deployment strategies and their relationships with the business strategy. In doing so, it lays the foundation for the rest of the book and the flow of the discussion on the subject of strategic alignment among the business, functional, and deployment strategies.

Chapters 2 and 3

In these two chapters, we will review the basic concepts of business strategy. This will be done by reviewing the existing literature and concepts on strategy development and management. We will review the fundamental strategies as first suggested by Porter and how these strategies affect the supply chain management functions in an organization. We will also review the resource-based view of strategy and the concept of competing on capabilities.

With real-life examples from the industry, we will see how the basic concepts of strategy have evolved and what that means to the strategy development and implementation processes for the companies today. The scope of recent changes in the global environment makes the process of strategy development more complex, as the number of factors and the amount of available information that must be considered has expanded. The amount of economic and demographic data that is currently generated and made available by various government agencies across the globe provides much greater visibility into our changing world, but also makes the task of strategy development very complex. The rapid rate of changes also affects the process of strategy development by requiring that business strategies are reviewed more frequently than ever before.

The major changes in the business environment in the past couple of decades have been driven by social, political, technology, and cost considerations. Examples of such changes are widespread: outsourcing, subcontracting of business functions, commoditization, telecommunications, megacorporations, regulations, and huge advances in companies' abilities to leverage IT systems in their pursuit for efficiency. These factors have considerably changed the business background and affected the way the underlying strategies should be formulated and deployed. Another consequence of the faster rate of change is that it requires companies to be more nimble to react, review, and adjust their strategies to remain competitive.

All these factors have changed the way that corporations have traditionally looked at the relationship between their corporate strategy formulation and realization. More than ever, it is important that corporations develop a clear and transparent process to translate their business strategy into business capabilities and the ability to deploy them using technology so that the cycle from strategy development to creation of capabilities can be shortened and the business strategy itself can be updated more frequently.

Since there is abundant literature available on corporate strategy formulation and development, we will keep that part of the discussion limited to a review of the main concepts on the subject, but spend more time on relating these concepts with the functional and deployment strategies as well as the impact of a changing business environment on the conventional concepts of business strategy as summarized earlier.

Chapters 4, 5, and 6

These three chapters of the book will focus on functional strategy: the definition of functional strategy, its concepts, and its role in supporting and realizing the

strategic objectives. Functional strategy has not been included as an explicit part of strategy development in most companies and therefore provides an excellent opportunity for corporations to distinguish themselves by aligning their operations with their strategies through the development of a functional strategy. Functional strategy development is the part of strategic planning in which corporations must analyze their functional capabilities, understand the gaps that will cause strategic failure, understand the enhancements that will not only allow a short-term win but also provide a competitive advantage that can be sustained in the medium to longer term, and, finally, help them prioritize their investments into building the capabilities that are required for strategy realization.

Businesses need many different functions to operate effectively. Examples of such functions are human resources, marketing, product development, supply chain, merchandising, accounting, and so on. Any of these functional areas can become a strategic focus for the corporation, if the capabilities enabled by that function can help the company achieve the goals of its corporate strategy. However, we will focus primarily on the supply chain functions. We will review the fundamental strategies that can be pursued for designing supply chains, understand what these are and when to use them, and relate these supply chain strategies back to the business strategies to show how they can support the corporate strategies and help realize the goals set by these strategies. We will also review how these functional strategies not only depend on the business strategies, but also affect them in turn, setting up not a one-sided but an active two-sided relationship between the two.

Chapter 7

In this chapter, we will review the role of technology in today's corporations, with a specific focus on its ability to create and maintain capabilities that are central to the competitive advantages sought by their strategies. We will see why technology management should be viewed as one of the primary competencies of the business rather than as a supporting activity.

We will review enterprise architecture and its role in defining and implementing a technology strategy. We will also evaluate the current state of enterprise architecture in the corporations, its organizational limitations as well as the opportunities and potential evolution. We will identify factors that inhibit the enterprise architecture from successfully driving technological change that can lead the corporations from viewing the technology as a necessary evil to viewing it as an evolutionary enabler.

