Supply Chain and Demand Chain Integration:

The Pathway to Profit and Competitive Advantage

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The Twenty-First Century Challenge

Over the last decade, a powerful mandate for sustained business productivity has emerged: to design, alter and, combine products and **services** to **profitably** and efficiently meet the needs of customers. "Managing demand for the total value maximization of the enterprise and the supply chains" is the "competitive battleground" of the twenty-first century, argues Dr. Hau L. Lee of Stanford University.[1] This white paper explains why and how companies can meet this challenge and achieve maximum return and competitive advantage by combining the supply and demand chains.

This is no simple task. Only a handful of leading firms have undertaken the challenge of integrating their supply chain management (SCM) and customer relationship management (CRM) processes and systems. A big reason for this is the practicalities of everyday business. Speak with enough industry executives, suppliers, customers, and business journalists about connecting supply chains and meeting customer demand and a generalization emerges: SCM seeks to optimize supply, whereas CRM seeks to optimize demand; SCM is cost focused and deals with production and execution; CRM is revenue focused and involves identifying and responding to customer needs.

It is relatively common to fine discrete functional excellence in supply chain management side by side with customer relationship management. Although they are part of the same whole – a business seeking to create products and services for end customers – SCM and CRM frequently operate as separate, self-optimizing – even adversarial – entities. In practice, few companies truly optimize or integrate the supply chain with its demand chain counterpart.

1) H.L. Lee, "Ultimate Enterprise Value Creation Using Demand-Based Management," a white paper for the Stanford Global Supply Chain Management Forum (September 2001): 1.

Coming to terms: What do we mean by CRM, SCM?

For the purposes of this white paper, supply chain management refers to all of the strategies, processes, and technologies that together form the basis for working with internal or external sources of supply. Customer relationship management refers to all of the strategies, processes, and technologies that companies use to generate and sustain demand.

The white paper also includes a handful of other important terms, which can be defined as follows:

- *connectivity: The ability for systems to share information. In an era of ecosystems, the level of required interconnectivity expands exponentially. Connectivity mandates modular, integrative, flexible, scalable, and open technologies.*
- *customer-centric adaptive network (CCAN): Also called an ecosystem, a CCAN is a technology-enabled collaboration between an individual company and its partners, suppliers, and customers. The complexity and speed of business today – marked by accelerated customer demand and intense competition – is the catalyst behind the formation of intimate and codependent CCANs.*
- *customer intimacy: One leg of the Treacy-Wiersema triad of competitive disciplines. The primary business model of customer-intimate companies relies on customer insight to address a broad swath of unique customer needs. These companies focus on scope, that is, they tend to deliver complete solutions to any perceived customer need.*
- *operational excellence: A leg of the Treacy-Wiersema triad of competitive disciplines. Companies that pursue operational excellence seek to reliably deliver products and services at the lowest possible cost. Their focus is on cutting costs.*
- *product innovation: A leg of the Treacy-Wiersema triad of competitive disciplines. Companies that pursue product innovation rely on innovation in the pursuit of best-in-class products. They focus on agility – the ability to rapidly devise new and enhanced products.*
- *value chain: SCM is focused on the supply chain; CRM is focused on the demand chain focused. But when viewed as a whole, these two strategies combine to form the overall value chain – from raw materials through to product delivery and service.*

This isolation between production (supplier-facing activities) and sales (customer-facing activities) is never optimal, but its shortcomings become particularly acute when a company attempts to incorporate CRM into its business model. Successful CRM requires a company to interact more effectively with its customers and to use what it uncovers to change how it treats specific customers. The result is the creation of different treatment strategies (in the form of differing products and services). This mandates improved communication, coordination, and integration of supply chain and demand chain elements.

The functionally excellent delineation between SCM and CRM may have been sufficient in an era when the competition also had uncoordinated, dysfunctional supply and demand integration. But in today's era of intense, technology-fueled competition, leading companies in nearly every industry are working to seize first mover advantage by focusing on the strategies and technologies that enable SCM and CRM to coalesce.

The Impact of Inaction

The deleterious results of not integrating the supply chain and the demand chain are becoming increasingly evident. Supply chains chronically underperform if they fail to analyze and respond to the needs of end customers. A company can't reach its full potential in terms of developing, refining, supporting, or delivering products and services without using customer insights to shape and refine the supply chain. The company may achieve economies of scale in production, but it may lose opportunities for product refinement and breakthrough performance. Specifically, SCM without CRM results in:

- Suboptimal product and service development because consistent, timely information on customer needs doesn't flow across the supply chain to key partners
- A lack of product and service differentiation because customer information doesn't flow to supply chain functions, leading to commoditization and relentless pressure to consistently eliminate cost from supply chain processes
- Inefficiencies because companies can't provide the necessary back-office resources to customers according to their value to the company

Conversely, it's impossible to execute a CRM strategy that meets the unique needs of individual customers – cost, quality, variety, delivery, service – if the underlying support capabilities can't deliver. CRM on top of a weak supply chain merely provides customers with a clearer view of the mediocrity of the underlying logistical capabilities. CRM that is not effectively tied to SCM results in:

- Underdelivering
  Front-office strategies and processes will increase customer interactions and customer expectations. But if the back office can't deliver on front-end promises, hollow CRM results, and customer satisfaction decreases.
- Overdelivering
  CRM strategies and processes that don't provide cost transparency into SCM information may result in delivering products or services that are unprofitable.
- Lost share of customer opportunities
  Without integration, the supply chain can't capitalize on the customer needs information that CRM uncovers, and a company can't form new supplier partnerships that intelligently and profitably increase the scope of its offerings.

A growing number of companies are experiencing effects like these by not integrating SCM and CRM. The recent experience of a well-known, U.S.-based high-tech manufacturer illustrates this disconnect. According to a company spokesperson, a costly rift between engineering and product development and marketing didn't become evident until the following scenario had run its course.

Engineers from a company division received direct input from a major customer about improvements in a critical product set. The production team saw this as an opportunity to improve quality and reduce production costs. But instead of collaborating with the demand side of the business, engineers forged ahead on their own. Soon a new set of significantly refined products was in production and rolling off the assembly line.

"The engineers believed all they had to do was stay ahead of the market and the company will succeed," says the spokesperson. "They felt no need to involve marketing along the way." But the lack of collaboration cost the division dearly. Marketing campaigns lagged behind. Customer service teams lacked product information and training. Value-added resellers weren't briefed on the new product's attributes and technical requirements. With product held in inventory, word of the innovation leaked out, rendering existing products obsolete or sold at a significant loss. In an industry in which product life cycles are measured in months, the product development triumphs were squandered by a failure to coordinate the supply chain with demand intelligence.

The high-tech firm is not alone. In the mid-1990s, Volvo found it had an excessive inventory of green cars at midyear. Looking to reduce the inventory, the sales and marketing group began offering a host of discounts, deals, and rebates on green cars to distributors. Sales of green cars soon picked up. However, the company's supply chain planning group was not aware of the campaign and erroneously concluded that customer demand for green cars was the impetus behind the spike. As sales increased, the supply chain group decided to produce even more green cars to meet perceived demand. At year's end, Volvo had a substantial inventory of green cars due to the communication breakdown between its SCM and customer-facing groups.[2]

Now's the Time

To avoid costly scenarios like these, firms are moving to integrate their supply chain and demand chain processes. Not to do so invites risk. "Pursued separately, supply chain management and customer relationship management can result in missed opportunities and poor performance. Enterprises must build bridges between them," states a 2002 commentary by Gartner Research.[3] Simply stated, the maturation gap between SCM and CRM has closed considerably, and the time for integration has arrived.

The process of SCM-CRM integration is just beginning. But for innovative companies at the forefront of this trend, initial research shows a promising ROI. When SCM and CRM are integrated in terms of strategy, process, culture, and technology, real-time, optimal profitability can take shape. That's because SCM-CRM integration enables the back end to profitably and efficiently deliver on what the front end promises.

Examining why and how companies can take the necessary steps toward greater coordination between the supply and demand chains is our focus in this white paper. It begins with the strategic argument for harnessing technology to integrate these formerly disparate disciplines and suggests the pathway for achieving this goal. It then examines the need for internal SCM-CRM coordination followed by external coordination of these chains as networks built on valuable relationships with suppliers, partners, and customers. It concludes by examining the critical role of technology in this process and the tangible benefits waiting for those organizations capable of leading the way.

2) This recounting of the occurrences at Volvo was also taken from Lee's "Ultimate Enterprise Value Creation." See footnote number 1 for full reference.

3) J. Woods, A. White, K. Peterson, and M. Jimenez, "Demand Chain Management Synchronizes CRM and SCM," Gartner Research (Oct 2002): 1.

The Strategic Imperative for SCM-CRM integration

The fundamental task of any company executive is to increase the value of the enterprise by reducing cost and increasing revenue. To accomplish this goal, many companies have launched SCM initiatives to streamline production and delivery (cost reduction) and CRM initiatives to identify and optimize customer demand (revenue generation). Independent SCM and CRM initiatives have seen success. But in today's era of intense competition and growing customer demand for individualized treatment, executives must combine SCM and CRM initiatives profitably and efficiently. In doing so, supply chain management and customer relationship management can exploit their intrinsic interrelation and bring both to a new level of performance.

What impact does this business strategy have on productivity and profitability? How can it help executives create the value they seek? As illustrated in Figure 1, the coordination of the supply chain and demand chains to generate a 2% impact across various income statement line items can increase net income by approximately 23%. The primary engines for driving this are cost reduction and revenue generation. Taken together, minor improvements across the value proposition can have a profound effect on the bottom line.[4]

The Seeds of Strategic Direction

Before you can make a change of this magnitude – and reap the rewards – you must have a sound strategy in place. Sound strategies begin when executives ask the right questions. An understanding of existing strategies and processes is key to identifying organizational and systematic strengths, weaknesses, gaps, and opportunities. The journey begins with a fundamental question: Are your CRM and SCM functions fully integrated, partially integrated, or not at all? Move one level deeper and a number of additional, on-point questions emerge, questions that may reveal current inefficiencies within your organization.

