

BRICKS MATTER

The Role of Supply Chains
in Building Market-Driven
Differentiation



LORA M. CECERE
CHARLES W. CHASE JR.

Bricks Matter

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in Building Market-Driven
Differentiation*

**Lora M. Cecere
Charles W. Chase, Jr.**



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*This book is dedicated to first-generation
supply chain pioneers.*

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Foreword

Historically, successful companies were typically known for their marketing expertise or technological innovation. Today, great companies are also defined by supply chain excellence. Throughout my 40 years at Procter & Gamble (P&G), I watched the concept of a well-run supply chain evolve from one that was barely on anyone's radar screen to one that is front and center as part of any company's business strategy.

The fact that supply chain management is now an academic discipline further changes the game. PhDs enter the market with strong business backgrounds; they bring a new and an important focus to topics such as data synchronization, information systems, and demand shaping—the horizontal structures within a supply chain organization.

While it is gratifying to see this evolution, part of the challenge is integrating this data-driven approach with an appreciation for what, in my opinion, makes a great supply chain organization great: a foundation of functional excellence. The vertical supply chain functions—manufacturing, logistics, engineering, procurement, and quality—are what allow a company to leverage the capabilities that information can provide. A company's synchronization and information systems may be the best in the world, but without outstanding execution and support, systems alone cannot deliver.

The companies that view both elements as essential—cutting-edge systems and strong functional organizations—are the companies that knit the horizontal and vertical together in ways that truly add value to the business.

The second challenge I see is one that is critical to every business: leadership. Just as any company is always tweaking its marketing or innovation strategies to better anticipate and respond to marketplace dynamics, its supply chain strategies need to evolve as well. It is the

supply chain leader's job to recognize how things are changing, where they are going, and when it is time to tear down and rebuild.

While we like to think that our people on the ground are best positioned to identify what is not working or what could work better, in my experience that is not how it happens. Organizations, by nature, generate inertia; there is always a tremendous investment in the status quo. The supply chain leader must be the one to take on transformation—the organization simply won't go there on its own.

I served as P&G's global product supply officer from 2001 through 2011. One example of rethinking our organization resulted in the creation of centralized purchasing spend pools; another was the consolidation of P&G's planning function within the supply chain organization. In both cases, each of our business units was managing these activities in its own way. The redesign led to increased scale and flexibility, greater focus, and stronger supply chain capabilities.

Another critical and closely related element of supply chain leadership is perspective: supply chain excellence is about continual improvement. To be clear, we sometimes innovate with big ideas that have immediate impact; however, that is rarely the case. Supply chain organizations are large and complex; they require persistent, day-in and day-out focus. The core work of creating a world-class supply chain is a journey.

I would also like to say a few words about culture, and the power that comes from building an entire organization focused on excellence. A strong supply chain culture starts with communication—making sure that people understand the business need and how their roles within the supply chain support and drive the business. It requires leaders who see themselves as coaches—leaders who explicitly model what “good” looks like and show up as being there to help solve problems.

A strong supply chain culture is about cultivating people with a healthy dissatisfaction, people who believe that what is good enough—or even great—today isn't good enough for tomorrow. When you develop a critical mass of people who take ownership for their results, that is when magic happens. When everyone is pulling in the same direction, people transcend their functional boxes because they are aligned to a bigger idea—a larger vision of success.

I am proud to have been a part of Procter & Gamble's supply chain journey—a journey outlined here. This is the right place to start. I know from experience that it works.

I wish each of you success on your quest for a world-class supply chain. As you progress, remember that it is a journey, not a sprint. It requires leadership, tenacity, a deep understanding of the fundamentals, and a commitment to be in it for the long haul.

R. KEITH HARRISON
Retired Global Product Supply Officer
Procter & Gamble

Preface

We firmly believe that bricks matter. Behind every shipment, there is an order. It is satisfied by a manufacturing and a logistics process. The customer's expectation is that the order will be perfect. Getting it right requires the alignment of the organization from the customer's customer to the supplier's supplier. It sounds easier than it is.

Supply chain management is three decades old. It is still evolving. While the term *supply chain* was used in logistics and warfare for decades prior, 2012 is the 30th anniversary of the use of the term *supply chain* in commercial manufacturing.

Over the three decades, the processes have changed greatly. Technology has been a major driver. Connectivity, business analytics, and e-commerce increased the pace of fulfillment and the customers' expectations. While clicks (the world of the Internet) are sexier than bricks (the world of fulfillment), companies cannot move forward without effective and efficient operations.

