Chapter 9

Global Supply-Chain Management

In today's global competitive environment, individual companies no longer compete as autonomous entities but as supply-chain networks. Instead of brand versus brand or company versus company, it is increasingly suppliers-brand-company versus suppliers-brand-company. In this new competitive world, the success of a single business increasingly depends on management's ability to integrate the company's intricate network of business relationships. Supply-chain management (SCM) offers the opportunity to capture the synergy of intra- and intercompany integration and management. SCM deals with total business-process excellence and represents a new way of managing business and relationships with other members of the supply chain.

Top-performing supply chains have three distinct qualities.Lee (2004, October). First, they are *agile* enough to readily react to sudden changes in demand or supply. Second, they *adapt* over time as market structures and environmental conditions change. And, third, they *align* the interests of all members of the supply-chain network in order to optimize performance. These characteristics—agility, adaptability, and alignment—are possible only when partners promote knowledge-flow between supply-chain nodes. In other words, the flow of knowledge is what enables a supply chain to come together in a way that creates a true value chain for all stakeholders. Knowledge-flow creates value by making the supply chain more transparent and by giving everyone a better look at customer needs and value propositions. Broad knowledge about customers and the overall market, as opposed to just information from order points, can provide other benefits, including a better understanding of market trends, resulting in better planning and product development.Myers and Cheung (2008, July).

9.1 Supply Chains: From Push to Pull

A **supply chain**[1] refers to the flow of physical goods and associated information from the source to the consumer. Key supply-chain activities include production planning, purchasing, materials management, distribution, customer service, and sales forecasting. These processes are critical to the success manufacturers, wholesalers, or service providers alike.

Electronic commerce and the Internet have fundamentally changed the nature of supply chains and have redefined how consumers learn about, select, purchase, and use products and services. The result has been the emergence of new business-to-business supply chains that are consumer-focused rather than product-focused. They also provide customized products and services.

In the traditional supply-chain model, raw material suppliers define one end of the supply chain. They were connected to manufacturers and distributors, which, in turn, were connected to a retailer and the end customer. Although the customer is the source of the profits, they were only part of the equation in this "*push*" model. The order and promotion process, which involves customers, retailers, distributors, and manufacturers, occurred through time-consuming paperwork. By the time customers' needs were filtered through the agendas of all the members of the supply chain, the production cycle ended up serving suppliers every bit as much as customers.

Driven by e-commerce's capabilities to empower clients, most companies have moved from the traditional **"push" business model**[2], where manufacturers, suppliers, distributors, and marketers have most of the power, to a customer-driven **"pull" model**[3]. This new business model is less product-centric and more directly focused on the individual consumer. As a result, the new model also indicates a shift in the balance of power from suppliers to customers.

1. The flow of physical goods and associated information from the source to the consumer.

2. The traditional product-centric and delivery-driven process by which manufacturers, suppliers, and distributors flowed products to the end customer.

3. The new customer-driven process where all supply chain participants are directly connected to the end customer.

Whereas in the old "push" model, many members of the supply chain remained relatively isolated from end users, the new "pull" model has each participant scrambling to establish direct electronic connections to the end customer. The result is that electronic supply-chain connectivity gives end customers the opportunity to become better informed through the ability to research and give direction to suppliers. The net result is that customers now have a direct voice in the functioning of the supply chain, and companies can better serve customer needs, carry less inventory, and send products to market more quickly.

Minicase: Zara's Global Business ModelCapell, Kamenev, and Saminather, N. (2006, September 4).

Inditex, the parent company of cheap, chic-fashion chain Zara, has transformed itself into Europe's leading apparel retailer over the past 10 years and has racked up impressive results in Asia and the United States. Since 2000, Inditex has more than quintupled its sales and profits as it has tripled the number of stores of its eight brands. (Zara is the biggest, accounting for two-thirds of total revenues.) More recently, Inditex increased its year-on-year net sales by 6% in the first nine months of its 2009 fiscal year to 7,759 million euros. Net income grew to 831 million euros. The retailer launched 266 new stores in the first nine months, bringing the group's total number of stores to 4,530 by the end of October 2009.

Key highlights for the period included openings in Asian markets, with 90 new establishments inaugurated by October 31, 2009. These store openings reflect the strategic importance of Asian markets for the group and underscore a year of robust growth in China, Japan, and South Korea. High points of store launches so far this year include flagship locations in Japan and Mainland China.

