

Getting Past the Hype: Value Chain Restructuring in the e-Economy



Executive Summary

With alarming speed, the Web has infiltrated traditional value chains, opening up supply networks, production processes, and distribution systems to new e-enabled competitors that have unlocked trapped value. These new economy companies have considered the *entire* value chain, not just several steps or one company's role in it. They have taken an industry, even a cross-industry, view on how value is delivered to the customer. They also have pioneered ways to optimize the efficiency as well as the effectiveness of the process to generate incremental value. In so doing, they have sometimes spurred the development of new and better business models that offer greater customer solutions, relentlessly lower costs, and accelerate marketplace actions and reactions.

But while these start-ups may have unlocked considerable latent value, it is not at all certain they will capture it in the long run. Rather, it is the established companies with longstanding market presence that ultimately should succeed in extracting the greatest value from the Internet. However, while the established companies have an advantaged position, they are struggling to truly leverage new technology judiciously to restructure their value chains in a way that creates real value for the customer, while capturing real value for themselves.

It is our strong belief that value chain restructuring is no longer a luxury; it is a necessity for most industry players. However, the approach cannot be "everyone out for a pass"—or funding every initiative labeled with an "e." Established players must continue to be guided by sound economic fundamentals, but must now apply those fundamentals in an e-world. The issue is whether you drive the change and capture the benefits...or whether you're taken for a ride.

Drivers become the center of gravity in their respective value chains by determining specifically where and how value is created and positioning themselves to control it. In this *Viewpoint*, we detail how your company can become a driver by adopting and applying five key principles:

1. Understand Consumer Value
2. Maximize the "Surplus" in Your Chain
3. "Pick Your Spots" and Capture the Value
4. "Look Both Ways" in the Value Chain
5. Embrace e-Enabled Opportunities

To unlock the tremendous trapped value in today's value chains, companies need to direct their focus not only internally, but also externally. In addition to restructuring their own supply network, they must make concerted efforts to address the gaps and inefficiencies that exist in their industry's value chain. They must give suppliers the assets, insights, and freedom to innovate, and they must ally with rivals, when and where appropriate, to deliver true customer solutions.

Getting Past the Hype: Value Chain Restructuring in the e-Economy

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The rise of a global, real-time e-Economy has raised the stakes and expedited the timetable for value chain restructuring. True. The Internet has transformed the economics of entire industries, exposing inefficiencies and missed opportunities to the cold light of e-enabled competition. Brash, perhaps, but true. This new technology is so sweeping in its reach and sudden in its impact that you must e-overhaul everything you did yesterday to compete tomorrow. Please...

The Internet is not a fad. It will not join MRP and ERP in the IT “legacy” books. It is a transformational technology that has lowered costs, eased communication, and dramatically expanded the realm of what is possible across markets — both geographic and industry. It has ushered in a new generation of faster, nimbler, and more responsive competitors and challenged the historic dominance of complex, vertically integrated business models.

But it is not the apocalypse. It will not wipe out all that came before. Indeed, there is every reason to believe that, in most cases, it is the established market leaders who will ultimately extract the greatest value from the Internet — but only if they leverage this new technology judiciously to restructure their value chains and create real value for the customer, while capturing real value for themselves.

That means reaching beyond “efficiency” improvements and seizing “effectiveness” opportunities. That means looking beyond a few steps in the value chain and assessing the *entire* value chain, not just from a company perspective, but from an industry-wide and even cross-industry perspective. That means anticipating where customer needs will be tomorrow and adapting operations today to supply the greatest value against that emerging demand. Then — and only then — can companies get past the hype and capture the full value of “e.”

An Old Perspective, Just a Wider Lens

Restructuring the value chain is hardly a new concept. The past two decades have seen billions spent on software, hardware, and consulting expertise, all aimed at extracting extra value from the so-called value chain. Whether the investment was in MRP, ERP, or “reengineering,” the results were all too often unimpressive.

And then there was “e.” With alarming speed, the Web has infiltrated traditional value chains, opening up supply networks, production processes, and distribution systems to new e-enabled competitors that have unlocked trapped value. These “virtual” companies have approached value chain restructuring with two key advantages: 1) an outsider’s detachment about how to create value, and 2) none of the traditional cost structures of entrenched players.