Like the annealing of steel, the processes were challenged and refined by many forces. This included the evolution of global markets and increasing business complexity. Many companies failed first before they could go forward. The greatest moves forward came not from success, but from failure. Material event after material event created a boardroom understanding of why bricks matter. This book is a synopsis of this journey.

For manufacturers, retailers, and distributors, the supply chain is business. The book is a compilation of stories, quotes, and anecdotes. The stories are rich. In telling them, we tried to make it anything but mundane. To understand the evolution, we interviewed 75 supply chain pioneers, and analyzed 25 years of financial data. We wanted to understand why the supply chain matters today, and how companies need to prepare for the next decade. The book is dedicated to the

first-generation supply chain pioneers that cobbled together those first processes.

The book also predicts the future, giving advice to supply chain teams on the evolution of processes for 2020. To run the race for Supply Chain 2020, these teams have to have the right stuff. They must have the right balance between flexibility and strength, they have to be balanced in their approach between go-to-market strategies and fulfillment activities, and they need a clear understanding of supply chain strategy. This requires a multiyear road map and a cross-functional understanding.

It also requires an understanding of the future of technologies. The road before us will be quite different from the road that got us here. The world of big data, the Internet of Things, new forms of predictive analytics, and the evolution of digital manufacturing offer great promise. The adoption of new technologies is part of winning the race for Supply Chain 2020.

When we submitted the abstract of this book to many publishers, to celebrate this 30-year journey of supply chain management, we were told that it was “boring.” Publisher after publisher turned us down. However, we persevered. We think it is an important story. It is the progression of the manufacturing age of business, the underpinning of the middle-class economy, and the essential component of many new business models.

Writing this book took six months. It would not have happened without a team of people. We would like to thank Regina Denman, Michael Hambrick, Heather Hart, Marie LeCour, Abby Mayer, and Jill Smith for their patience and help. Without this team, the book would not have happened.

CHAPTER 1

Why Bricks Matter

We had to learn supply chain practices. We then had to unlearn them as technologies evolved, and then relearn them based on new capabilities.

—First-Generation Supply Chain Pioneer

The story is old. When generations come and go, at the end, the bricks remain. They last through the ages. They are a symbol of prosperity, solidity, and strength. Found in many forms, they give a culture countenance. This book is a variation on this old theme. In the end, *bricks matter*.

The foundation of business is built on *bricks*. Manufacturing plants, warehouses, and sales operations centers are built to deliver on a brand promise. Each is run by people. Collectively, their effectiveness can make or break a company's ability to fulfill customer promises. To drive success, these processes need to be synchronized. They need to be carefully architected and adapted to meet strategy. The design has changed over time as business complexity increased.

In business, while there are fads, true value is built through continuous improvement of processes to deliver real products to real people along with market differentiating services to build brands. To make year-over-year progress, companies learn—although, sometimes the

hard way—that the ability to successfully deliver on the brand promise requires proficiency in supply chain management.

I found Rome a city of bricks and left it a city of marble.

—Augustus

The term *supply chain* is not new. It is fundamental to military strategy. It was the difference between winning and losing in the Napoleonic wars and the Battle of the Bulge in World War II. The application of supply chain practices as a fundamental business process is newer. First coined in 1982 to be used as an overarching business concept, it is now 30 years old. Over the last three decades, it has morphed in definition.¹

No two companies today define it the same, nor will they agree on what *good* looks like. The definitions are as varied as ice cream flavors in a local shop.

The goal of this book is to share the insights of what has been learned over the course of these 30 years. In this book, we do not debate the ideal supply chain or the flavor of the month. Instead, we give insights on the evolution of the processes, share the stories of success and failure, and prognosticate on the future of tomorrow’s supply chains.

To help the reader not familiar with supply chain vernacular, here we start with a definition. For the purposes of this book, we define the term *supply chain* as “the process of organizational alignment to effectively manage the flows of cash, product, and information from the customer’s customer to the supplier’s supplier.”

Success depends on both vertical processes (within a function) to drive operational excellence and horizontal processes (across functions) to ensure alignment within the organization. Excellence happens when there is orchestration of the trade-offs to the business strategy.

Supply chains make good companies great; however, ensuring this happens is easier said than done. As shown in Figure 1.1, each company has an effective frontier: a unique set of trade-offs to manage to improve business outcomes.