Figure1: The Integrated Value Proposition

Income Statement Line item	Application	Justification
Sales	CRM	Improved and Faster Order Management
– COGS	SCM	Optimized Labor & Material, Reduced Spend
Gross Profit		
– Depreciation Expense	SCM	Improved Asset Utillization, Throughput
– Selling Expense	CRM	Improved Sales Force Productivity
– G & A Expense	CRM	Reduced Transaction Expenses
– Logistics Expense	SCM	Optimized Transportation Expenses
– All Operating Expenses		
Operating Profits		
– Interest	SCM	Reduced Working Capital Requirements
Income		
A 2% positive impact across the various income statement line items can increase net income by approximately 23%.		

4) This sample income statement represents the combined impact of CRM and SCM. The capture of additional orders, reduced lost sales, and higher degree of customer satisfaction are expected to generate a conservative 2% revenue uplift to the top line. Also, greater supply chain efficiency (in the form of improved capacity utilization, labor utilization, material utilization and reduced depreciation expense) is expected to help reduce costs by a conservative 2%. Assuming no increase in fixed expenses, this 2% impact on various line items on the income statement can be expected to generate approximately a 23% lift in profit margins.

- *Do your marketing and production departments operate independently?*
  The failure to jointly develop production and marketing plans and the failure to share data in real time are significant barriers to identifying and responding to customer demand, optimizing inventories and production runs, exploiting sales and product development opportunities, and servicing the customer base.

- *Do your marketing and production groups work according to separate forecasts?*
  The inability to collaboratively develop forecasts in real time leads to either excessive inventories or out-of-stock situations. Poor collaboration leads to this situation internally, as well as up and down the external supply and demand chains.

- *Do you incorporate your service organization forecasts into your sales and production planning processes?*
  Not taking service forecasts into consideration negatively affects new product sales and marketing plans, as well as production and procurement plans. Ignoring service demand can cause sales and service strategies to work in opposition and present significant supply chain support issues.

- *Can you show inventory, pricing, and delivery dates for specific products and services to customers in real time? Does your sales force know which promises your logistics and production teams can make and keep?*
  Customers demand certainty. Consistently and reliably delivering as promised is a driving force behind customer loyalty, customer satisfaction, and ultimately ROI.

- *Do you use demand chain intelligence and customer insights in a timely manner to benefit product development, service, support, and logistics?*
  The field sales force, call center agents, Web site, and the service department continually gather data about product performance, acceptance, and evolving customer- and competitor-driven product and service requirements. Companies that don't share and respond to this data miss opportunities in product and service development, reduce customer loyalty, and face increased support and warranty expenses.

- *Do your supply chain partners have the information they need to optimize production runs and inventories relative to your demands?*
  By removing uncertainty, you reduce inventory across the supply chain and generate savings in materials (by making less and reducing waste) and time (by not making unnecessary products and the material needed to create them).

Answering these questions is the first step toward initiating a strategic direction, combining SCM and CRM systems, and achieving the net income lift illustrated above. Step two is to develop a broader understanding of a strategic framework that describes the forces driving the need for SCM-CRM integration. Armed with this understanding, you can develop a strategy with its own integration efforts.

A Strategic Framework

In the past, companies have been able to survive with less than optimal supply chain and demand chain integration. Most have taken the approach of optimizing SCM or CRM processes in isolation.

Greater coordination is imperative. The engines behind this integration imperative are twofold. First is the intense pace of competition. Forward-looking companies are reengineering SCM and CRM processes and generating cost savings and strategic advantage to such a high degree that those who aren't taking a hard look at SCM-CRM integration invite significant business risk. This elevated pace of competition and ensuing risk stems from the second driver of SCM-CRM integration: customer demand.

Customer demand generally falls into three categories: Customers want the most useful and beneficial product; they want it delivered at the lowest possible price in the shortest possible time; and they want it with the appropriate services and products to ensure the overall purchase successfully meets their needs. This increased customer demand along with the rise of intense competition mandates the combination of SCM and CRM.

In their groundbreaking work, *The Discipline of Market Leaders* (Addison Wesley Publishing, 1995), authors Michael Treacy and Fred Wiersema link these areas of customer demand to three distinct – and mutually conflicting – competitive disciplines. They contend that firms must focus primarily on just one of the following disciplines to achieve competitive success: operational excellence, customer intimacy, and product innovation.[5]

Operational Excellence

The operationally excellent company designs its business model to operate in a streamlined, efficient way, minimizing extraneous activities and concentrating on driving costs down to their lowest level for a chosen level of quality. Such a company often increases the scale of its business as a way to drive down unit production costs. Through process redesign and continuous improvement, the operationally excellent company eliminates unnecessary products and services and attempts to streamline the customer service cycle, providing end-to-end product delivery.

Customer Intimacy

Using customer intimacy, a company focuses on increasing the scope of the relationships it has with its customers. The customer-intimate firm works to make available a whole range of products and associated services to customers so that customers can obtain an integrated solution to broad problems. Such a company may not have the most innovative product in any given category, nor will its prices be the lowest, but its customers find that the overall configuration of products and services has been tailored to the their unique needs.

The customer-intimate company bases its success on its expertise in solving customer problems rather than in product features and benefits. By customizing the configuration of services it offers, it develops continually broader solutions, enabling it to concentrate on acquiring, retaining, and developing customers rather than on invention and cost control. This type of company may even offer its competitors' products to its own customers as a way to maintain its trusted advisor status.

5) M. Treacy and F. Wiersema, The Discipline of Market Leaders: Choose Your Customers, Narrow Your Focus, Dominate Your Market (New York: Addison Wesley Publishing, 1995).

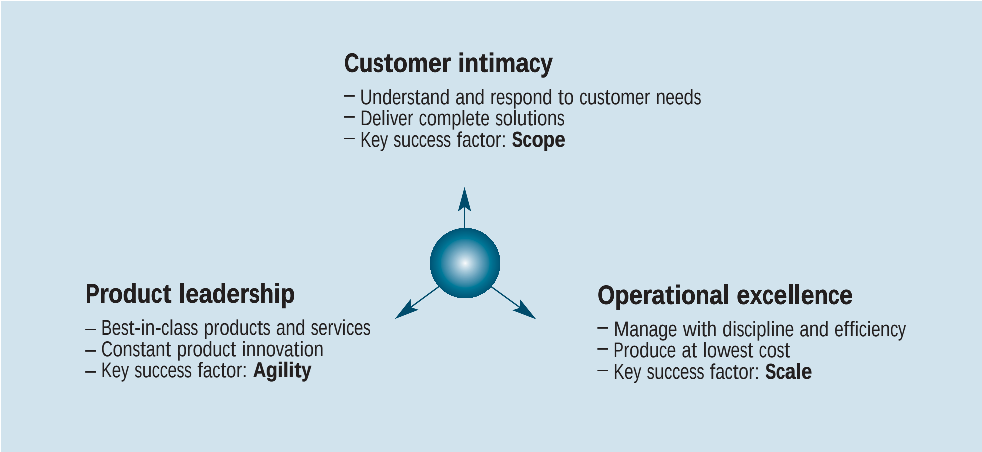
Product Innovation
Rather than offering products at the lowest price by holding costs down, the product innovator concentrates on having the newest, most unique, or most advanced products available. For this kind of company, competitive success depends on staying ahead of market trends, being flexible in its approach to production and sourcing, and constantly driving down cycle time for bringing new products through the development process into production and rollout. Product innovation – and the ability to bring those products to market quickly and efficiently – is the cornerstone of success.

The Treacy-Wiersema argument about these three disciplines is that any single firm is unlikely to deliver genuine excellence in all three realms because the preconditions for excellence are mutually exclusive. For instance, the operationally excellent firm can drive its costs down by increasing the scale of its operations, but for a product innovator looking for nimbleness and organizational flexibility, a large-scale operation is an obstacle, not an asset. For these reasons, one path to competitive success is for a company to choose the single discipline in which it can truly differentiate itself and then to focus on that specific discipline. Of course, the company must still make efforts to ensure the highest level of performance possible across all three realms, but the point is, with few exceptions, it will achieve the highest levels of success in only one area.

The SCM-CRM Connection

The three disciplines framework is useful for viewing how traditional SCM and CRM approaches have evolved and why they will inevitably fall short in terms of generating strategic advantage in the modern marketplace.[6]

Figure 2: Three different competitive strategies



6) For a full discussion of the connections between the Treacy-Wiersema model and CRM, see the mySAP CRM Statement of Direction 2002 extract, "A Vision Statement," by SAP and Peppers and Rogers Group.

For example, a scale-focused, operationally efficient organization typically concentrates its efforts on refining its supply chain. Cost is everything, leading the company not only to reduce its inventories and streamline its procurement processes (using, for example, electronic data interchange, vendor-managed inventory, and just-in-time processes), but also to narrow its products and services to as few offerings as possible. In this way, the company could reasonably ensure that it could manage the entire supply chain in a reasonably cost-efficient manner. Customer focus isn't entirely absent. It's simply that the overwhelming share of management attention is elsewhere. The rule: build it – or provide it – at the lowest cost, and customers will come.

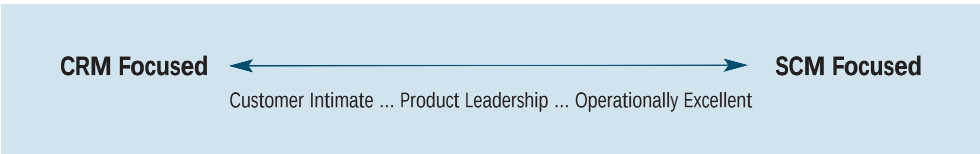
At the other end of the spectrum are customer-intimate competitors. These firms focus on building rich customer relationships rather than optimizing the supply chain. Supply chain management is a function that must be at least competently executed by such a firm, but the company's attention is centered on offering products and services that improve its relationships with key clients.