Take Priceline.com as an example. It stepped into a void in the travel industry’s value chain, creating a new, unbranded channel for airlines and hotels to sell distressed inventory. No airline on its own could risk doing the same, since it might cannibalize current sales and erode its pricing structure. By consolidating

What Is a Value Chain?

A value chain is the sequence of all the activities needed to envision, create, engineer, produce, distribute, market, and sell a set of related products or services. The value perceived by the end-consumer of the product or service is derived in part from each step in the chain, although not all steps create the same amount of value or deliver the same profit potential.

Each step in the chain requires distinct assets and capabilities. Hence, a given chain includes many different types of businesses (e.g., R&D-oriented companies, product developers and marketers, component suppliers, contract manufacturers, distributors, retailers).

this distressed inventory at an industry level, offering a new and different product (e.g., uncertain flight times and routings), and operating in the economically advantaged environment of the Internet, Priceline.com unlocked substantial trapped value, and provoked a competitive response from the airlines and hotel chains.

Priceline’s example — and the dot.com experience, in general — has furnished valuable insights on the likely path value

chain restructuring will take in the e-Economy. First, it is important to note the broader perspective that the dot.coms and other new-form competitors have brought to the marketplace. In assessing opportunities to transform business models, they have considered the *entire* value chain, not just several steps or one company's role in it. They have taken an industry-wide, even a cross-industry view on how value is delivered to the customer, and have pioneered ways to optimize not only the efficiency of the process, but its effectiveness, thus generating incremental value. In so doing, they have spurred the development of new and better business models that:

- Offer greater customer solutions;
- Relentlessly lower costs through improved return on assets; and
- Accelerate marketplace actions and reactions.

But while these upstart start-ups may have unlocked considerable latent value, it is not at all certain they will capture it in the long run, as the stock market is beginning to realize. In generating their early wins, these small companies have roused the sleeping giants

in their respective marketplaces, those who have exercised historic dominance, or at least influence, over the industry's value chain. While new online players have managed to optimize certain links in industry value chains, it is the established companies with longstanding market presence that should ultimately succeed in reinventing those value chains, unleashing their own ability to innovate while reducing complexity. In so doing, they could potentially capture the lion's share of the trapped value in the long run — if they are wise.

Leveraging the Internet to Transform the Value Chain

Of course, a good many companies have been anything but wise in their approach to e-business and the value chain restructuring opportunities it presents. They have staked one of two extreme positions: Either they ignore the Internet's potential to transform their business models, or they blithely fund any concept with an "e" in its title.

Both extremes have their hazards, as the brief test of time has already proven. The swift descent in the valuations of several online darlings and the hits taken by certain brick-and-mortar "laggards" suggest that while the Internet definitely has its place in most value chains, it cannot substitute for sound strategy and solid infrastructure. Companies founded on little more than a domain name have learned this lesson the hard way (e.g., Pets.com, Mothenature.com), as have traditional companies that have arrived late to the online party (e.g., Toys "R" Us, Barnes & Noble).

The "launch-and-learn" philosophy spawned by the Internet is here to stay. But the suspension of rational economics that characterized the dot.com era is now over. So, what have we learned? How can established companies successfully leverage the Internet to transform their value chains?

First, they need to approach the task on two levels: a company-specific level and an industry-structure level. The first is by now old hat. Company executives have long recognized the

need for change in their internal operations and responded with a variety of tools and processes designed to move toward the customer, add products and services, build global capabilities, and make their employees and processes more productive. Now they are incorporating the natural advantages of the Internet in that pursuit.