Over the last 30 years, supply chains have become more complex with implications for cost, working capital, social responsibility, and product quality. These interactions involve thousands of trading partners in interconnected and ever-changing relationships that stretch around the globe. Excellence is defined through trade-offs on the effective frontier.

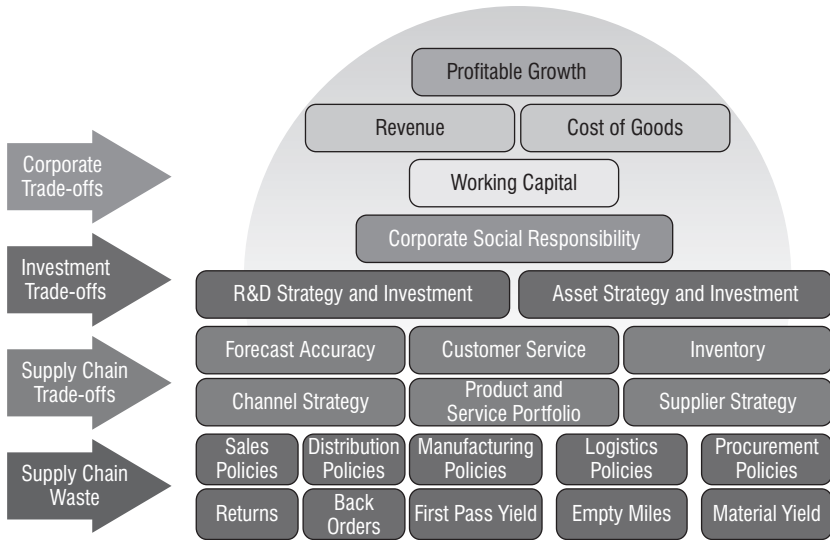


Figure 1.1 The Supply Chain Effective Frontier

The challenges are many. Time and clock speed pressures are high. Cultural differences are a hindrance. Data latency is a problem. The impacts on economic growth are far-reaching. It is a complex system with complex processes with increasing business complexity. This management is intricate. There is not one supply chain. Companies find that they have five to seven unique supply chains to be managed simultaneously. These systems need to be knitted together into business process outcomes.

Although it is easy to understand the increasing business process complexity, the key to supply chain success is a true understanding of the supply chain as a system, and learning how to make the right choices on business complexity to drive true lasting value. Today, there are 3,500 companies greater than \$1 billion in revenue working on improving the supply chain response. There is no company that feels that it has it nailed. There are no best practices. Instead, the processes are evolving.

▶ THE MISSION

Supply chain leaders manage complex systems with complex processes with increasing complexity. Leaders orchestrate the trade-offs vertically and horizontally to deliver the business strategy. Laggards let the supply chain whip them around.

Core to the business strategy is agreement on how to make trade-offs. Strong decision-making capabilities delivered through a horizontal process characterize supply chain leaders. Governance and well-defined decision-making processes are essential. A good supply chain translates to good business.

Once I was asked to shut down a manufacturing facility. I had worked with the people in the factory for many years. As we rolled out the lay-off packages and talked about why we needed to relocate the factory, no one liked it; but everyone understood it. I was okay until we leveled the building, and I sat on the rubble of the bricks that once was a vibrant entity of people making real things day after day. It was then that I cried. I was all alone sitting on the bricks remembering what had been.

—Director of Supply Chain Management,
Chemical Industry

Most companies understand that supply chains have complex processes. They also know all too well that the underlying processes are growing more complex. They live it every day. However, what most companies fail to realize is that supply chains are *complex systems* with *finite trade-offs*. These choices happen up and down the supply chain. Leaders make them consciously while laggards make them by default. They are both horizontal (cross-functional) and vertical (within a function). They are also intra-enterprise (within the company) and inter-enterprise (external to the company within a trading network).

Each supply chain has a unique potential. As shown in Figure 1.1, the business choices are intrinsically linked at multiple levels.

The approach needs to be holistic. Some typical trade-offs include:

- The proliferation of products and services will increase demand error, raise inventory levels, and decrease asset utilization.
- An extreme focus on cost will decrease customer service and increase inventory levels.
- New products will increase forecast error, inventory, and supply chain waste.
- A singular focus on asset utilization will increase inventory and decrease customer service.

- An increase in customer service will increase cost, decrease asset utilization, and increase inventory levels.
- Shortening working capital cycles will increase cost.
- Lengthening the manufacturing and delivery supply chain cycles will increase working capital and decrease customer service.
- Increasing manufacturing quality hold times will increase inventory levels, increase working capital, and decrease customer service.