Product leadership companies occupy the middle ground of the SCM-CRM continuum. While relying on customer insights and CRM to anticipate customer needs, a steady stream of new products requiring new suppliers also means that such a company is likely to see SCM as a critical success factor in its business. The issue, however, is that collaborative planning of supply and demand remains haphazard because each new product or service is managed almost like a startup. Whatever its capabilities in SCM or CRM, these companies must continually integrate their processes with new suppliers and customers.

The Mandate for Change

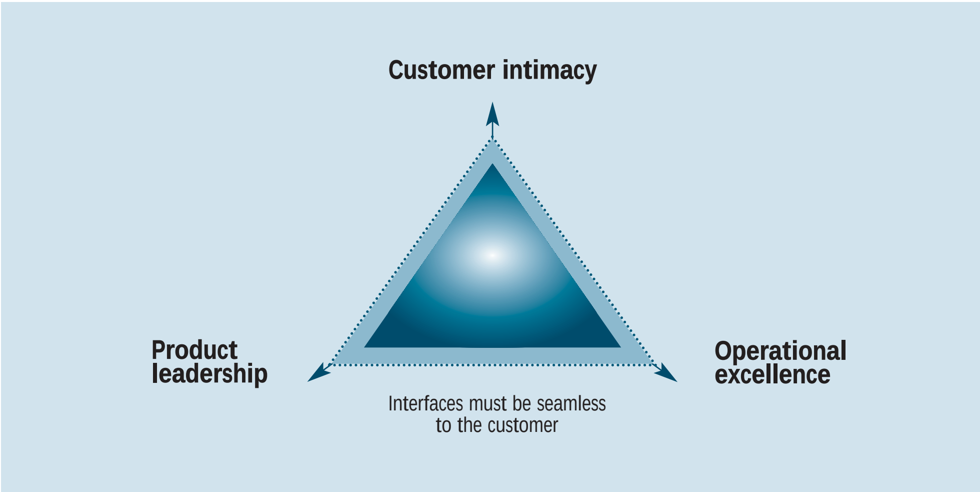
Customer demand for seamless treatment and the pressure to achieve excellence in each of the three disciplines is increasing. Today's climate of intense competition fueled by rising customer demand is pushing companies to be competent across all three disciplines, which in turn calls for greater coordination between the supply chain and demand chain. These forces compel the growth of connected CRM. According to the mySAP CRM Statement of Direction 2002 by SAP and Peppers and Rogers Group, "Connected CRM reflects the fact that customers don't just have a relationship with the service department or their salesperson; their relationship is with the entire enterprise. If the objective is to bring all of an enterprise's resources to bear on the challenge of serving customers, then those resources must be orchestrated in a connected fashion." Hence, the integration of SCM and CRM systems will continue to occur to meet accelerated customer demand and competitors' efforts.

Figure 3: The CRM/SCM Continuum



7) Ibid., 4.

Figure 4: The Customer Demand for Excellence

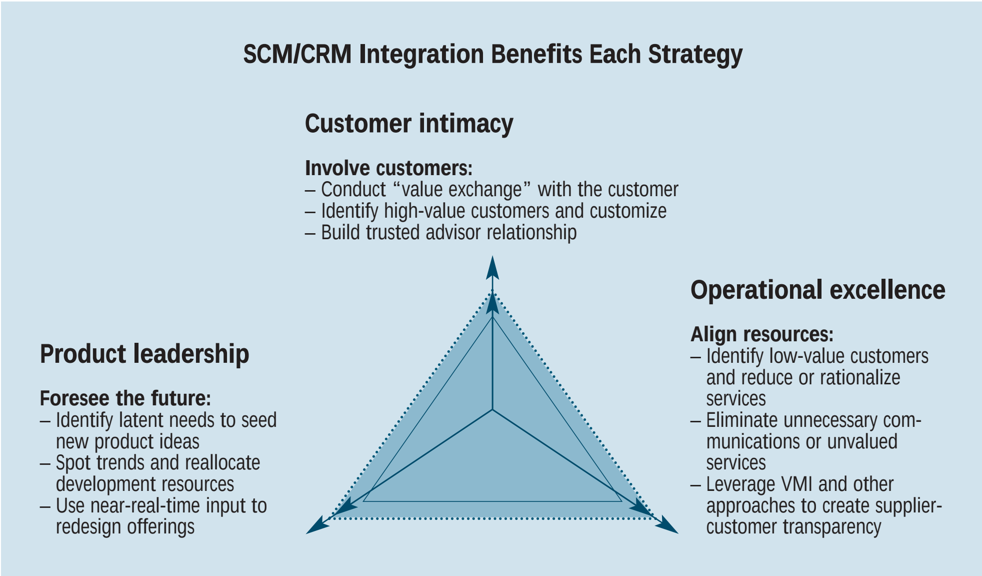


Technology as Facilitator

Technological innovation plays a critical role in helping companies become competent across the three disciplines, meeting customer demand, and integrating SCM and CRM processes. Harnessing technology, companies can redesign processes in ways that reduce the trade offs between one strategy and another. In essence, companies are learning how to advance the efficient frontier of excellence achievable outside their traditionally dominant competitive discipline. For instance, it is now easier than ever for an operationally excellent company to increase its customer intimacy. Technology can enable relationship-building activities that an operationally excellent company simply would not have taken on previously for fear of being diverted from its most important mission: cost control.

A number of challenges to SCM-CRM integration exist, ranging from process redesign to associated culture change. Advances in supporting technologies, however, have made the payoffs from tackling these issues just as compelling. A critical long-term effect of continually cheaper and more powerful computing technology is that the irreconcilable differences inhibiting your company from pursuing more than one competitive discipline at a time are becoming reconcilable. That is, if you choose to progress along two or more axes of the three-disciplines model, IT-enabled initiatives markedly improve the odds of your success.

Figure 5: The Benefits of SCM-CRM Integration



One way – and arguably the only way – of getting these efforts under way is the integration of SCM and CRM. No matter where your company resides among the competitive disciplines (and thus the SCM-CRM continuum), supply chain and demand chain integration can improve capabilities in the remaining two disciplines.

Seen in this light, the strategic imperative behind SCM-CRM integration begins to crystallize. Identifying **how** an enterprise can align itself to accomplish this goal is the topic of our next section.

The Two Phases of SCM-CRM Integration

Phase One: Internal Integration

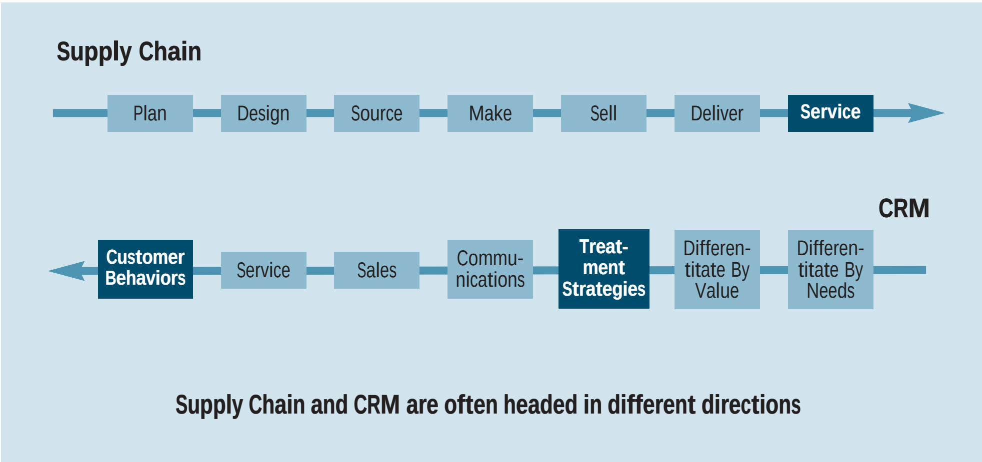
So far, we have outlined the strategic imperative behind SCM-CRM integration, and explained **why** greater coordination of the two can help drive competency across the disciplines. A fundamental understanding of a company's competitive business model and the ways in which accelerating customer demand and competition are likely to impact that model become the drivers of integration. By identifying your company's strategic orientation – then gauging the relative sophistication and integration of its CRM or SCM systems – you can pinpoint the areas of greatest strategic urgency and opportunity.

But strategy is only half of the equation. To understand – and implement – the how behind SCM-CRM coordination, many organizations are tackling three distinct challenges: the redesign of processes, the implementation of technologies, and the transformation of workforce culture (or change management). The impetus: if internal demand and supply functions aren't integrated, the creation of external relationships with partners and suppliers – and the true optimization of SCM and CRM – can't take place.

The Process Challenge

Before internal change can occur, an understanding of how SCM and CRM are typically defined and practiced is required. As we mentioned earlier, SCM and CRM often operate as self-optimizing, independent entities. Generally, SCM seeks to optimize supply, whereas CRM seeks to optimize demand. SCM is cost focused; whereas CRM is revenue focused. The result is the supply chain and demand chain move in independent, even adversarial, directions.

Figure 6: The Two Phases of SCM-CRM Integration



This delineation significantly affects business processes. Siloed approaches hinder productivity, hamper efficiency, and undercut competitive advantage. The Volvo and high-tech company examples explored earlier are excellent examples of this. In addition, independent optimization can't produce the business value that integrated SCM and CRM offers. "Ultimately, there is only one value chain, and it encompasses both the supply chain and the demand chain," explains Peppers and Rogers Group and SAP in the mySAP CRM Statement of Direction 2002. "Creating value based on insight into the final customer's characteristics and needs is the heart of CRM, but it is pointless to try to isolate this activity and confine it to just one half of the value chain."[8]

The goal is improved communication between the two. This is accomplished by identifying links between SCM and CRM, then redesigning work processes to facilitate communication between supply chain and demand chain groups. The challenge lies not only in the redesign and refinement of existing processes, but also in rolling out of new processes to maximize SCM-CRM integration.

The following list of processes demonstrates this point. Many of these processes are used either on the supply side or the demand side. Yet, as the subsequent explanations illustrate, each process relies on distinct SCM and CRM practices and systems. Only by recasting them to match integrated SCM and CRM can each of these business processes can be fully optimized and their ROI potential unlocked. The following sections describe these processes.