In Japan, Zara now has a total of 50 stores, including a second flagship location in Tokyo's Shibuya district, which is a must-see global fashion destination. Prior to this opening, Zara had already welcomed shoppers at another upscale store in Shibuya. Zara thus enhances its excellent retail presence in Tokyo's four key shopping areas: the two aforementioned flagship stores in Shibuya, two each in Ginza and Shinjuku, and one in Harajuku.

Meanwhile, in Beijing, the group celebrated the opening of a flagship location in one of the Chinese capital's busiest shopping hubs. The store, which opened its doors on the pedestrian Wangfujing Street, brings the group's number of stores in China to more than 60. The company's firm commitment to expansion in the Chinese fashion market is reflected in its decision to locate shops not only in Beijing and Shanghai but also in emerging cities such as Harbin, Dalian, Qingdao, Changchun, and Kunming.

To get where it is today, Zara has turned globalization on its head, distributing all of its merchandise, regardless of origin, from Spain. With more outlets in

Asia and the United States, replenishing stores twice a week—as Zara does now—will become increasingly complex and expensive. The strain is already starting to show. Costs are climbing and growth in same-store sales is slowing: at outlets open for 2 years or more, revenues were up by 5% last year, compared with a 9% increase in 2004. So far, the company has managed to offset that problem by charging more for its goods as it gets farther from headquarters. For instance, Zara's prices in the United States are some 65% higher than in Spain, brokerage Lehman Brothers, Inc., estimates.

Zara has succeeded by breaking every rule in retailing. For most clothing stores, running out of best-selling items is a disaster, but Zara encourages occasional shortages to give its products an air of exclusivity. With new merchandise arriving at stores twice a week, the company trains its customers to shop and shop often. And forget about setting trends—Zara prefers to follow them. Its aim is to give customers plenty of variety at a price they can afford. Zara made 30,000 different items last year, about triple what the Gap did.

Zara does not collaborate with big-name designers and or use multimillion-dollar advertising campaigns. Instead, it uses its spacious, minimalist outlets—more Gucci than Target—and catwalk-inspired clothing to build its brand. Their advertising is their stores. To get shoppers' attention, Zara is located on some of the world's priciest streets: New York's Fifth Avenue, Tokyo's Ginza, Rome's Via Condotti, and the Champs-Elysees in Paris.

Keeping those locations flush with an ever-changing supply of new clothing means striking the right balance between flexibility and cost. So while rivals outsource to Asia, Zara makes its most fashionable items—half of all its merchandise—at a dozen company-owned factories in Spain. Clothes with a longer shelf life, such as basic T-shirts, are outsourced to low-cost suppliers, mainly in Asia and Turkey.

The tight control makes Zara more fleet-footed than its competitors. While rivals push their suppliers to churn out goods in bulk, Zara intentionally leaves extra capacity in the system. That results in fewer fashion mistakes, which means Zara sells more at full price, and when it discounts, it does not have to go as deep. The chain books 85% of the full ticket price for its merchandise, while the industry average is 60%.

Zara's nerve center is an 11,000-square-foot hall at its headquarters in Arteixo, a town of 25,000 in Galicia. That is where hundreds of twenty-something designers, buyers, and production planners work in tightly synchronized teams. It is there that the company does all of its design and distribution and half of its production. The concentrated activity enables it to move a dress, blouse, or coat from drawing board to shop floor in just 2 weeks, less than a quarter of the industry average.

Consider how Zara managed to latch onto one of hottest trends in just 4 weeks in 2006. The process started when trend-spotters spread the word back to headquarters: white eyelet—cotton with tiny holes in it—was set to become white-hot. A quick telephone survey of Zara store managers confirmed that the fabric could be a winner, so in-house designers got down to work. They zapped patterns electronically to Zara's factory across the street, and the fabric was cut. Local subcontractors stitched white-eyelet v-neck belted dresses and finished them in less than a week. The $129 dresses were inspected, tagged, and transported through a tunnel under the street to a distribution center. From there, they were quickly dispatched to Zara stores from New York to Tokyo, where they were flying off the racks just 2 days later.

9.2 Supply-Chain Management

Supply-chain management (SCM)[4] has three principal components: (a) creating the *supply-chain network structure*, (b) developing *supply-chain business processes*, and (c) *managing the supply-chain activities*.Lambert and Cooper (2000, January).