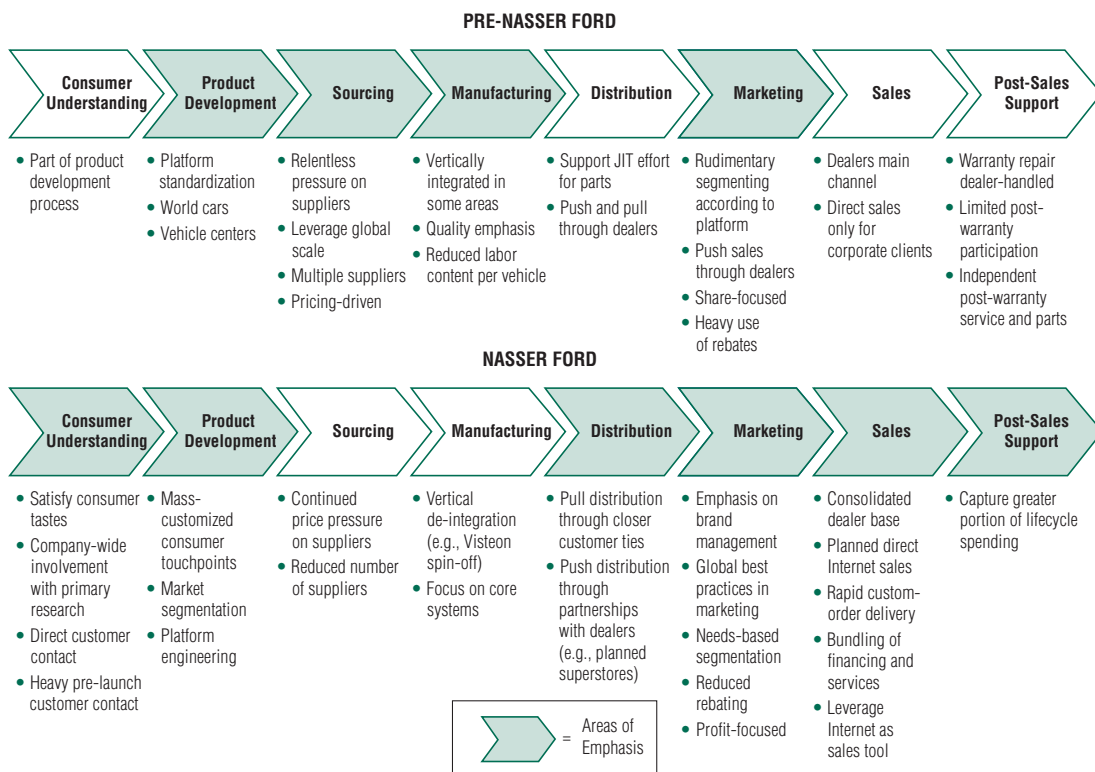
For example, GE — one of the largest lessors of commercial equipment from copiers to jumbo jets to electrical power plants — has developed a Web site that will track all leased equipment and automatically auction any coming off a lease, saving itself and its clients significant book-keeping and warehousing expense.

Enron has incorporated the Internet into its value chain in a whole new way, leveraging its existing physical assets — its gas pipeline network — to deliver broadband services globally via its new Enron Broadband Services unit. In addition, it is marketing a whole series of information-driven hedging instruments, many Web-enabled, that help its customers avoid unwanted risk in commodity energy prices.

Meanwhile, Ford, under the leadership of Jacques Nasser, is leveraging e-enabled technologies to maintain and improve its control of the end-consumer interface in its value chain. Having gone about as far as it

can go in taking cost out of manufacturing mass-produced vehicles, Ford is turning to those components of its value chain that offer greater long-term promise — consumer understanding, product development, distribution, marketing, sales, and post-sales support. Confronted with fragmenting customer demand and new competition from the likes of Carpoint and Auto-by-Tel, Nasser is shifting from a product-centric, vertically integrated, asset-intensive manufacturing model to a more customer-centric, networked, sales and distribution-oriented value chain (see Exhibit 1). Manufacturing operations will be spun off to a much

Exhibit 1. Ford During the Nasser Era: Surprising and Delighting the Consumer



greater degree, while focus shifts to wrapping the company around the consumer experience, developing vehicles that anticipate consumers' preferences better at lower cost, and delivering these vehicles through channels that better suit their lifestyles.

It is the second approach — the task of restructuring one's value chain from an *industry-structure* perspective — that presents new and different challenges and unprecedented opportunities in this age of the Internet. E-business has broken down the traditional barriers that held competitors, even customers, at arm's length. Upstart competitors have rewritten the rules of competition. To succeed in this cheaper, faster, more convenient, and customized environment, companies — almost by necessity — have to "open their kimonos" to the outside world to an unprecedented degree. They must partner with their competitors, outsource to suppliers, and render their cost structures more transparent to customers in ways they could not have imagined a mere five years ago.