Collaborative Fulfillment and Available-to-Promise
Collaborative fulfillment provides visibility into finished products, components, parts, logistics schedules, and resources in real time. This allows companies to offer vital information to sales staff and customers when, where, and how (according to preferred channel) they need it. Collaborative fulfillment also provides the ability to commit to order quantities based on actual stock, plans, and allocations.

Though typically a SCM function, collaborative fulfillment can be enhanced when tied with CRM practices. CRM provides the insight necessary to refine collaborative fulfillment through customer specific treatment strategies. For example, product allocation – managing the flow of products through sales channels to end customers – can profitably match the availability of finished goods, components, and capacities to the needs of individual customers. Demand and supply management – dynamically reassigning order and supply matches to respond to unexpected shifts in demand or short term supply changes – is another example. CRM combined with dynamic supply and demand chain management provides greater flexibility to satisfy customer demand based on the needs of individual customers and their value to a company.

When the SCM side of collaborative fulfillment is combined with customer insight, a number of benefits emerge. These benefits include:
- Reduced inventory from having accurate inventory availability information
- Reduced lead times from better visibility of demand for suppliers of components
- Improved customer service and retention stemming from an improved ability to set and meet reliable delivery dates

8) Ibid., 9.

- Increased sales from being able to confirm availability and delivery of standard and configured products in real time
- Increased responsiveness by working across sales channels, taking production constraints into account, and tightly integrating the solution with planning, execution, enterprise resource planning (ERP), CRM, and e-sales systems

Trade Promotions Management

Trade promotions management (TPM) involves offering an incentive to enhance product sales. Typical trade promotions include discount rebates, event invitations, and premium product replacement. TPM requires your organization to leverage multiple sources of data, such as shipments, store coverage, store audits, point-of-sale data, and causal data, to determine the most effective trade budget. Systems must capture and align data so you can plan and compare budgets.

Despite the consumer packaged goods (CPG) industry's long-standing reliance on TPM, trade promotions are historically unprofitable. According to Accenture, CPG manufacturers "spend in excess of $25 billion per year to generate incremental revenues of only $2-4 billion."[9] According to Gartner, the top reasons for this are the expense of administering promotions (primarily due to the failure to match invoices to purchase orders); a manually intensive, error-prone process; poor planning and execution of economically unsound promotions; and inaccurate or untimely data flow between consumer goods manufacturers and retailers.[10] Meeting these challenges translates into a $10 billion opportunity for the industry.[11]

As a result, TPM is one of the most promising areas in which customer insight can improve business processes. The more you know about your customers –their needs, their value to the firm, their purchasing patterns – the more effective and cost-efficient your trade promotions can become. Improving TPM by increasing visibility into demand and improving your understanding of purchase histories can result in:

- Increased trade efficiency and greater sales and profits
- Reduced inventory
- Improved working capital
- SKU rationalization
- Increased margins
- Labor efficiency (allowing for more time selling)
- Reduced capital expenditures (generating margin improvement)

Configure-to-Order

Configure-to-order (CTO) scenarios delay the finalization of a product until a specific order is placed. An increasing number of companies are turning to CTO to meet accelerated customer demand, control inventory in the face of shorter product life cycles, and improve customer satisfaction. Intelligent CTO is another process that you can use to bridge the gap between the supply chain and the demand chain.

By delaying the finalization of a product, you can infuse value (especially CRM insight) into the product at any point in the value chain. CTO also balances customer demand for a range of products and services (and hence different treatment strategies) with a company's need to reduce inventory and other associated costs. Additional benefits of CTO include greater sales, retention, and market share; increased order accuracy; reduced time-to-market; and lower administrative costs.

9) V. Orler, G. Singer, and S. Gilday, "Capturing and Sustaining Value Opportunities in Trade Promotion," Accenture (2001): 1.
10) D. Hagemeyer, "Trade Promotions Management: Resolving the Top Problems," Gartner (2002): 1-4.
11) Ibid., 4.

Dell Computer's ability to enable individual customers to build their own computers is a good example of the CTO process. The greater the extent to which you can allow customers to customize product offerings, the greater the overall quality of the relationship becomes. In this case, technology can become the key contributor to improving communication with the supply chain at large and providing configuration tools for both suppliers and end customers.

Collaborating Planning, Forecasting, and Replenishment

Lack of visibility into inventory and downstream demand remains a significant obstacle to optimizing supply chain performance. Without such visibility, forecasts are typically based on historical – and potentially outdated – customer orders, shipment levels, and patterns. This opens the door for forecast error and uncertainty, and actual consumer demand may be very different from the order stream. This distortion of the demand picture imposes high supply chain costs in the form of suboptimal customer service levels, high inventories, and lower return on assets (ROA).

The process of collaborative planning, forecasting, and replenishment (CPFR) was designed to alleviate uncertainty and costly inaccuracies. CPFR is a fast-evolving set of standardized business processes and data-sharing protocols that enable suppliers and retailers to, as the name implies, collaborate. Essentially, all members of a value chain work from a jointly developed and continually updated set of forecasts and replenishment plans. With fewer surprises, retailers and suppliers alike enjoy faster cycle times, lower inventories, and reduced selling costs.

Contract Management

Contract management is the process by which companies control the agreements they have with suppliers and customers. Characterized by Gartner Group as the "arteries of commerce," contracts lie at the core of commercial and supplier relationships. With the average number of contracts reaching 20,000 to 40,000 at the typical Fortune 1000 company, their relevance can't be overstated.[12] But most organizations don't properly manage the contract life cycle because they can't see and control individual contracts. As a result, companies miss out on numerous opportunities because they fail to adhere to commercial and supplier relationships. These include unnecessary discounts, noncompliance with regulatory guidelines, erroneous payments, lengthy contract negotiation cycles, and renewal revenues.

Like the above processes, the challenges of greater coordination of demand chain elements into contract management can be formidable. But the principle of treating different customers differently is no less relevant in contract management as it is to other business processes. By identifying individual customers' needs and value to the organization, your company can provide customer-specific terms and conditions. This refined level of contract management helps you increase revenue (through faster contract negotiation and renewal and greater ability to customize contracts), improve relationships with suppliers and customers (by proactively anticipating their needs along with greater insight into customer and supplier operations), and reduce expenses (by reducing incorrect pricing, delivery terms, rebates, charge backs, administrative fees, and deductions).

12) C. Zant and C. Schlosberg, "Managing Contracts to Increase Revenue and Profits," Accenture (2002): 2-20.

Service Life-Cycle Management

A customer or supplier relationship doesn't end with delivery of the product or service. That's just the beginning. Service life-cycle management (SLM) is the process of combining SCM, CRM, and product life-cycle management (PLM) to meet individual customers' ongoing needs after the initial sale and delivery.[13] A growing number of organizations use SLM to maximize profit and revenue over the entire customer life cycle. The drivers for this are clear: "Customers will spend 5 to 20 times the initial sales price on subsequent services and consumables," argues AMR Research. Moreover, adds the 2002 report, "SLM positions companies to go after the 50% to 70% of potential revenue that they miss in the latter part of the lifecycle."[14]

The Technology Challenge

One important long-term effect of cheaper, more powerful computing technology is that the irreconcilable differences inhibiting a company from pursuing more than one competitive discipline at a time are being made more reconcilable. IT makes it easier for companies to reduce the need to trade off one strategy for another, in effect pushing outward the efficient frontier of excellence achievable outside the dominant competitive discipline.

For instance, as technology matures, an operationally excellent company can take on relationship-building activities that it would previously have avoided for fear of being diverted from its most important mission, cost control. Or a customer intimate firm can become more operations efficient and cost conscious by deploying new SCM-related technologies. In these ways, technology becomes the conduit through which companies can become more competent across the three disciplines of operational excellence, customer intimacy, and product innovation. The challenges can be steep, however. Technology-related challenges include ambiguous software requirements, data-level integration, business rule integration, and scope creep, system maturity, and business process integration and workflow.

Ambiguous Software Requirements

Despite great strides in the software engineering process, it remains difficult to properly integrate software systems. A key contributor to this difficulty is misunderstood requirements of critical internal groups. When implementing SCM-CRM integration, key business personnel from across departments – marketing, sales, service, finance, and so on – must actively and unambiguously communicate their requirements to the integrators. Integration efforts can be severely undercut when communication does not take place and integrators only possess the needs of a fraction of constituents. Hand in hand with the lack of communication is the tendency of each group to focus solely on its own needs rather than the cross-departmental needs of the organization.

Data-Level Integration

In addition to the data-type conversion and translation issues, the entities and relationships of products designed for a particular solution set don't readily translate into another, creating the need for abstractions and component architectures that can hide underlying implementations. SCM and CRM software applications address very different issues so each software application must have the tools necessary to access this information regardless of the syntactic and semantic differences. This is in stark contrast to the level

13) For additional insight into the roles played by SCM, CRM, and PLM in the creation of the larger value chain, see K. Peterson, "The Product Value Chain: Business Processes and Applications," Gartner, prepared for the Gartner Symposium ITxpo (October 2002).

14) M. McCluskey, J. Bijesse, and L. Higgs, "Service Lifecycle Management (Part 1)," AMR Research (August 2002): 1, 3.

of integration necessary between a customer data warehousing solution and a marketing automation package because both have basically the same semantic view of the customer. These two packages are basically aligned to one another in their core mission. This is often not the case when independent and unrelated systems are brought together.

Business Rule Integration

When implementing any business software, the flow of information must be steered in a multitude of directions to customize the implementation effectively. In the case of SCM and CRM, much if not all of the custom business logic must be evaluated for optimizations that originate from both sources. In heavily customized implementations, this can extremely time-consuming. IT personnel must be intimately familiar with both applications in conceptual and implementation contexts. In addition, new strategic imperatives may require the construction of fresh business logic that considers the capabilities of both applications from the ground up.

Scope Creep

SCM and CRM are multidimensional applications. What exactly is an SCM software application? It has a number of vital parts, such as an analytics tool to calculate operational cost, a collaboration capability to connect manufactures and distribution in the chain, an event management function that considers the events that affect replenishment, and a forecasting functionality.