We use the technology strategy interchangeably with the term deployment strategy, because we see the technology strategy as the core component of the larger deployment strategy that may also include other aspects for successful deployment, such as organizational structure and change management. This interchangeability of the two terms is based in the belief that technology remains the most direct and tangible component of deployment strategy as an enabler for creation of strategic capabilities. In this context, the core objective of a deployment strategy consists of aligning the technology strategy with the business and functional strategies, so that capital investments can be prioritized toward the creation of coherent and sustainable solutions that create long-term competitive advantages for the corporation. Finally, we will see how achieving such an alignment provides an agile, flexible, and cost-effective process for the creation and maintenance of competitive advantages in an ever-changing business environment.

Chapter 8

In this concluding part of the book, we will review how the three strategies—business, functional, and technology—come together and enable a corporation to create and maintain competitive advantages that are sustainable in the long term. We will review what types of organizational structures support such an alignment and others that may inhibit it. We will review other organizational factors that affect successful strategy alignment and suggest how to manage them better to achieve the holy grail of functional capabilities that can keep a corporation at the edge of the value creation frontier.

A NOTE ON TERMS USED TO DENOTE STRATEGIES

Since we use many similar terms interchangeably, we would like to mention them up front.

Corporate strategy is used interchangeably with *business strategy*. In the context of this discussion, both of these refer to the output of strategic management exercises that establish the long-term direction for a corporation. Both these terms will generally refer to the strategy formulation or development aspect of business strategy. Some companies develop business strategies at several levels of the organization, such as their business units or regional organizations. This aspect of developing the business strategy at different organizational levels is not quite relevant in our context and, therefore, will

be largely ignored in the discussion. The same is true for different types of strategies: for example, a strategy for growth, a strategy for market penetration, a strategy for customer service, and so on. While companies may pursue specific strategic directions for achieving different business goals, we will refer to the organizational strategies simply as *corporate* or *business strategy*.

Functional strategy primarily refers to the long-term direction selected by the corporation for developing functional capabilities. To achieve a specific goal set by the corporate strategy, corporations will generally have many options. These options will belong to different business functions and the corporation will have to select one or more of these functional groups to create the functional capabilities that would help the company move towards its strategic goals. Since this book is primarily about *supply chain strategy*, these two terms are used interchangeably depending on the specific context of the sentence. *Functional strategy* is used when the statement makes sense across functions and *supply chain strategy* when it is specific to the supply chain function.

Deployment strategy and *technology strategy* have also been used interchangeably. The *deployment strategy* refers to the larger context to manage the deployments of specific projects/programs. In this larger context, the *deployment strategy* may have components addressing technology, change management, organizational incentives, success metrics, and so on. *Technology strategy* refers specifically to the long-term direction established to manage technology. When seen in the context of capital investment layouts, technology remains the largest and most important part of a deployment strategy through its ability to enable business processes, constrain the scope and impact of business processes, and its effect on long-term costs for sustaining the competitive advantages. Therefore, *deployment strategy* and *technology strategy* have been used interchangeably throughout this book.

We refer to a *business function* as a collection of *business processes* that together enable a logical function. For example, demand forecasting will be a *business function* that provides the ability to produce demand forecasts. However, the individual *processes* that enable this function consist of processes for collecting historical demand data, processes of cleansing this data, processes of creating statistical forecasts, and so on. While that is the general usage of the terms *business function* and *business process*, they are also sometimes used as equivalent to each other. *Business function* is sometimes simply called *function* and is also used as a synonym for *functionality* or *functional capability* or *functional competence*, based on the context.

Acknowledgments

I AM THANKFUL TO Manhattan Associates for their support throughout the project and for creating an environment where thought-provoking discussions encourage learning every day. Thanks to our CEO, Pete Sinisgalli, for his encouragement, and to our EVP, Eddie Capel, for always being open to explore new ideas and concepts and for making time for stimulating discussions on how supply chains can provide the strategic edge to pioneering firms, big and small. I also wish to thank my friend Randy Hill, who was kind enough to review some of the initial drafts to validate concepts and provide feedback.