The *supply-chain network structure* consists of the member firms and the links between these firms. Primary *members* of a supply chain include all autonomous companies or strategic business units that carry out value-adding activities in the business processes designed to produce a specific output for a particular customer or market. Supporting members are companies that simply provide resources, knowledge, utilities, or assets for the primary members of the supply chain. For example, supporting companies include those that lease trucks to a manufacturer, banks that lend money to a retailer, or companies that supply production equipment, print marketing brochures, or provide administrative assistance.

Supply chains have three *structural dimensions*: horizontal, vertical, and the horizontal position of the focal company within the end points of the supply chain. The first dimension, **horizontal structure**[5], refers to the number of tiers across the supply chain. The supply chain may be long, with numerous tiers, or short, with few tiers. As an example, the network structure for bulk cement is relatively short. Raw materials are taken from the ground, combined with other materials, moved a short distance, and used to construct buildings. The second dimension, **vertical structure**[6], refers to the number of suppliers or customers represented within each tier. A company can have a narrow vertical structure, with few companies at each tier level, or a wide vertical structure with many suppliers or customers at each tier level. The third structural dimension is the company's **horizontal position**[7] within the supply chain. A company can be positioned at or near the initial source of supply, be at or near to the ultimate customer, or be somewhere between these end points of the supply chain.

Business processes[8] are the activities that produce a specific output of value to the customer. The **management function**[9] integrates the business processes across the supply chain. Traditionally, in many companies, upstream and downstream portions of the supply chain were not effectively integrated. Today, competitive advantage increasingly depends on integrating eight key supply-chain processes—customer relationship management, customer service management, demand management, order fulfillment, manufacturing flow management, procurement, product development and commercialization, and managing returns—into an effective value delivery network.Lambert , Guinipero, and Ridenhower (1998).

4. The total business-process concept of capturing synergies by attaining excellence in integrating and managing a firm's network of relationships among and between all of its supply chain members.

5. The dimension of a supply chain that refers to the number of tiers across the supply chain.

6. The dimension of a supply chain that refers to the number of suppliers or customers represented within each tier.

7. The position that a firm occupies within the overall supply chain.

8. Activities that produce a specific output of value to the customer.

9. Integrates key business processes and functions across the supply chain into an effective value delivery network.

Regarding the supply-chain management function itself, in some companies, management emphasizes a functional structure, others a process structure, and yet others a combined structure of processes and functions. The number of business processes that it is critical or beneficial to integrate and manage between companies will likely vary. In some cases, it may be appropriate to link just one key process, and, in other cases, it may be appropriate to link multiple or all the key business processes. However, in each specific case, it is important that executives thoroughly analyze and discuss which key business processes to integrate and manage. With the shift from the traditional "push" to the modern "pull" model, supply-chain management has changed—the integration of e-commerce has produced (a) greater cost efficiency, (b) distribution flexibility, (c) better customer service, and (d) the ability to track and monitor shipments.

9.3 Supply-Chain Agility and Resiliency

The best companies create supply chains that can respond to sudden and unexpected changes in markets. **Agility**[10]—the ability to respond *quickly* and *cost-effectively* to unexpected change—is critical because in most industries, both demand and supply fluctuate more rapidly and widely than they used to. In fact, the best companies use agile supply chains to differentiate themselves from rivals. For instance, Zara has become Europe's most profitable apparel brands by building agility into every link of their supply chains. At one end of the product pipeline, Zara has created an agile design process. As soon as designers spot possible trends, they create sketches and order fabrics. That gives them a head start over competitors because fabric suppliers require the longest lead times. However, the company approves designs and initiates manufacturing only after it gets feedback from its stores. This allows Zara to make products that meet consumer tastes and reduces the number of items they must sell at a discount. At the other end of supply chain, the company has created a superefficient distribution system. In part because of these decisions, Zara has grown at more than 20% annually since the late 1990s, and its double-digit net profit margins are the envy of the industry.

Agility and resiliency have become more critical in recent years because sudden shocks to supply chains have become more frequent. The terrorist attack in New York in 2001, the dockworkers' strike in California in 2002, and the SARS epidemic in Asia in 2003, for instance, disrupted many companies' supply chains.

Agility and resiliency help supply chains recover more quickly from such sudden setbacks. When, in September 1999, an earthquake hit Taiwan, shipments of computer components to the United States were delayed by weeks and, in some cases, by months. Most computer manufacturers, such as Compaq, Apple, and Gateway, could not deliver products to customers on time and incurred losses. One exception was Dell. The company changed the prices of PC configurations overnight to steer consumer demand away from hardware built with components that were not available to machines that did not require those parts. Dell could do this because it had contingency plans in place. Not surprisingly, Dell gained market share in the earthquake's aftermath.Lee (2004, October).