These components are multidimensional within the SCM context, but their complexity increases exponentially integrated with CRM. For example, how might an organization manage customer expectations when providing a mass customized product ordered on the enterprise Web site without considering event management, planning, procurement, and logistical data? Or what about the converse: attempting to forecast the build-out of a complex, mass-customized product? This requires valuable input from the sales force automation (SFA) and marketing automation systems. To avoid scope creep and becoming overwhelmed in integration complexities, SCM-CRM integration must be rolled out incrementally, and learned lessons must be applied along the way.

System Technology Maturity

Why is it that the information you need inevitably resides in multiple systems that are difficult – or impossible – from which to extract information? When considering CRM implementations alone, many companies use customer profile and transactional data from systems that aren't necessarily part of the application. When integrating these CRM systems with SCM systems, you must consider the composition of the systems themselves, as well as the gateways between them, which must be built to gather business intelligence.

Business Process Integration and Workflow

Subsequent changes in business processes and workflow resulting from the rollout of technology must also be assessed for reengineering. It is often assumed that these aspects automatically improve when new technology is deployed. Companies often overlook the technology's effects on efficiency and workflow when they select and implement the new systems. This is particularly true when technological implementations cross multiple departmental and functional boundaries. More often than not, companies making this assumption won't use the software functionality to its optimum level and therefore won't achieve attainable levels of performance or ROI from the purchase.

The Culture Challenge

The separation and independent optimization of SCM and CRM processes – and by extension the employees devoted to these distinct areas – brings with it entrenched cultural differences within an organization. As a result, any SCM-CRM integration will bring interdepartmental culture clashes.

The reason: SCM and CRM entities attack the value chain from dramatically differing perspectives. Departments responsible for supply chain initiatives are often staffed by purchasers and contract managers who deal with cost analyses, invoices, facts, and figures. Accountable for analyzing and streamlining the cost side of the business, these managers focus on reducing cost and improving efficiency. Departments from the demand chain side of the business are comfortable with promises, forecasts, creativity, and assumptions. Dealing less with cost analyses and financial measurements, this group focuses on increasing sales and top-line growth.

To initiate cultural change, your company needs clear direction from the top, instructing the organization to redesign workflows between SCM and CRM territories. The goal is to sync logistics with marketing and sales, engendering cooperation and communication.

Collaborative key performance indicators (KPIs) are a powerful tool for the reshaping process. Collaborative KPIs focus the organization on a broader set of objectives than those typically used by a discrete SCM- or CRM-related department. Rather than evaluating an SCM function on cost alone or a CRM function on revenue alone, collaborative KPIs hold managers from both areas accountable for total profitability and productivity.

Consider a book publisher's manager who realizes that larger print runs are less costly. Production managers might be willing to tolerate the occasional stock-out situation to manage costs, the latter being one of their principal performance metrics. Meanwhile, the CRM manager notes that any stock-out situation results in lost business and damaged relationships. By tying the two together via shared KPIs, divergent functional goals are tempered with broader objectives. By evaluating **both** on the overall profitability of, for example, a given customer segment or a given marketing promotion (evaluating both costs and revenues), the two groups now have an incentive to optimize the **company** rather than maximize their own **function**.

It is also critical that metrics support the alignment and integration of SCM and CRM. This doesn't often occur. For example, standard manufacturing metrics like cost per unit are negatively affected by a number of forces, such as product changeovers. But more changeovers may be necessary to produce a higher variety of products that better meet customer needs. It makes sense to do more changeovers if, in the end, customers are willing to pay more for a better fit, even though that drives up manufacturing costs.

To allow your organization as a whole to get to the right decision, you must change metrics to align the incentives of functional groups. For the above example, instead of looking at total manufacturing cost per unit, costs should be broken down into production costs (runtime only) and changeover costs (cost per changeover). Once the incremental production and changeover costs are determined, the demand or customer-oriented side can then evaluate specific initiatives by comparing the incremental revenue of the initiative less incremental production and changeover costs. This level of demand and supply coordination allows for profit-maximizing decisions to be made without resistance from the production side arising from the degradation of a total cost-per-unit metric.

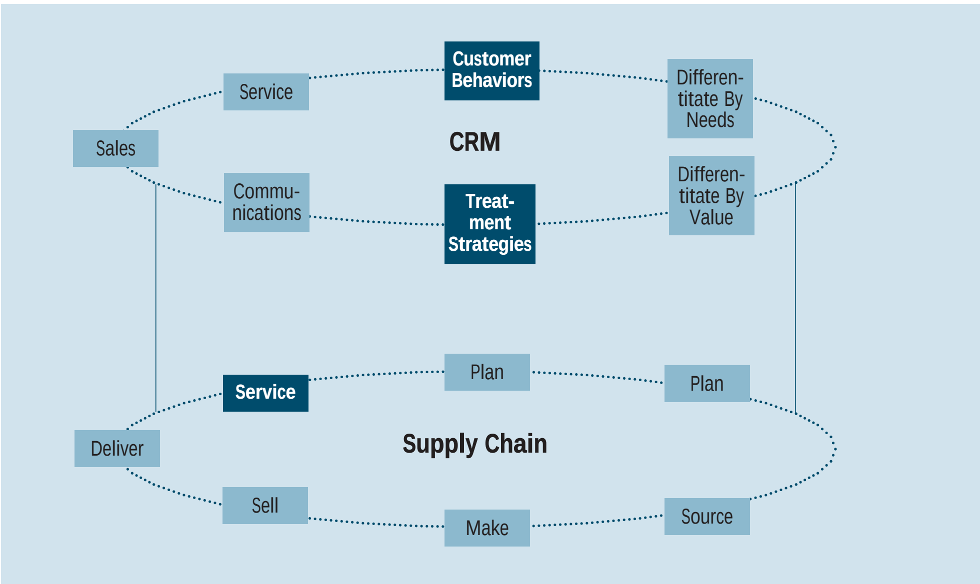
Backed by metrics, organizational alignment and culture change become more attainable because decisions are based on facts rather than opinions, which tend to cause division and tension. Rigorous financial systems (with links into CRM and SCM systems) are necessary to provide the customer- and product-level profitability information necessary to make SCM-CRM decisions based on fact.

Internal Integration: The ROI Payoff

These hurdles are formidable, but the potential benefits of coordinating SCM and CRM are significant. By combining and reorienting the supply chain and demand chains, the independent and at times adversarial approach to SCM and CRM gives way to a more integrative, feedback-oriented structure.

Once internal demand-chain processes begin working more closely with those of the supply chain, the potential to achieve superior business performance begins to materialize. "True SCM-CRM integration eliminates value-destroying misalignment between entities," says Steve Skinner, CEO of Peppers and Rogers Group. "For example, customers are often in a position to accept a lower cost solution than the contracted version, but don't because they either aren't aware of the opportunity (transparency) or don't have an economic incentive to do so (inertia). The goal is to preserve the accountability and focus benefits of disaggregation while utilizing information flow to improve coordination."

Figure 7: Coordination of SCM and CRM



For those few leading the way, the ROI is substantial. According to Deloitte Research, "Consumer businesses that effectively integrate their customer management and supply chain operations are twice as profitable as competitors that do not."[15] Based on the findings of an extensive global study of nearly 250 major consumer businesses and their executive teams in 28 countries, the report concludes that, "Consumer businesses that have integrated their CRM and SCM capabilities have dramatically and measurably outperformed their competition in virtually every critical financial and operating category."[16] Moreover, firms capable of combining SCM and CRM are "two to five times more likely to achieve superior performance in sales, market share, customer service, and other key measures, and much more likely to generate higher shareholder returns."[17]

A 2002 research report by Gartner agrees: "Through 2007, enterprises that develop a PCM [product chain management] strategy by integrating PLM, SCM and CRM processes and technologies will see a 40% improvement in effectiveness and value chain visibility (0.8 probability)." Companies that integrate SCM and CRM systems "to ensure customer satisfaction," continues the report, "will see a 50% gain in customer satisfaction, when compared to those enterprises that do not."[18]

Seven Eleven of Japan is one example of a company that has garnered marked ROI from combining its SCM and CRM systems in the form of demand-based management. According to Dr. Lee's white paper, the company returned "shareholder values greater than 10 times better than the Nikkei index in Japan." Seven-Eleven Japan is "head and shoulders above its competitors in terms of sales per square foot, profitability and market share." Seven-Eleven Japan relies on "extensive use of point of sale data, customer demographics, and market characteristics to drive their merchandising, new product introduction, pricing, shelf display, and replenishment decisions."[19]

There are a number of additional benefits that could be used to measure how the respective supply and demand functions improve due to collaboration and returns. These include:

- Better product and service development
  Customer needs data and use feedback from CRM can enhance the quality of the design, source, make, deliver, and service phases of SCM.
- Enhanced operational efficiencies
  In addition to matching resources with customer value, demand forecasts in the aware phase of CRM can improve SCM's plan phase, further optimizing production runs and inventory. Greater insight into demand – what orders will be placed and when – to facilitate this optimization will improve return on assets.
- Improved customer intimacy
  Clearer visibility of the make (production schedules), sell (finished goods inventories), and deliver phases of SCM can enhance the consider and buy phases of CRM by providing customers with accurate and important information at the time of purchase. This allows them to make informed buying decisions and enables the back office to follow through on what the front office promises.
- A realistic picture of any post-integration value-chain gaps
  These gaps make up the requirements that enable your company to wisely choose the right ecosystem partners as it moves to the external phase of SCM-CRM integration.

15) Deloitte Research, "Consumer Business Digital Loyalty Networks: Increasing Shareholder Value Through Customer Loyalty and Network Efficiency," Deloitte Research (2002): 1.
16) Ibid., 2.
17) Ibid., 1.
18) Peterson, "The Product Value Chain," 6, 16.
19) Lee, "Ultimate Enterprise Value Creation," 12.