Introduction

WHILE THE SUPPLY CHAINS of today extend through most of the value chain activities of a business as originally described by Porter, they are essentially a set of capabilities that organizations build to operate, survive, and grow. *Harvard Business Review*'s capability-based view of business strategies contends that it is essentially the organizational capabilities that create competitive advantages. Organizations that have more superior capabilities than their peers in their industry will normally have a competitive advantage over them. Conversely, a competitive advantage can be created by carefully building the organizational capabilities. Organizational capabilities may belong to one of the many functions that businesses must master to compete effectively. Supply chain management happens to be one such function. Building superior supply chain capabilities then becomes a tool in the hands of business leaders to not only support efficient operations, but to wield as a competitive asset that can be leveraged to create competitive advantages.

If you had to decide what supply chain capabilities your company should build to create advantage, what would they be? Supply chains have a wide variety of functions affecting the whole value chain of a business from the inbound raw materials through production and distribution of finished goods to the customers. Given this large scope, what should an ideal supply chain enable, how should it support the business, and how can one decide what capabilities should be created making the best use of capital investments to create competitive advantages that not only support today's requirements, but also position the company for future growth and profitability?

We are all familiar with constantly juggling the conflicting goals of minimizing inventory while establishing the highest service levels, reducing labor while increasing throughput, and reducing supply costs while maintaining stable supplies. We know that a supply chain that is integrated with the rest of the business functions, that senses changes, adapts, optimizes, and works within the larger business context, without any conflicts would be great. What

we grapple with is how this vision can be translated into specific capabilities, prioritized, deployed, and measured. This is not a theoretical discussion: Pioneering companies must continuously define their best supply chain practices, determine what are their peers doing, and decide which capabilities they must build to leverage their supply chains as a competitive asset.

The supply chain's wide footprint does not help. Its equally wide impact on everything from day-to-day operations to return on assets (ROA) also makes it complex to size it up. Even defining what comprises an effective supply chain is no easy task. Is it the ability to quickly react to volatile demand? Is it the ability to maintain the highest inventory turnover in the industry? Does it mean having the lowest days of accounts receivable? What about accounts payable? Shortest cash-to-cash cycle? Highest ROA? Agility? Lean manufacturing? Optimal product mix? Highest resource utilization?

In fact, an effective supply chain may do all of the above or none of them. What makes up an effective supply chain is unique to each business and its context must be constrained by the business goals of the company. The current supply chain strategy literature talks about a supply chain being either lean or agile or speculative, or having another type of attribute, as if there is a singular type of supply chain that you can design and create that will address all your business needs. The reality is more complex. Any real supply chain must be agile but also lean, it should be demand-driven but also supply-aware, it should help lower costs but also raise efficiency. The fact is that a lot of the success metrics that we relate with supply chains are opposites, and so are the demands placed on the supply chains. That is why there is no *right* supply chain prescription—it is only *right* for you if it *works* for you. In this context there really are no templates for creating the *right* supply chain; rather, it is a private affair, a customized plan, a personal destination that every company must define and pursue for itself.

Therefore, creating a supply chain that is an organizational asset becomes a corporate quest that may draw from research, innovation, partnership, and solutions, but must define for each company the goals of that company, in terms of how supply chain capabilities should be aligned with the larger corporate strategy. The organization must also define a deployment strategy to create these supply chain capabilities that lead to competitive advantage for the corporation that can be sustained and evolved continuously in tandem with corporate strategy. A supply chain that is a competitive advantage can only be created through thoughtful design that follows the diktats of the business strategy. Without such an explicit alignment, there would always be conflicts between what the business seeks and what the supply chain can deliver.

An organically grown supply chain is reactive by design and therefore cannot become an asset to be leveraged for growth or competitive advantage. This means that for a supply chain to become a strategic asset, capabilities must be analyzed and business requirements explicitly stated that align to business goals. Once the capabilities are known, they must be enabled, which increasingly happens through the tools of new technology. Technology has become the de facto enabler of business capabilities. It is great for creating cost-effective, streamlined, and standard processes that are largely skill independent. Technology has been the single largest contributor for increasing productivity over the past few decades, as the figures for productivity in the nonfarm businesses of the United States show. However, technology brings additional complexity that needs to be managed and that is where the deployment strategy comes in. Just as the supply chain strategy needs to be explicitly aligned with the business strategy, a deployment strategy must align with the goal of enabling the supply chain capabilities. This deployment strategy must ensure that the technology complexity remains manageable, but cost-effective and capable of enabling the desired business capabilities. (See Figure I.1.)