Supply-chain agility and resilience no longer imply merely the ability to manage risk. It now assumes that the ability to manage risk means being better positioned than competitors to deal with—and even gain advantage from—disruptions. Key to increasing agility and resilience is building *flexibility* into the supply-chain structure, processes, and management.Sheffi (2005, October).

10. The ability to respond quickly and cost-effectively to unexpected change.

9.4 Making Supply Chains Adaptable

Global companies must be able to adapt their supply networks when markets or strategies change. The best companies tailor their supply chains to the nature of the markets they serve. They often end up with more than one supply chain, which can be expensive, but, in return, they secure the best manufacturing and distribution capabilities for each offering. Cisco, for example, uses contract manufacturers in low-cost countries such as China for standard, high-volume networking products. For its broad line of midvalue items, the company uses vendors in low-cost countries to build core products, but it customizes those products itself in major markets such as the United States and Europe. And for highly customized, low-volume products, Cisco uses vendors close to main markets, such as Mexico for the United States and Eastern European countries for Europe. Despite the fact that it uses three different supply chains at the same time, the company is careful not to become less agile. Because it uses flexible designs and standardized processes, Cisco can switch the manufacture of products from one supply network to another, when necessary.Sheffi (2005, October).

Companies that compete primarily on the basis of operational excellence typically focus on creating supply chains that deliver goods and services to consumers as quickly and inexpensively as possible. They invest in state-of-the art technologies and employ metrics and reward systems aimed at boosting supply-chain performance.

For companies competing on the basis of customer intimacy or product leadership, a focus on efficiency is not enough—agility is a key factor. Customer-intimate companies must be able to add and delete products and services as customer needs change; product leadership companies must be able to adapt their supply chains to changes in technology and to capitalize on new ideas.

All companies must align their supply-chain infrastructure and management with their underlying value proposition to achieve a sustainable competitive advantage. That is, they must align the interests of all the firms in the supply network so that companies optimize the chain's performance when they maximize their interests.

Minicase: Nikon, With the Help of UPS, Focuses on Supply-Chain Innovationhttp://www.ups-scs.com/solutions/case_studies/cs_nikon.pdf

To support the launch of its new digital cameras, Nikon, with the help of UPS Supply Chain Solutions, reengineered its distribution network to keep retailers well supplied. Nikon knew that customer service capabilities needed to be completely up to speed from the start and that distributors and retailers would require up-to-the-minute information about product availability. While the company had previously handled new product distribution in-house, this time Nikon realized that burdening its existing infrastructure with a new, demanding, high-profile product line could impact customer service performance adversely. So Nikon applied its well-known talent for innovation to creating an entirely new distribution strategy, and it took the rare step of outsourcing distribution of an entire consumer-electronics product line. With UPS Supply Chain Solutions on board, Nikon was able to quickly execute a synchronized supply-chain strategy that moves products to retail stores throughout the United States, Latin America, and the Caribbean, and allows Nikon to stay focused on the business of developing and marketing precision optics.

Starting at Nikon's manufacturing centers in Korea, Japan, and Indonesia, UPS Supply Chain Solutions now manages air and ocean freight and related customs brokerage. Nikon's freight is directed to Louisville, Kentucky, which not only serves as the all-points connection for UPS's global operations but is also home to the UPS Supply Chain Solutions Logistics Center main campus. Here, merchandise can be either "kitted" with accessories such as batteries and chargers or repackaged to in-store display specifications. Finally, the packages are distributed to literally thousands of retailers across the United States or shipped for export to Latin American or Caribbean retail outlets and distributors, using any of UPS's worldwide transportation services to provide the final delivery.

With the UPS Supply Chain Solutions system in place, the process calibrates the movement of goods and information by providing SKU-level visibility within complex distribution and information technology (IT) systems. UPS also provides Nikon advance shipment notifications throughout the U.S., Caribbean, and Latin American markets. The result: a "snap shot" of the supply chain that rivals the performance of a Nikon camera.