Phase Two: External

From Linear to Collaborative: The Customer-Centric Adaptive Network

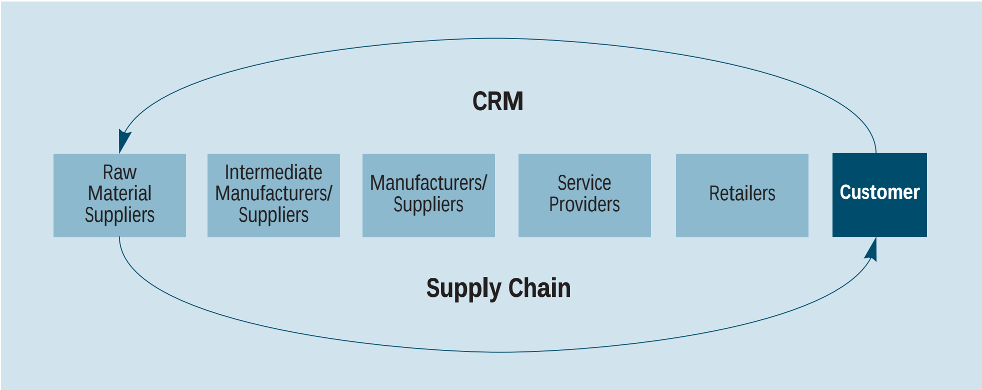
Although it is an indispensable building block to long-term competitive advantage, the internal integration of the supply and demand chains can't alone bring full competency across all three strategic disciplines (operational excellence, customer intimacy, and product innovation). Of course, you can reach higher levels of competency and capture measurable ROI. Nevertheless, fundamental differences make it impossible for any single company to show real excellence in all three disciplines simultaneously.

In most cases, today's supply chains and demand chains operate without full collaboration among the companies in the value chain. Also, most organizations haven't formed relationships with partners along the value chain. The result: a lack of SCM-CRM coordination between companies, the formation of supply chains and demand chains that tend to be linear and sequential, and the inability for an individual company to excel at more than one discipline. Equally significant: information can't be properly shared among partners, customer-driven insight can't be fully utilized, costly inefficiencies can flourish, and opportunities for value capture can be lost.

But once internal SCM and CRM processes are in order, companies can ally themselves with other companies to offer customers an experience that is seamless in all three aspects: service, price, and product. As different companies from across the supply chain and demand chain form partnerships, customer-centric adaptive networks (CCAN) form. A CCAN is, in effect, an ecosystem of companies that will collaborate to create the seamless customer experience.[20]

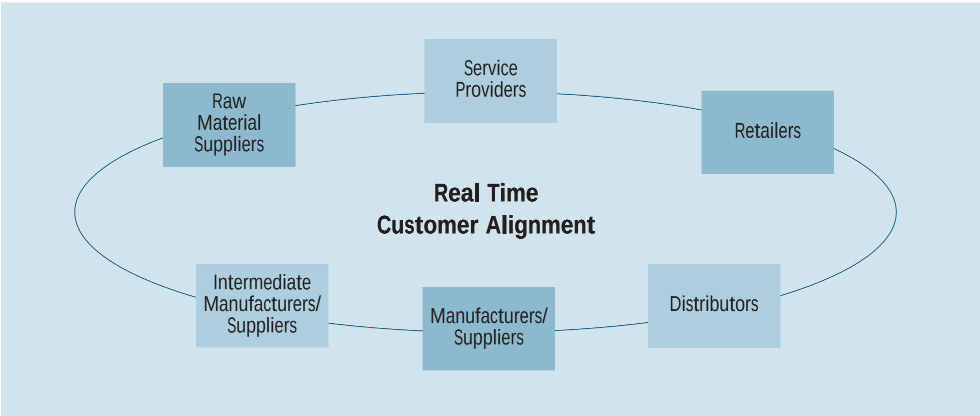
The importance of collaboration among companies in the CCAN can't be overstated. The customer's perception of seamlessness can only be accomplished if the various parties not only exchange information, but also efficiently collaborate with one another. This extends beyond the enterprise: allowing customers to serve themselves in increasingly sophisticated and detailed ways and enabling channel members to configure, order, install, and service products according to individual customers' needs.

Figure 8: Today's Sequential and Linear Chain



20) For a broader discussion of the creation of ecosystems (or customer-centric adaptive networks), their connection to the three disciplines, and the role of collaboration, connectivity, and SCM-CRM integration, see the "A Vision Statement" section in the mySAP CRM Statement of Direction 2002, by SAP and Peppers and Rogers Group, especially pages 9-14.

Figure 9: The Customer-Centric Adaptive Network



Consequently, greater coordination of SCM and CRM systems both internally and externally is critical. Or as stated in the SAP and Peppers and Rogers Group mySAP CRM Statement of Direction 2002, "The lines separating supply chain management issues, product life-cycles issues, and customer intimacy are blurring."[21]

The End State: The Integrated Value Chain

Ironically, it's the blurring of SCM and CRM that will compel – and help – companies bring an integrated value chain into focus. It starts with internal coordination of SCM and CRM processes and moves into the creation of customer-centric adaptive networks in which even greater levels of collaboration take place over fully optimized supply chain and demand chain systems. When these are accomplished, the previous disconnect between the supply chain and demand chain is eliminated, and value (specifically in the form of CRM insights) can be infused across the entire value chain rather than at specific – and therefore limiting – points along individual chains.

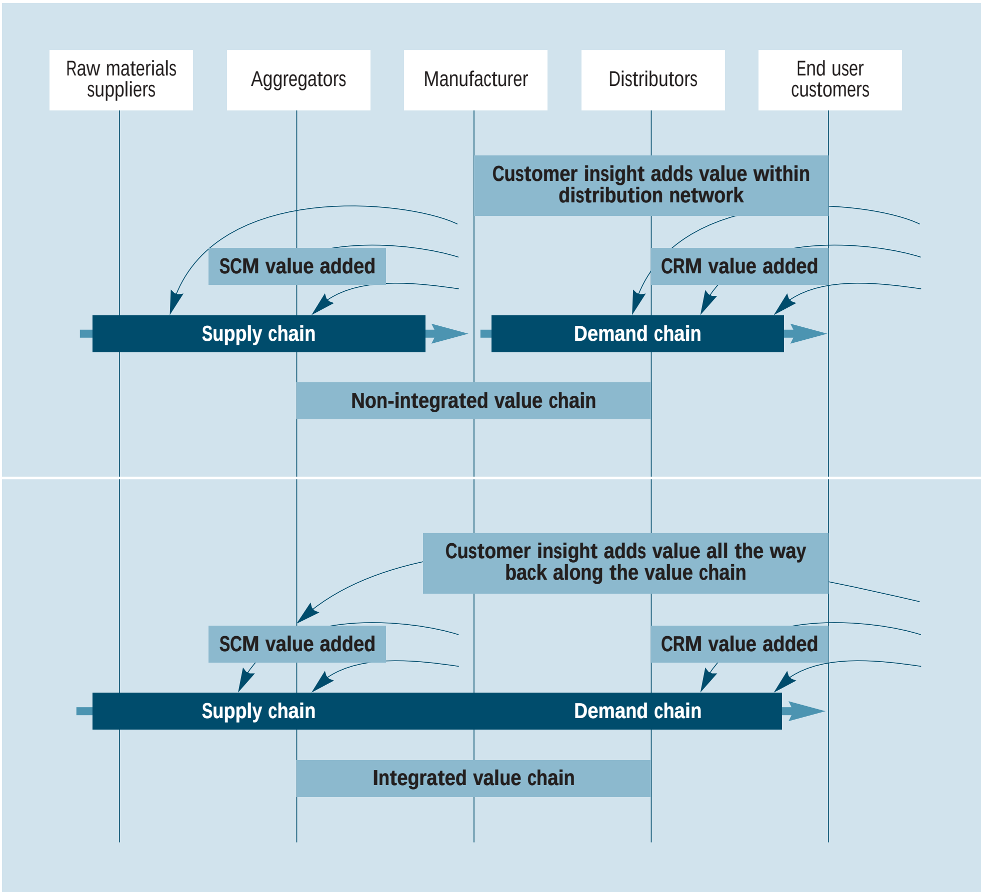
The CRM Revolution

The following is an excerpt from the mySAP CRM Statement of Direction paper by SAP and Peppers and Rogers Group.

There is today a CRM revolution at work among businesses, and what it represents is an inevitable, literally irresistible movement. All businesses will be embracing CRM sooner or later, with varying degrees of enthusiasm and success, for two primary reasons: First, it represents the way customers in all walks of life in all industries all over the world want to be served. And second, it is a more efficient way of doing business. When a car-rental customer rents a car without having to complete another reservation profile, or when an online customer buys a product without having to reenter his credit-card number and address, CRM is at work. When a company saves money by eliminating duplicate mailings, CRM is at work. It's at work when a firm's product-development people turn their attention to a new service or product based on customer feedback captured by the sales force. When an insurance company not only handles a claim for property damage, but also connects the insured party with a contractor in his area who can bypass the purchasing department and directly do the repairs, CRM is at work. And CRM is at work when a supervisor orders more computer components by going to a Web page that displays his firm's contract terms, his own spending to date and his departmental authorizations.

21) Ibid., 13.

Figure 10: The Integrated Value Chain



In this scenario, product and service offerings can be enhanced, refined, and bundled to treat different customers differently. In other words, "Customer insights generated by CRM can drive significant benefits all along the value chain, reducing costs by aligning resources more customer appropriately, improving the accuracy of forecasts, shortening the time involved in responding to changes in market conditions, and so forth," explains Don Peppers, cofounder of Peppers and Rogers Group. Collaboration and high levels of connectivity among CCAN partners are also necessary. "The reason connectivity is critical for success is that the custodians of various parts of the value chain are separate players – different departments or units within a company, different channel partners or suppliers, and frequently even different companies," adds Peppers.

Early Customer-Centric Adaptive Networks in Action

Ecosystems like the CCAN are beginning to take form as companies build partnerships with other organizations to obtain proficiency across all three strategic disciplines. For example, to obtain operational excellence, a product innovation company can outsource its logistics to an operationally excellent logistics firm. At the same time, to obtain customer intimacy, it outsources a high degree of its sales activity to companies that practice customer intimacy. To the degree each ecosystem participant is already working from a fundamentally sound internal base of SCM-CRM integration, the ecosystem itself has a greater potential to benefit from similar cross-entity integration.