Let us dwell a little more on these concepts:

1. Corporate strategy must drive the supply chain capabilities. This is essential for various reasons, some of which we will touch upon here. A supply chain cannot realistically evolve in a vacuum; if it does, then the likelihood

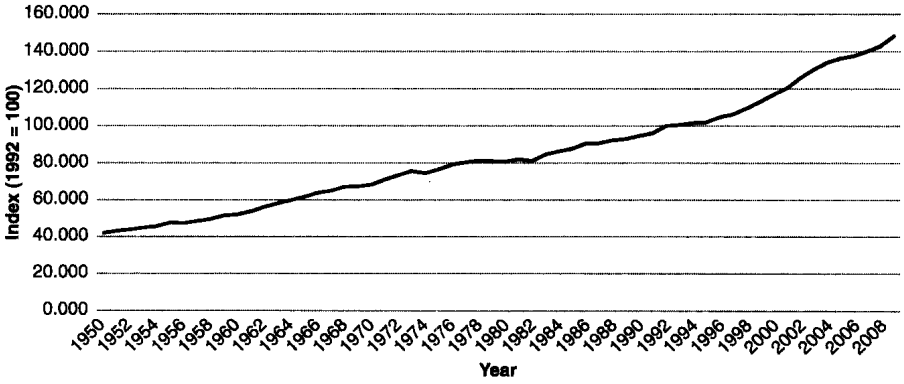

FIGURE I.1 U.S. Productivity for Nonfarm Business Sector, Index (Output per Hour)

Source: Bureau of Labor Statistics (Series Id PRS85006093).

of its being able to support the strategic goals is slim. A supply chain designed in a vacuum will idealize theoretical capabilities that may not create any competitive advantages. Supply chains can also not be a result of reacting to organic growth. These supply chains are reactive by design and therefore, do not create any competitive advantage: they simply bring a company up to its peers in that industry segment. This leaves the obvious choice: The supply chains must be diligently designed to create capabilities that will allow companies to achieve the goals of their business strategy by explicitly creating the desired competitive advantages.

Supply chains are fundamental to create capabilities that, in turn, create competitive advantages supporting the corporate strategy. If the *right* capabilities are created, then the corporation enhances its likelihood of having day-to-day operations that are aligned with its larger goals and therefore move the corporation towards its stated objectives. If the *right* supply chain capabilities are not created, then the operations will not be able to support the strategic goals of the corporation, creating inherent internal frictions and inefficiencies. Therefore, misalignment between the corporate strategy and its supply chain strategy will definitely result in poor, inefficient operations and a low return on assets, and also directly affect the corporation's ability to realize its business strategy.

Supply chain initiatives are expensive and require capital investments. For the supply chain initiatives to be successful contenders for the capital investments, they must be aligned with the corporate strategy and support the strategic goals of the firm. In turn, the capabilities they create have the potential to become long-term *process assets* for the corporation.

Supply chain systems do not operate in isolation. They operate in larger system landscapes interacting with many other corporate systems, exchanging data and information, affecting other processes, accepting inputs, and providing outputs to support multifunctional processes that cut across departmental and organizational boundaries. This means that the supply chains cannot be developed in isolation, but must be thought of and planned as an integral part of other corporate systems. This requires that the supply chain development align itself with the corporate strategy so that it is also aligned with the larger corporate landscape, supported by and supporting the other systems that it interacts with.

2. A deployment strategy must exist that supports both, the corporate and the supply chain strategies. A well-developed deployment strategy can help in creating a viable ecosystem of processes to create strategic capabilities allowing for *flexibility*, *efficiency*, and *sustainability*. Since technology has