For each supply chain, the impact is different. There are no hard-and-fast rules. The trade-offs of customer service, forecast accuracy, and inventory are the easiest to understand. Through continuous improvement programs, employee training, investments in technology, and alignment of metrics, the core of the supply chain can be improved.

In setting targets for the supply chain, leaders use advanced modeling tools to understand their specific supply chain potential. Modeling helps organizations see the impacts of business changes through *what-if analysis*. This analysis allows companies to set realistic and holistic metric targets. Leaders use the same metrics but different targets for each supply chain team. The determination of supply chain potential cannot be accomplished through spreadsheets. As a result, companies working on improving supply chain capabilities need to invest in business analytics for supply chain modeling. Without this modeling, the goals are unclear. They cannot be rolled up horizontally across the organization or vertically from region to global.

There is no magic wand or easy button. Companies cannot wish things to happen; instead, leadership happens through hard work. It is about building the organizational muscle to raise this effective frontier. It requires strength, balance, and flexibility. Results happen over many years. Progress is not linear. Supply chain leaders set targets consciously and align metrics systematically with a focus on balance. Supply chain laggards let their supply chain whip them around.

Time is money. If we could take one day of transit time out of the supply chain, we could free up \$1 billion in cash. Unfortunately, we cannot.

—Chief Financial Officer, European Operations,
High-tech and Electronics Manufacturer

IMPLICATIONS

Implications matter. The business impact of the evolution of supply chain practices is far-reaching. To support the evolution, an entire ecosystem of software, consulting, and hardware companies dedicated to improving supply chain processes evolved.

The use of these technologies enabled growth in global markets, accelerated new product introductions, and drove more-informed decision making within the company. As computing power grew and connectivity increased, process and technology innovation accelerated. Although progress has been made, this journey is far from over. Today, there is a plethora of solutions for cloud-based computing, big data supply chains, mobility, and advanced analytics for learning systems. The greatest concentrations of solution providers building technologies for supply chain management are in Germany, India, and the United States.

To improve the processes, and to conquer new opportunities, corporate spending has been significant. Over the past 20 years, manufacturing organizations have spent 1.7 percent of revenue on new forms of information technology (IT) to improve visibility, accelerate decision making, and drive insights. This spending has had a profound economic impact on the gross domestic product (GDP) of nations and on the business results of manufacturing companies.

I remember the early days of supply chain management, when we typed our own letters, mailed them in paper envelopes, and went to our office for a conference call. Today, we communicate globally in real-time anywhere. E-mail has replaced inter-office mail and our handheld devices define where we will have our next conference call. So much has changed.

—*First-Generation Supply Chain Pioneer*

Not all supply chains are created equally, and not all industries perform at the same level. High-tech, chemical, and consumer products supply chains are the most mature. The industries of automotive, pharmaceutical, and retail lag the rest.

There is an inverse relationship between margin and supply chain excellence. When margins were tight, supply chains got better. The combination of product life cycle changes, commodity margin pressures, and product proliferation put pressure on organizations to improve the processes quickly. Throughout this book, you will see that manufacturers with the tightest margins defined wave after wave of supply chain process excellence.

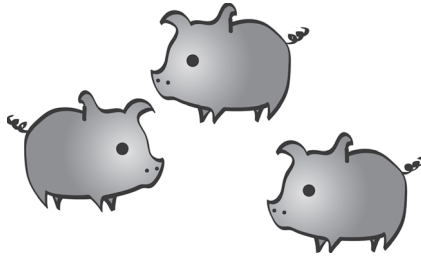
In today's world, *clicks* are sexier than *bricks*. There is a fascination with online presence. Social and e-commerce news grabs headlines while the traditional manufacturing processes are largely taken for granted. Delivery through the supply chain is assumed. Supply chain processes are not sexy. The pioneers did not earn the seven-digit salaries of the Wall Street financial executives. However, the supply chain was and still is the silent enabler behind great companies, world economies, and successful communities. It created viable brands and defined world economies.

The bricks of the supply chain are analogous to the children's story *The Three Little Pigs*. When a supply chain is done right, it makes companies stronger to withstand the storms and volatility of the global economy. When it is done wrong, companies fold against the winds of market changes. The best supply chains are built with a clear understanding that bricks matter.

Supply chains made hastily will fail. They are unequal to the test of demand volatility. They cannot meet the challenges of global risk management or the pressure to produce new products quickly to enter a new market. It is only when the supply chain is made of the right bricks that it can maximize opportunity and weather market-to-market volatility.