The automotive industry is perhaps the most highly visible

example of this extraordinary "cooperation." Ford, Daimler Chrysler, General Motors, and Renault/Nissan — in partnership with software vendors Oracle and CommerceOne — have pooled resources to develop a global online supply network called Covisint. Starting with procurement and eventually encompassing such services as warranty, performance, and design collaboration, this market site should dramatically reduce purchasing costs and increase operating efficiencies for all participants, although it remains to be seen who will capture the most value — suppliers, OEMs, or the end customer.

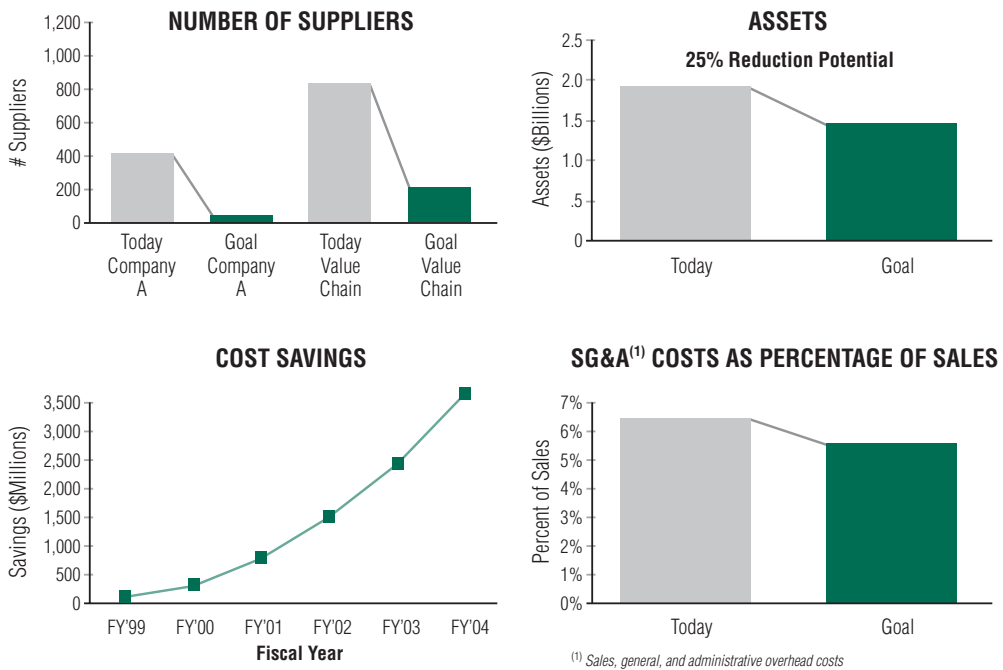
Similar industry-wide e-sourcing efforts have been launched in aerospace, health care, chemicals, industrials, and other sectors. These market sites not only increase competition among suppliers, they extract value from others in the industry who may wish to participate in the bazaar. These virtual marketplaces consolidate industry buys, providing large and small competitors alike with the benefits of increased scale.

To unlock the tremendous trapped value in today's value chains, companies need to direct their focus not only internally,

but also externally. In addition to restructuring their own supply network, they must make concerted efforts to address the gaps and inefficiencies that exist in their industry's value chain. They must give suppliers the assets, insights, and freedom to innovate, and they must ally with rivals, when and where appropriate, to deliver true customer solutions.

To succeed in this new environment, traditional rivals must redraw their battle lines, partnering in some areas, while continuing to compete vigorously in others, forming consortia, where necessary, to wield industry scale and fend off new-form competition. Fierce competitors are joining forces in a number of these new ventures to wield their collective market power. For example, major airlines and hotel chains have formed Hotwire, a consortium to sell excess, perishable inventory, while limiting competition with their mainstream products by revealing exact flight and hotel details only after purchase. By combining inventory across many participants, they dramatically increase

Exhibit 2. Value Chain Restructuring Unlocks Tremendous Value



Source: Booz-Allen & Hamilton

customer attractiveness of the site, while also reducing costs through scale.

By attacking the problem both from within and without, companies can generate significant results and enhance shareholder value (see Exhibit 2).

Either You're a Driver... or a Passenger

It is our strong belief that value chain restructuring is no longer a luxury; it is a necessity for most industry players. The issue is whether you

drive the change and capture the benefit in terms of market capitalization — or whether you're taken for a ride.