Embryonic ecosystems are already taking form. Excellent examples include a handful of both company and industry initiatives. Among company efforts, chemical maker and distributor Sigma-Aldrich has made significant strides toward becoming a customer-centric adaptive network. First, the company used process refinement and technology to synchronize its own internal procurement and marketing. Today, whether products are purchased via catalog, the call center, the direct sales force, or the Web site, the company can identify discrete customers and offer customized pricing, as well as firm delivery dates for orders. Internal SCM-CRM integration means that all elements of the company can discern inventories, costs, and availability.

On the external side, Sigma-Aldrich then shows these capabilities to customers, suppliers, and partners. The company has created visible windows into both its supply chain and demand chain operations. Customers value certainty and visibility, and Sigma-Aldrich itself learns about and responds to the needs of its customers. Similarly, partners and suppliers know Sigma-Aldrich's demand in real time because the company shares information where appropriate. Overall, Sigma-Aldrich uses the information it collects about suppliers, customers, and partners to continually refine marketing, expand and refine its menu of products and services, and improve overall profitability.

A number of broader industry initiatives also demonstrate the collaborative concepts inherent in the CCAN model. Consider the great strides of automakers (part of the operationally excellent discipline) in collaborative engineering and auto replenishment. Across the industry, considerable headway has been made in creating platforms for sharing supply chain information. The third-party Covisint is one such example. Although Covisint's mutual advantage industry and vertical exchange approach may not yet be delivering all of the hoped-for results, it remains a conceptually excellent example.

Other nascent initiatives are also taking shape. UCCNET, a subsidiary of the not-for-profit Uniform Codes Council operating in the consumer packaged goods industry, is an example. UCCNET successfully facilitates the sharing of supply chain information among trading partners. The goal is to fully enable e-commerce by setting standards for data synchronization, thereby creating an interconnected ecosystem through which to achieve greater efficiency of the value chain.

For instance, imagine a manufacturer introducing a new product or changing a minor element of an existing product. In the past, that required a great deal of effort to distribute the new information to all retailers. Critical data points (product weight, the unit count per pallet, and shelf space requirements) must be communicated. Such information is vital for buyers to have, but it often took weeks or months to obtain it. This ultimately causes information and process errors, something industry participants generally describe as a $30 billion-plus problem annually.

This is exactly the problem that the ecosystem created by UCCNET is intended to solve. Accurate and current information is shared, data flow is drastically improved, and inefficiency is reduced. Collaboration between supply and demand is improving visibility, resulting in improved planning and reduced costs.

The Numbers of Network

In "Consumer Business Digital Loyalty Networks: Increasing Shareholder Value Through Customer Loyalty and Network Efficiency," a 2002 research report, Deloitte Research finds that consumer businesses that have successfully integrated their supply and demand chain operations are "two to five times more likely to achieve superior performance in sales, market share, customer service and other key measures." They are also "much more likely to generate higher shareholder returns" relative to companies that have been slower to adopt these ideas and practices.

A digital loyalty network (DLN), says the study, occurs when supply chain and customer relationship management become digitally integrated. Specifically, the term "digital" refers to extensive use of information technology; "loyalty" refers to the business objective of building higher customer loyalty and profitability; and "network" is a reference to the integration of suppliers, customers, and business partners across an open, collaborative digital platform. In this way, the DLN model mirrors the customer-centric adaptive network described in this white paper.

The Deloitte analysis worked from a global survey of 249 top executives and their management teams across 28 countries around the globe. Relying on self-scoring (respondents were asked to rate their company's relative degree of integration between four principal SCM-CRM activities), the study created four distinct levels of SCM-CRM integration. On top of this index, respondents were asked to indicate their success across a handful of CRM metrics. The study identified four distinct levels of SCM-CRM integration competency. These include loyalty networkers, loyalists, collaborators, and market takers.

- ***Loyalty networkers** were determined to be the most evolved or competent in SCM-CRM integration. This group accounted for only 17% of those surveyed.*
- ***Loyalists**,15% of the total sample, scored high in CRM-generated loyalty, but relatively low in SCM competence.*
- ***Collaborators** represented just over a quarter of the total sample (27%). This group demonstrated competency in both internal and external supply chain integration, but fared relatively poorly in CRM capabilities.*
- ***Market takers** had relatively low scores across both sets of measures. This group (41% of the total sample) has the furthest distance to travel in terms of SCM-CRM integration.*

The Deloitte report shows that although countless consumer products companies have taken steps to reengineer their supply chain operations, and many others have focused on their customer-facing operations, only a small, exclusive group has taken the bold step of integrating these two initiatives. But for loyalty networkers, the rewards are proving substantial. Specifically, says the report (and its supporting tables, which are produced below), "Consumer businesses that have integrated their CRM and SCM have dramatically and measurably outperformed their competition in virtually every critical financial and operating category."

Although DLN are still in their infancy – and no company has achieved full optimization of its SCM and CRM sides – the reports cites a number of consumer goods companies that are seeing powerful and measurable ROI by executing their business within a DLN framework. These include Colgate-Palmolive, Herman Miller, Heineken, Dell, General Electric, and Wal-Mart.

*The consumer goods industry is not alone. Deloitte Research has released additional reports that connect the value of DLNs to ROI in the manufacturing and high-tech industries.**

* Deloitte Research, "Consumer Business Digital Loyalty Networks"; "Digital Loyalty Networks: e-Differentiated Supply Chain and Customer Management" (2000); "Competing on collaborative Customer solutions: Differentiation in High-Tech digital Loyalty Networks" (2001).

The ROI of Customer-Centric Adaptive Networks

Although very few companies today have actually managed to build seamless collaborative networks with their suppliers, distributors, and alliance partners, "The financial and operational benefits of such seamlessness along the value chain are immense and undeniable," contends Don Peppers. Early research illustrates this point. Companies engaging in such networks (even at this early stage) are achieving competitive advantage, bolstering profits, and increasing shareholder value. (Fore more information, see the sidebar "The Numbers of Networks.") [22]

Several examples exist of companies seeing noteworthy ROI from integrating SCM and CRM systems and creating nascent CCANs. One such company is the $9.4 billion consumer packaged goods giant Colgate-Palmolive. According to a recent report by Deloitte Research, the widely recognized, global manufacturer decided to extensively overhaul both its supply chain systems and its customer-facing processes due to two years of flat sales, diminishing operating margins, and a laboring stock price (below $20 a share by the end of 1995).[23]

On the SCM side, the company sought to cut $150 million in supply chain costs, slash manufacturing and delivery times, and reduce its raw materials-to-finished-product time from 120 to 20 days. Colgate-Palmolive invested 60% of its capital expenditures toward this effort, but it took only three years to recoup the cost of its investment. Success was predicated on the improved coordination of plants, warehouses, planning activities, and distribution routes. Standardized information systems were rolled out to centralize the systems in use at the 200 companies under the Colgate-Palmolive umbrella. Relying on a SAP-driven solution, the company created a central database that allowed sales forecasts to drive materials purchasing, production scheduling, labor scheduling, and several other initiatives.

A similar effort took place on the customer-facing side. In addition to entering CPFR in 1996, Colgate-Palmolive launched a series of successful pilot projects that capably linked demand chain processes with supply chain processes. The result: planning is more accurate, forecast errors have been cut from 61% to 21%, and case fill rates rose from 94% to 97%.

A key component to its success was Colgate-Palmolive's decision to participate in what Deloitte Research refers to as a digital loyalty network (DLN). Like a customer-centric adaptive network, a DLN represents the internal integration of SCM and CRM processes, as well as the creation of partnerships with key companies up and down the value chain. The overhaul of Colgate-Palmolive's supply chain and demand chain processes and the refinement of its partner relationships contributed to a gross margins jump from 46% to 54% and a stock price rise to $64 per share by the end of 2000 – and to nearly $96 per share as of January 2003.[24]

Additional Benefits

Clearly, the opportunities for applying capabilities of supply driven CRM and demand-driven SCM are substantial. Integration delivers a window not only to supply information (upstream costs and logistics), but also to end customer insight (downstream revenues and product or service insights). Companies that first obtain this level of SCM-CRM synergy internally and then across the entire value chain can achieve the following results.

22) Deloitte Research, "Consumer Business Digital Loyalty Networks."
23) Ibid., 19.
24) Ibid.

Reduced Inventory

The closer a supply chain can move toward make-to-order, the less inventory required and the lower costs will be. Improved integration brings companies that much closer to a more responsive and cost-effective make-to-order reality. Minimizing inventories while avoiding stock-out situations also creates a significant competitive advantage. A company that achieves this internally can then roll its ideas and the relevant supporting data beyond corporate boundaries to achieve greater efficiency across its external supply chain.

Incorporate Customers' Needs and Preferences into Products

Nimbler competition and shorter product life cycles make the link between SCM and CRM all the more critical. Real-time analysis of demand can accelerate product refinement and development efforts. By the same token, real-time SCM-CRM collaboration on what's on the drawing board can both enhance and build demand for new products. As vital customer information is shared with the supply chain, advances in cost control, quality enhancements and product innovation surge and time-to-market accelerates.

Optimize Product Life Cycles

A tight linkage between supply and demand can improve the strategy and decision making relating to products and the service environment. If collaboration can enhance groupwide awareness of sales declines – and the drivers behind those declines – product development and the supporting supply chain can work with marketing to enhance existing products or develop new ones. Moreover, integration can enhance an organization's ability to time new products and enhancements. As the high-tech firm's experience in the opening of this paper illustrates, new product development is a good thing, but evolution for evolution's sake can actually hamper overall profitability.

Enhance Service and Aftermarket Environments

What happens when returns pile up or products break down? What if SCM and CRM could collectively manage product registrations and warranties? Rather than devoting a valuable service technician's time to researching what's under warranty and what isn't, for example, a centralized database of products purchased by individual customers and the subsequent agreements could be developed. Any member of the CCAN interacting with the customer would then know precisely what the customer owns and the service agreements associated with that sale. This would slash costs and reduce revenue leakage (the giving away of services), while improving the quality and value of service agreements for end customers.