BUILDING THE RIGHT BRICKS

The bricks pave the evolution of supply chain processes. In the 30-year evolution, as shown in Figure 1.2, three types of bricks mattered: the right use of assets or *buildings*; expansion into Brazil, Russia, India, and China (BRIC countries) and the *knowledge* to build supply chain processes.



Published in England in 1886 by James Orchard Halliwell-Phillips, the tale of the *Three Little Pigs and the Big Bad Wolf* tells the story of bricks. This well-known story begins with three little pigs being sent out into the world by their mother to “seek their fortune.” The first little pig builds a house of straw, but a wolf blows it down and the pig runs to his brother’s house. The second pig builds a house of sticks and when he sees his brother he lets him in, with the same ultimate result. Each exchange between the wolf and the pig has a chant:

“Little pig, little pig, let me come in.”

“No, no, not by the hair on my chinny chin chin.”

“Then I’ll huff, and I’ll puff, and I’ll blow your house in.”

The third pig builds a house of bricks and when he sees his brothers he lets them in. The wolf fails to blow down the house of bricks. The wolf then attempts to trick the little pigs out of the house, but the pigs outsmart him at every turn. Finally, the wolf tries to come down the chimney only to find that the pigs have placed a pot of boiling water in the fireplace. The wolf comes down the chimney, lands in the pot of hot water, and is cooked.

Brick 1: Effective Asset Strategies: The Buildings

The effective use of assets starts with supply chain design. In the early days of supply chain management, manufacturing and distribution processes were insourced. Companies owned their bricks and mortar, and products were made and sold within the same region. Today’s supply chain is largely outsourced. Manufacturing and distribution

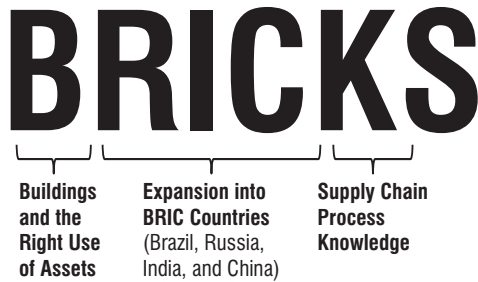


Figure 1.2 Bricks Matter

centers are operated by third parties and the flow of goods and services use many modes of transportation to cross multiple international borders to enter global markets.

Most companies inherited their supply chains. The active design of supply chain networks is relatively new. In the first 20 years, the placement of factories, the design of distribution centers, and the selection of suppliers were not critical. Today, the design is paramount.

As global trade barriers tumbled, the design of the supply chain needed to be more flexible. It needed to flex on many dimensions to take advantage of the lower costs of labor, to build the capability to enter new markets, or to drive the opportunities for tax incentives and rebates. As a result, today's companies focus on more frequent network design and the building of processes to support manufacturing and logistics outsourcing. Planning becomes more important.

Despite the increased outsourcing and growing complexity of production and distribution processes, companies quickly learn that while they may outsource the bricks of their supply chain, they cannot outsource the responsibility. Many companies have learned this lesson the hard way through failure.

As a result, they have stumbled forward. As companies have outsourced the supply chain, they have had to build inter-enterprise processes to ensure that they are able to achieve better levels of quality, customer service, and corporate social responsibility through their network as they did when all functions reported through their organization. As a result, the focus of the supply chain has become outside-in.

Today, it is focused on not just building chains but also on the design of agile networks.

As companies outsource, they quickly learn that relationships matter. The nodes of the network are only as effective as the trading partner relationship. As a result, the sharing of information and the alignment of incentives increase in importance. This is the mortar between the bricks.

To effectively use assets, supply chain leaders have found that they cannot be insular. They have found that they must tear down the bricks between the silos of their own internal organizations to stretch across networks to build lasting supply chain processes. The walls of these functional silos are difficult to break down, but they must be dislodged to build the end-to-end supply chain. For, it is now not just a company's bricks, but the responsibility for all the assets of the extended network that is paramount.

Brick 2: Right Expansion into BRIC Countries

Through the last decade, the largest contribution of the supply chain team was driving growth in emerging economies. These teams powered growth in the emerging countries of Brazil, Russia, India, and China. They fought the corruption of Russia, battled the compliance barriers of Brazil, and embraced the sheer enormity of China and India. These were greenfield start-ups (built from the ground up).