Many of the supply networks that exist today have been built one connection at a time to address immediate needs, but with no clear sense of the overall and optimal structure. Decisions are made on a day-by-day or program-by-program basis, resulting in significant redundancies not only within the company, but across its extended network and across industries. Networks are often managed based on price and, in some cases, cost-to-serve, but rarely

value. As a result, there is significant value left on the table.

But it's hard to change. Companies confront significant obstacles, both operational and cultural. They are so entrenched in their traditional ways of doing business that they are doomed to become passengers in a new economy driven by more nimble and adept competitors. While they recognize the pressing need for dramatic change, they also resist the "trial by fire" approach of many start-ups. They point to the recent stumbles of many early achievers in e-business and take comfort in their caution.

Exhibit 3. Passenger vs. Driver

	PASSENGER	DRIVER
PERSPECTIVE	Largely internal perspective on how value is created across the supply chain	Entire value chain considered
ORGANIZATION	Vertical integration (make versus buy) assessments biased toward keeping internal capacity full	Networked — each task is done by whoever can do it most effectively and efficiently — real market forces guide network development
RESTRUCTURING APPROACH	Restructuring primarily organized to reduce costs by reengineering delivery activities	Restructuring organized to deliver maximum shareholder and customer value across innovation and delivery activities , including both revenue growth and cost reduction
FOCUS	Total cost-to-serve focus — with near-term orientation	Value creation focus — with strategic considerations playing a large role
SUPPLIER SELECTION	Selection of suppliers from current industry players — high switching costs	Creation of supplier partners with appropriate capabilities — versatile network
SPEED	Systematic, sequential progress made one step at a time	Simultaneous, step-change progress to drive early results
GEOGRAPHIC SCOPE	Regional and local suppliers dominate	New global pools of talent and capabilities tapped
EXAMPLES	<ul style="list-style-type: none"> • Northwest Airlines • Kmart • Builder's Square • Anheuser-Busch (Eagle Snacks) • Compaq 	<ul style="list-style-type: none"> • Southwest Airlines • Wal*Mart • Home Depot • Frito-Lay • Dell

Source: Booz-Allen & Hamilton

There is a difference, however, between being appropriately prudent and turning a blind eye to the necessity and inevitability of radical change. The Internet has helped all manner of competitor surmount the parameters of what is possible in terms of cost, convenience, access, and selection. It is transforming markets, with or without the participation of historic market leaders.

While companies such as Amazon and eBay may not have the ultimate answer, they are actively searching for the right

Case Study: eBay

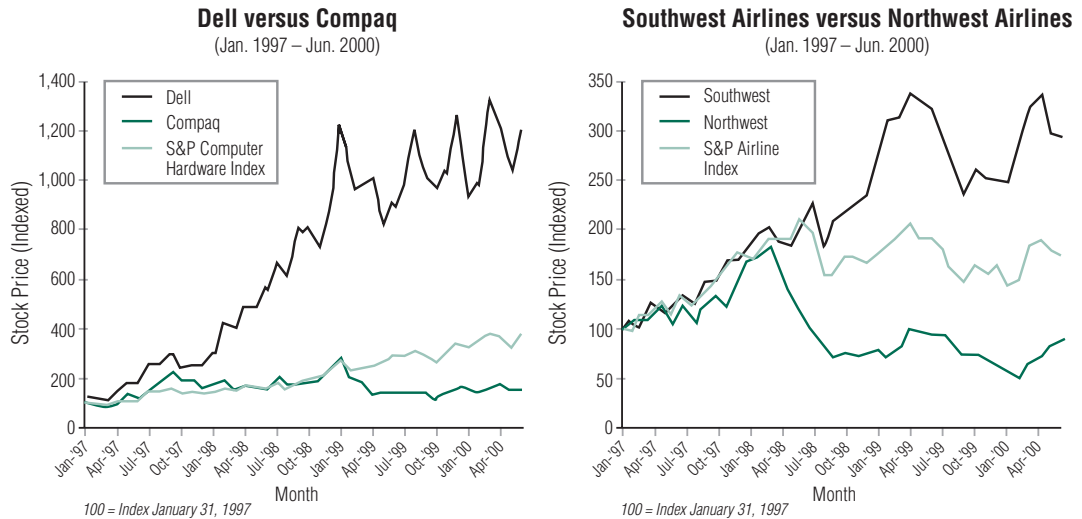
eBay has brought the concept of the "flea market" to cyberspace, using categorization and search engines to help buyers find what they are looking for, creating a global exchange so massive in its scope and reach that it overwhelms anything that could be created in the brick-and-mortar world. It is one of the best examples of a business concept that builds on two critical characteristics of the Internet — low transaction costs and increasing returns to scale.