Nikon has already seen the results of its innovation in both digital technology and product distribution. The consumer digital-camera sector is one of Nikon's fastest-growing product lines. In addition, supply-chain performance and customer service have measurably improved. Products leaving Nikon manufacturing facilities in Asia can now be on a retailer's shelf in as few as 2 days. While products are en route, Nikon also has the ability to keep retailers informed of delivery times and to adjust them as needed so that no retailer needs to miss sales opportunities due to lack of product availability.

9.5 Creating Supply-Chain Alignment

Leading companies take care to align the interests of all the firms in their supply chain with their own. This is important, because every supply-chain partner firm—whether a supplier, an assembler, a distributor, or a retailer—will focus on its own interests. If any company's interests differ from those of the other organizations in the supply chain, its actions will not maximize the chain's performance.

One way companies align their partners' interests with their own is by redefining the terms of their relationships so that firms share risks, costs, and rewards equitably. Another involves the use of intermediaries, for example, when financial institutions buy components from suppliers at hubs and resell them to manufacturers. Everyone benefits because the intermediaries' financing costs are lower than the vendors' costs. Although such an arrangement requires trust and commitment on the part of suppliers, financial intermediaries, and manufacturers, it is a powerful way to align the interests of companies in supply chains.

A prerequisite to creating alignment is the availability of information so that all the companies in a supply chain have equal access to forecasts, sales data, and plans. Next, partner roles and responsibilities must be carefully defined so that there is no scope for conflict. Finally, companies must align incentives so that when companies try to maximize returns, they also maximize the supply chain's performance.

Minicase: Nestlé Pieces Together Its Global Supply ChainSteinert-Threlkeld (2006, January).

A few years ago, Nestlé, the world's largest food company, set out to standardize how it operates around the world. It launched GLOBE (Global Business Excellence), a comprehensive program aimed at implementing a single set of procurement, distribution, and sales management systems. The logic behind the $2.4-billion project was impeccable: implementing a standardized approach to demand forecasting and purchasing would save millions and was critical to Nestlé's operating efficiency in 200 countries around the world.

Nestlé's goal was simple: to replace its 14 different SAP enterprise-planning systems—in place in different countries—with a common set of processes, in factory and in administration, backed by a single way of formatting and storing data and a single set of information systems for all of Nestlé's businesses.

For Nestlé, this was not an everyday project. When it built a factory to make coffee, infant formula, water, or noodles, it would spend $30 to $40 million; committing billions in up-front capital to a backroom initiative was unheard of, or, as someone noted, "Nestlé makes chocolate chips, not electronic ones."

The GLOBE project also stood as the largest-ever deployment of mySAP.com. But whether the software got rolled out to 230,000 Nestlé employees or 200 was not the point. The point was to make Nestlé the first company to operate in hundreds of countries in the same manner as if it operated in one. And that had not been achieved by any company—not even the British East India Company at the peak of its tea-trading power—in the history of global trade.

Consider the complexities. Nestlé was the world's largest food company, with almost $70 billion in annual sales. By comparison, the largest food company based in the United States, Kraft Foods, was less than half that size. Nestlé's biggest Europe-based competitor, Unilever, had about $54 billion in sales. In addition, Nestlé grew to its huge size by selling lots of small-ticket items—Kit Kat, now the world's largest-selling candy bar; Buitoni spaghetti; Maggi packet soups; Lactogen dried milk for infants; and Perrier sparkling water.

The company operated in some 200 nations, including places that were not yet members of the United Nations. It ran 511 factories and employed 247,000 executives, managers, staff, and production workers worldwide.

What is more, for Nestlé, nothing was simple. The closest product to a global brand it had was Nescafé; more than 100 billion cups were consumed each year. But there were more than 200 formulations, made to suit local tastes. All told, the company produced 127,000 different types and sizes of products. Keeping control of its thousands of supply chains, scores of methods of predicting demand, and its uncountable variety of ways of invoicing customers and collecting payments was becoming evermore difficult and eating into the company's bottom line.

The three baseline edicts for project GLOBE were: harmonize processes, standardize data, and standardize systems. This included how sales commitments were made, factory production schedules established, bills to customers created, management reports pulled together, and financial results reported. Gone would be local customs, except where legal requirements and exceptional circumstances mandated an alternative manner of, say, finding a way to pay the suppliers of perishable products like dairy or produce in a week rather than 30 days. And when was this all to be done? In just 3 and a half years. The original GLOBE timeline, announced by Nestlé's executive board, called for 70% of the company's $50 billion business to operate under the new unified processes by the end of 2003.