From our supplier's supplier to our customer's customer, our supply chain in Brazil is 200 days long. When we started, we projected capacity for five years. Due to exceptional growth, we found that we exceeded our usable capacity within one year. We were in trouble. To build a new plant in Brazil takes two years. The application process is tough. We have to get approval from three of the 13 ministries within Brazil before we can start the process. As a result, we built capacity in China and ship the product to Brazil to satisfy the burgeoning needs.

—Second-Generation Pioneer, Chemical Industry

The biggest hurdle was human. Within these geographies there was little to no understanding of supply chain processes. Factories had to be built, and teams had to be hired and trained. Companies forged new partnerships and adapted to new forms of logistics infrastructure. Each country had a unique story and set of obstacles. Coca-Cola's failure in India spurred progress on social responsibility while Wrigley's success in China redefined processes with distributors. It is one of the reasons that McDonald's succeeded in India while Kentucky Fried Chicken failed. Success in emerging markets gave InBev the funds to purchase Anheuser-Busch.

Globalization is a process of the past, present, and future. The work is not done. It is still a challenge, and of growing importance for companies to drive growth.

CASE STUDY

EXPANSION INTO BRIC COUNTRIES: MCDONALD'S

McDonald's operates in 119 countries serving 68 million customers on a daily basis. The company stayed true to the brand promise while recognizing the different local preferences for taste. In Norway, McDonald's offers a McLaks (a salmon and dill burger); in Uruguay, the menu features a McHuevo (a burger topped with an egg); whereas in Japan, the company serves Ebi Filet-O (a shrimp burger). In Germany, McDonald's serves beer. In India, the menu is free of beef and pork products. The menu is local. The supporting supply chain was designed to support country-specific taste preferences. Many times this was done in regions where the suppliers and the supporting infrastructure did not exist. In each region, the supply chain pioneers identified and qualified suppliers and built logistics infrastructure to deliver the redefined McDonald's experience.

Contrast this with the story of Kentucky Fried Chicken (KFC). KFC opened in India at the end of the twentieth century only to leave the market. The company made two mistakes: the menu was not localized to recognize regional taste preferences and the supporting supply chain of suppliers was inadequate. The company reentered the Indian market in 2004 with a new menu focused on meat-free rice dishes, wraps, and spices more in line with Indian taste preferences.

Brick 3: Knowledge: Building Effective Supply Chain Processes. Putting Value in Value Networks

The last brick is knowledge. It is building the right supply chain processes. While the definition of supply chain excellence has changed over the last 30 years, leaders have progressed through stages as shown in Figure 1.3. There are five phases: the efficient, the reliable, the resilient, the agile, and the aligned supply chain. For most, the agile and the aligned supply chain are aspirational. (The agile supply chain is often termed *demand driven* and the aligned supply chain is termed *market driven*.)

While companies attempted to implement best practices over the last 30 years, they are now grappling with the fact that many Y2K projects built an efficient supply chain without resiliency. These investments made the supply chain strong, but not agile. Today, most companies have processes that can respond, but cannot adapt. They are too rigid. They cannot sense and adapt to market shifts. This is the basis of the drive to create market-driven value networks.

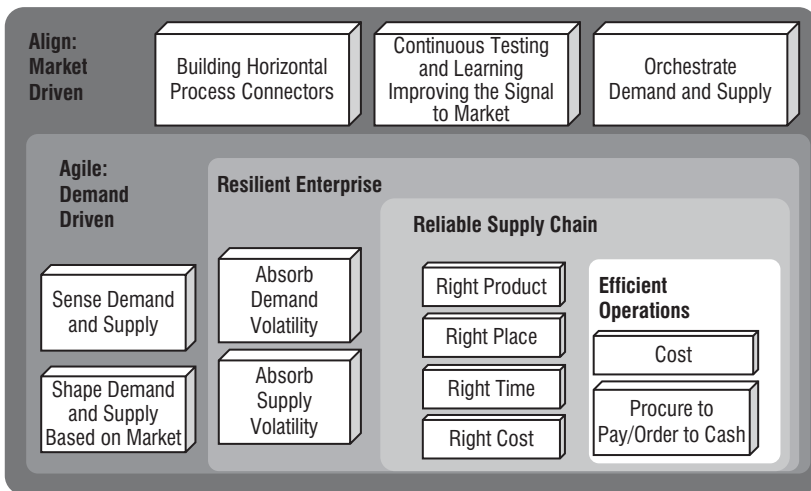


Figure 1.3 The Evolution of Supply Chain Process Excellence