solution, as are many established players who understand the need and potentially huge opportunity presented by value chain restructuring. These companies are

looking beyond the traditional bailiwick of most reengineering efforts — execution/delivery activities — and are trying to identify and overhaul the sources and levers of innovation in the production process. These companies are the drivers in the new global economy (see Exhibit 3).

Drivers move beyond the traditional *product-forward* mindset and adopt a *market-back* orientation, assessing customer demand and then strategically restructuring their entire value chain to fulfill market requirements in the most cost-effective

Exhibit 4. Drivers Consistently Outperform Passengers



Sources: Standard & Poor's Compustat; Booz-Allen & Hamilton

manner. Their approach is integrated, holistic, and proactive. They work together with suppliers from the beginning of the development process to craft customer solutions rather than dictating a set of specifications. Our experience indicates that greater efficiencies, cost savings, and higher quality result.

Meanwhile, passengers continue to concentrate their re-engineering efforts on the latter stages of manufacturing, forfeiting the potential for value creation at the earlier stages.

By leaving intact the existing components and interfaces of a complex system, these companies lay the foundation for the next generation of bottlenecks, misunderstandings, and creeping overhead costs.

These differences in approach between drivers and passengers explain why companies in the same industry can consistently generate different levels of performance (see Exhibit 4). It is a matter of creating what you want versus taking what you are given.

The Five Principles for Success

Drivers become the center of gravity in their respective value chains by determining specifically where and how value is created and positioning themselves to control it. In our experience, they adopt five key principles (see Exhibit 5).

UNDERSTAND CONSUMER VALUE

Customer requirements of performance, functionality, and price have grown ever more exacting and fragmented, as technology has driven new, better, and cheaper products. Consumers now want products and services tailored to their unique needs and preferences (e.g., small business banking services). They want heightened functionality (e.g., ergonomic running shoes and office

furniture). And they want lower life-cycle costs (e.g., improved gas mileage, battery life, and time between oil changes). Most likely, they want all of the above.

Both retail and commercial channels have witnessed a dramatic proliferation in the products and options required by customers. To accommodate these ever-increasing demands, traditional competitors in every industry have had to repeatedly reconfigure their operations, adding burdensome cost and complexity.

Yet in our experience, companies usually miss the consumer value proposition. They tend to overvalue scale economies and undervalue the price premium end-consumers will pay if you hit their “sweet spot.” Building the best possible understanding of what drives consumer value in your value chain is crucial to creating long-term competitive advantage. It helps you build a reservoir of “consumer surplus” (value created minus total costs) from which you and your value chain partners can draw ongoing profits.

Exhibit 5. Principles of Success in Value Chain Restructuring

PRINCIPLE	DESCRIPTION
1) Understand Consumer Value	<ul style="list-style-type: none"> • Creating and capturing value requires an understanding of what customers value and what drives cost — so that the right economic trade-offs can be made • Many companies fixate on cost at the expense of value <ul style="list-style-type: none"> – Clear understanding of cost drivers – Vague understanding of consumer value
2) Maximize the “Surplus” in Your Chain	<ul style="list-style-type: none"> • Design and deliver products and services that maximize the “consumer surplus” (excess of value over cost) in your value chain • Pay attention to where value will be created and controlled
3) “Pick Your Spots” and Capture the Value	<ul style="list-style-type: none"> • Companies often create value — but end up giving it away to consumers or competitors • Through careful pricing and other techniques, a company can capture its “fair share,” or even more • Decide what spots you need to occupy to exercise control over one of three critical leverage points for profits: capabilities, relationships, or assets
4) “Look Both Ways” in the Value Chain	<ul style="list-style-type: none"> • Look broadly across the chain for opportunities to create value and consumer surplus — they may lie upstream or downstream from your current position, or both • Leverage enlightened cooperation to access capable suppliers and channel base, where available
5) Embrace New e-Enabled Opportunities	<ul style="list-style-type: none"> • The Internet is creating significant new opportunities in many industries to create more value for consumers, reduce costs, or both • A comprehensive approach to value chain restructuring includes a careful look at these opportunities — not just a re-examination of the existing industry value chain