Mission impossible? The good news was that in one part of the world, Asia, market managers had shown they could work together and create a common system for doing business with their customers. They had used a set of applications from a Chicago supplier, SSA Global, that allowed manufacturers operating worldwide to manage the flow of goods into their factories, the factories themselves, and the delivery of goods to customers while making sure the operations met all local and regional legal reporting requirements. The system was adopted in Indonesia, Malaysia, the Philippines, Thailand, even South Africa, and was dubbed the "Business Excellence Common Application."

But this project was orders of magnitude more involved and more complex. Instead of just a few countries, it would affect 200 of them. Change would have to come in big, not small, steps. Using benchmarks they could glean from competitors such as Unilever and Danone, and assistance from

PricewaterhouseCoopers consultants and SAP's own deployment experts, the executives in charge of the GLOBE project soon came to a conclusion they had largely expected going in: this project would take more people, more money, and more time than the board had anticipated. Instead of measuring workers in the hundreds, and Swiss francs in the hundreds of millions, as originally expected, the team projected that 3,500 people would be involved in GLOBE at its peak. The new cost estimate was 3 billion Swiss francs, about $2.4 billion. And the deadline was pushed back as well. The new target: putting the "majority of the company's key markets" onto the GLOBE system by the end of 2005, not 2003.

To lead this massive undertaking, GLOBE's project manager chose a group of business managers, not technology managers, from all of Nestlé's key functions—manufacturing, finance, marketing, and human resources—and from all across the world—Europe, Asia, the Americas, Africa, and Australia.

These were people who knew how things actually worked or should work. They knew how the company estimated the demand for each of its products, how supplies were kept in the pipeline, even mundane things like how to generate an invoice, the best way to process an order, how to maintain a copier or other office equipment, and how to classify all the various retail outlets, from stores to vending machines, that could take its candy bars and noodles. The system would allow managers to manage it all from the web.

The process for the team of 400 executives started with finding, and then documenting, the four or five best ways of doing a particular task, such as generating an invoice. Then, the GLOBE team brought in experts with specific abilities, such as controlling financial operations, and used them as "challengers." They helped eliminate weaknesses, leaving the best practices standing.

At the end of that first year, the project teams had built up the basic catalog of practices that would become what they would consider the "greatest asset of GLOBE": its "Best Practices Library." This was an online repository of step-by-step guides to the 1,000 financial, manufacturing, and other processes that applied across all Nestlé businesses. Grouped into 45 "solution sets," like demand planning or closing out financial reports, the practices could now be made available online throughout the company, updated as necessary, and commented on at any time.

It was not always possible to choose one best practice. Perhaps the hardest process to document was "generating demand." With so many thousands of products, hundreds of countries, and local tastes to deal with, there were "many different ways of going to market," many of which were quite valid. This made it hard to create a single software template that would serve all market managers.

So GLOBE executives had to practice a bit more tolerance on that score. The final GLOBE template included a half-dozen or so different ways of taking products to market around the world. But no such tolerance was shown for financial reporting. The 400 executives were determined to come up with a rigorous step-by-step process that would not change.

Experts were brought in along the way to challenge each process. But in the end, one standard would, in this case, have to stand. Financial terms would be consistent. The scheme for recording dates and amounts would be the same. The timing of inputting data would be uniform; only the output could change. In Thailand, there would have to be a deviation so that invoices could be printed out in Thai characters so that they could be legal and readable. In the Philippines, dates would have to follow months, as in the United States. Most of the rest of the world would follow the European practice of the day preceding the month.

Progress was slow, however. Nestlé managers had always conducted their businesses as they saw fit. As a consequence, even standardizing on behind-the-scenes practices, like how to record information for creating bills to customers met, with resistance. As country managers saw it, decision making was being taken out of local markets and being centralized. Beyond that, someone had to pay the bill for the project itself. That would be the countries, too.

By the fall of 2005, almost 25% of Nestlé was running on the GLOBE templates. And GLOBE's project manager was confident that 80% of the company would operate on the new standardized processes by the end of 2006. The greatest challenge was getting managers and workers to understand that their jobs would change—in practical ways. In many instances, workers would be entering data on raw materials as they came into or through a factory. Keeping track of that would be a new responsibility. Doing it on a computer would be a wholly new experience. And figuring out what was happening on the screen could be a challenge. Minutia? Maybe. Considerable change? Definitely.