Links between SCM and CRM can also improve decisions relating to aftermarket inventory levels. As customer data about product failures rolls in, knowledge increases. Now the supply chain can optimize the level of spare parts being produced and held in inventory relative not only to the installed base, but also the actual failure rates in evidence.

Bolster Sales by Providing a Clearer Window into Product or Service Availability

Customers want what they want when they want it. The faster and more open a supplier can be about inventory and delivery time, the more valuable the relationship becomes to that customer. Wait times for vital information can stretch into hours and even days as sales staff searches for information about component availability. Delays like these – which can translate into customer dissatisfaction and ultimately defection – could be alleviated by providing customers visibility into inventory. A collaborative CCAN allows customers and suppliers greater visibility into the supply chain, which boosts customer satisfaction, customer loyalty, and revenue.

Enrich Relationships with Valuable External Partners along the Value Chain

Sophisticated CRM approaches evaluate individual customers to identify the customers that generate real profitability when all cost factors are taken into consideration. To a certain extent, SCM does the same by identifying the suppliers that provide the best mix of cost, quality, timeliness, and reliability.

However, when relationship-building practices are applied to partners along the entire value chain, greater collaboration – and hence improved efficiency and return – can be achieved. Identify which suppliers are of greatest value in meeting the needs of your most valuable customers, build relationships with them, and create different treatment strategies for them just as you would valuable customers. A collaborative network opens the door for richer relationships with key members of the entire value chain.

The Vital Role of Technology

Technology and technological innovation play a critical role in the creation and maturation of customer-centric adaptive networks. As CCANs develop, their members become increasingly entangled. Likewise, the coordination of SCM and CRM becomes increasingly demanding. Success depends not only on integrating technologies internally, but also on using technologies to communicate with suppliers, partners and customers.

As the ecosystem develops, members become more entangled. To facilitate and promote the use of the technology and to ease the process of integration, companies must provide similar, standards-based interfaces to expose vital information systems to the supply chain and demand chain. Companies that have invested in clearly defined interfaces will clearly deepen their relationships with suppliers and customers. These interfaces must comply with current information technology standards, such as Java 2 Platform, Enterprise Edition (J2EE), Web services, Extensible Markup Language (XML), and so on, and they must be consistent and complete.

The tasks of integrating applications in a particular enterprise infrastructure can be approached in three distinct ways:

- To publish connections to niche products
- To build a framework of technology that abstracts the underlying infrastructure of niche products
- To provide connections to the components of an enterprise application suite

Clearly, exposing each and every niche product to the ecosystem would not facilitate a consistent and complete view of information necessary to conduct and promote e-business. Those companies interested in doing business with the ecosystem will find it cumbersome and costly to learn each and every interface. The deployment must either create software components using standards-based technology or make components of an enterprise application suite accessible to the ecosystem. Technology exists today to expose the information residing in an application suite and to deliver a cohesive value proposition to the partners of the ecosystem.

The evolutionary path to date has been one in which a specific function or division within a company could define its individual system needs without regard for the organization, much less a broader ecosystem. This best-of-breed approach may have worked well in the past, but in the CCAN future, any significant investment in technology needs to be mindful of the rapidly approaching era of the ecosystem. This means open architecture, modularity, and integration with financials, Web-enablement, and a system that is continually supported and evolving.

Companies are migrating to the most widely used processes and systems as evidenced by the trends toward open standards and even increasingly modular business software. Companies are recognizing the need to build their architectures based primarily on as few providers as possible. A 2002 report by Gartner concurs: "By 2007, most best-of-breed gorillas in SCM, CRM and PLM will fail and be subsumed into larger vendors (especially ERP) (0.7 probability)."[25]

For these reasons, companies are finding they can significantly lower their initial and ongoing costs by reducing the number of technology families within their own organization. By selecting one, two, or three primary providers, both internal integration and later, as participation in broader ecosystems takes hold, external collaboration or integration, become significantly simpler and less cost intensive. In essence, this strategy not only reduces the total cost of ownership of any technology platform, it also improves an organization's ability to execute SCM-CRM integration both internally and externally.

A good example of the migration toward already widely deployed packages capable of linking up with similarly pervasive technologies is that of a major U.S. food and beverage services company. As the chief information officer (CIO) explains, "If you're using a widely utilized set of software, that improves the odds that any data integration with a customer or supplier will go reasonably well." That's important, he insists, because if the integration doesn't go well, "The strategy can backfire. You don't want your customers or your suppliers associating bad experiences with your relationship." Accordingly, adds the CIO, his company insisted that its ERP provider "be committed to open architecture – systems that are designed with multivendor integration in mind." That, he says, "is condition precedent for any software that might support our business strategies."

The company also made certain that the ERP provider was equally committed to building integration between SCM and CRM. "We could purchase best-in-class software in every case, but then the integration issues increase exponentially," explains the CIO. "In that regard, if you're planning on integration with loads of other company's systems, the more in the family you keep your software, the fewer headaches you'll have." Not surprisingly, he likes the idea of working with an established provider that "isn't going to fall off the map" and is "committed to investing in new capabilities." He's confident that "as our needs evolve and expand, [our provider] will keep up with, if not lead, the market."

Overall, "Linkage with the systems of our customers and our suppliers is a major strategy of ours," insists the CIO. The benefits of this integration, many of which are already materializing, include lower inventory costs, increased customer retention, higher barriers to entry, and higher sales. The company began its supplier-to-customer integration efforts by implementing an already widely deployed ERP system. As the CIO explains, "That improves the chances that our systems will be relatively comparable to what we might find on the other end. Plus, in many cases, we'll have identical systems."

The system isn't yet perfect, but the bottom line is. "We're finding integration with customer and supplier systems is going a lot more smoothly than it used to, and it's getting better all the time. We're more valuable to our customers, and we're working more closely with and making more efficient use of our suppliers," says the CIO.

25) Peterson, "The Product Value Chain," 12.

Big Picture, Incremental Steps

The vision of customer-centric adaptive networks may be in the process of becoming reality, but the migration toward greater levels of supply chain and demand chain integration begins internally. As we have seen, significant benefits await those companies able to enter into the larger adaptive networks, but the process of SCM-CRM integration must take place logically and incrementally. It involves calculated deployment of strategic initiatives and technologies to facilitate greater coordination followed by analysis and the identification and application of lessons learned. These are the steps that will help ensure smoother SCM-CRM integration, mitigate risk, and position the organization for strong ROI as key members of customer-centric adaptive networks.

The Advantage Horizon

To design, alter, and combine products and services to profitably and efficiently meet the needs of customers has become a top business imperative. To achieve this, companies are hard at work integrating their supply chain management and customer relationship management systems.

To be sure, the process of integration is replete with challenges. Companies must recast their strategic imperatives around the integration of SCM and CRM, reshape work processes, roll out new technologies, and transform culture. The impressive ROI that companies are beginning to reap as a result of greater coordination of supply chain and demand chain systems is as compelling as the challenges are daunting.

Despite these significant returns – and the market advantage they bring – internal integration of the supply chain and demand chain is just the beginning. To compete and win in the twenty-first century, organizations must enter into customer-centric adaptive networks composed of companies residing along both the supply chain and demand chain. Companies must built external relationships with suppliers, partners, and customers to achieve a new level of collaboration.

The result: SCM and CRM integration can be fully optimized, thereby creating a single, powerful value chain. Those companies capable of fully entering into these adaptive networks can provide customers with the seamless experience they demand, and they can seize a competitive advantage by excelling at the three strategic orientations of product leadership, operational efficiency, and customer intimacy.

Entering into customer-centric adaptive networks is more than business opportunity. It is becoming a business imperative. “Customers will demand it of companies,” says Don Peppers. “Customers are benefiting more every day from having real-time access to their accounts, making real-time changes in their product configurations, and communicating their individual service requirements and changes in real time. Their appetites are already whetted now, and they won't be put off long."

These demands mandate the combination of SCM and CRM. Though no easy task, the promises of success are extraordinary. For those organizations willing to make a conscious commitment to internal and external change – and creating greater levels of integration between SCM and CRM – sustained competitive advantage in the modern, customer-driven economy will follow.

Appendix

The preceding report represents a collaboration between SAP and Peppers and Rogers Group. The following individuals from these two organizations were instrumental in its development:

- Don Peppers,
  Partner and Co-founder, Peppers and Rogers Group
- Martha Rogers, Ph.D.,
  Partner and Co-founder, Peppers and Rogers Group
- Steve Skinner,
  CEO, Peppers and Rogers Group
- Bob Hogg,
  Product Marketing Manager, CRM-Service,
  SAP Global Marketing
- Dan Stimson,
  Marketing Director, Supply Chain Management
- Ed Sander, Jr.,
  Group Director, CRM Product Marketing,
  SAP Global Marketing
- Mark Pyatt, Director, mySAP Industry Solutions

Additional insights came from discussions with the following managers from SAP:

- Karsten Schierholt
- Kerstin Geiger
- Patrick Flohr
- Stephan Schindewolf
- Andreas Otto
- Stefan Gerber
- Claus Gruenewald
- Stefan Theis
- Antonio Diaz (AE)
- Rob Girvan (AE)
- Stefan Kneis

In addition, the report relies on direction and interviews from the following individuals and companies:

- Dr. Thomas Gruetmann,
  syskoplan, AG
- Robert Guzak,
  National Customer Solutions Sales Support Manager,
  Computer Sciences Corporation
- Cindy Warner,
  Partner, Cap Gemini Ernst & Young
- Navi Radjou,
  Senior Analyst, Forrester

Finally, the report is also based on interviews with senior executives from an additional U.S. and European companies (some requesting anonymity):

- Patty Terpkosh,
  Director of Strategy, Exxon Chemical: Lubricants
- Dan Chladek,
  Director of e-Commerce, Exxon Chemicals
- Mike McKillip,
  Director of IT, Valvoline
- Senior Executive,
  Covisint
- Senior Executive,
  UCCNET
- Senior Executive,
  Haht
- Senior Executive,
  Sigma-Aldrich