But the templates got installed and business went on—in Switzerland, Malaysia-Singapore, and the Andean region. In each successive rollout, the managers of a given market had 9 months or more to document their processes and methodically adjust them to the templated practices. In 2003, Thailand, Indonesia, and Poland went live. In 2004, Canada, the Philippines, and the Purina pet food business in the United Kingdom joined the network. But, by then, the system was bumping up against some technical limits. In particular, the mySAP system was not built for the unusual circumstances of the Canadian food retailing market. Food manufacturers have lots of local and regional grocery chains to sell to, and promotional campaigns are rife. MySAP was not built to track the huge amount of trade promotions engaged in by Nestlé's Canadian market managers: there were too many customers, too many products, and too many *data points.*

In India, changing over in mid-2005 was complicated by the fact that not only was Nestlé overhauling all of its business processes, but it also did not know what some of the key financial processes would have to be. At the same time it was converting to the GLOBE system, India was changing its tax structure in all 29 states and six territories. Each would get to choose whether, and how, to implement a fee on the production and sale of products, known as a value-added tax. Meeting the scheduled go-live date proved difficult.

And all over the world, managers learned that the smallest problem in standardized systems means that product can get stopped in its tracks. In Indochina, for instance, pallets get loaded with 48 cases of liquids or powders, and are then moved out. If a worker fails to manually check that the right cases have been loaded on a particular pallet, all dispatching stops are held up until the pallet is checked.

These setbacks notwithstanding, GLOBE taught Nestlé how to operate as a truly global company. For example, managers from the water businesses initially rejected the idea of collecting, managing, and disseminating data in the same way as their counterparts in chocolate and coffee. Some managers figured that if they were able to produce all the water or all the chocolate they needed for their market locally, that should be enough. But the idea was to get Nestlé's vast empire to think, order, and execute as one rather than as a collection of disparate companies. This meant that a particular manufacturing plant in a particular manager's region might be asked to produce double or triple the amount of coffee it had in the past. Or it might mean that a particular plant would be closed.

So, while the company did away with data centers for individual countries, each one does now have a data manager. The task is to make sure that the information that goes into GLOBE's data centers is accurate and complete. That means that country managers can concentrate more on what really matters: serving customers.

9.6 Points to Remember

1. In today's global competitive environment, individual companies no longer compete as autonomous entities but as supply-chain networks. Instead of brand versus brand or company versus company, then network is increasingly suppliers-brand-company versus suppliers-brand-company.

2. Top-performing supply chains have three distinct qualities. First, they are *agile* enough to react readily to sudden changes in demand or supply. Second, they *adapt* over time as market structures and environmental conditions change. And third, they *align* the interests of all members of the supply-chain network in order to optimize performance.

3. Driven by e-commerce's capabilities to empower clients, most companies have moved from the traditional "*push*" business model—where manufacturers, suppliers, distributors, and marketers have most of the power—to a customer-driven *"pull"* model.

4. Supply-chain management (SCM) has three principal components: (a) creating the *supply-chain network structure*, (b) developing *supply-chain business processes*, and (c) *managing the supply-chain activities*. The *supply-chain network structure* consists of the member firms and the links between these firms. *Business processes* are the activities that produce a specific output of value to the customer. The *management function* integrates the business processes across the supply chain.

5. The best companies create supply chains that can respond to sudden and unexpected changes in markets. Agility—the ability to respond *quickly* and *cost-effectively* to unexpected change—is critical because in most industries, both demand and supply fluctuate more rapidly and widely than they used to. Key to increasing agility and resilience is building *flexibility* into the supply-chain structure, processes, and management.

6. Global companies must be able to adapt their supply networks when markets or strategies change. Companies that compete primarily on the basis of operational effectiveness typically focus on creating supply chains that deliver goods and services to consumers as quickly and inexpensively as possible. They invest in state-of-the-art technologies and employ metrics and reward systems aimed at boosting supply-chain performance. For companies competing on the basis of customer intimacy or product leadership, a focus on efficiency is not enough; agility is a key factor. Customer-intimate companies must be able to add and delete products and services as customer needs change;

product leadership companies must be able to adapt their supply chains to changes in technology and to capitalize on new ideas.

7. Leading companies take care to align the interests of all the firms in their supply chain with their own. This is important because every supply-chain partner firm—whether a supplier, an assembler, a distributor, or a retailer—will focus on its own interests. If any company's interests differ from those of the other organizations in the supply chain, its actions will not maximize the chain's performance.