Source: Booz•Allen & Hamilton

How do you develop this critical understanding? The first answer is to supplement educated marketing judgments with carefully designed consumer testing. In so doing, companies can distill the near-infinite combinations of features and product attributes possible to those that end-customers most value. Take car seats as an example. An automotive seat manufacturer has nearly limitless choices within a given budget for a seat set. For the same money, the manufacturer can add adjustable lumbar support or an adjustable headrest. Interestingly, while research reveals that consumers place much greater value on the

adjustable lumbar support, most seats today are designed with adjustable headrests and no lumbar support. That's not understanding the customer.

But there is a better process. Consumers can be asked to assign a value to every major option for a car seat, and tradeoff analyses can further refine the understanding of preferences. Manufacturers can match up indexes of consumer value against the approximate cost of each option, yielding a hierarchy of features from highest value (relative to cost) to lowest. For an economy car seat, only the top few features might be used, but on a seat for a luxury car,

many more would be employed. Features would always be added in the order they appear on the list; if a seat had items from low on the list and was missing some of the top features, it would be evidence of less-than-optimal design choices.

The Internet, of course, facilitates this process by enabling cost-effective interaction with the end consumer. Priceline.com's "name-your-own-price" methodology, for example, has allowed the travel industry to gain a better sense of the true "walk-away" prices that different consumers have for different products — and conceivably, even attributes within these products. That intelligence can be leveraged to improve design and expand demand.

Of course, building an understanding of demand is but one facet of a total value chain perspective. Companies also need to gain clarity on what drives their costs. A total value chain perspective looks at market returns as a fraction of assets deployed, with an eye to maximizing those returns. This objective can be partially achieved by cutting costs. But the greater part comes from finding out what customers really value, then producing the products that will command premium prices. Whereas a total cost-to-serve focus might well improve the bottom line, a total value perspective will beef up the top line as well.

Case Study: Harley-Davidson

Acquired in the 1980s by a Japanese company known for its cutting edge technology, design prowess, and manufacturing efficiency, Harley-Davidson was very nearly run into the ground. It turns out these modern strengths clashed with the traditional values Harley represented and its riders cherished. Harley owners wanted bikes that made them feel like a young Marlon Brando. They wanted a classic look and a rugged sound. Investment bankers and lawyers wanted to buy into the Hell's Angels experience. All the manufacturing efficiency in the world was not going to supply that feeling.

In this case, there was more value to be gained from looking backward than looking forward. Harley-Davidson began selling its "throwback" mystique not only through its dealerships but also in the form of T-shirts, jewelry, and a chain of restaurants — and the rest is history. While the company aggressively streamlined its supply chain and strengthened relationships with dealers behind the scenes, it went "retro" in its market-facing activities, including its consumer Web site, building up revenues substantially.

The lesson: Harley-Davidson was able to stem its decline by refocusing on what its customers truly valued.

MAXIMIZE THE “SURPLUS” IN YOUR CHAIN

Once you understand what drives consumer value and what drives cost, you can design and deliver products and services that strike the optimal balance between the two, thus maximizing “consumer surplus” (the difference between consumer value and total costs).

Yahoo! has succeeded where so many portals have failed because it has organized itself around many of the sources of consumer value on the Internet. It established first-mover advantage, which was critically important. Moreover, it developed features consumers

truly valued such as a comprehensive, intuitive, and user-friendly guide to Web navigation, aggregated content, communications services, and personalization, all of which have helped it create a strong online brand. That brand has given it license to enter new markets (e.g., chat, e-commerce) and allows it to maintain a huge user base that attracts advertising dollars. As a result, Yahoo! has met or exceeded consensus estimates every quarter since going public.

Dell developed a whole new approach to maximizing the consumer surplus in its value chain with its direct sales model, lean supply processes, use of the

Internet, and unwavering focus on driving P&L to each process in its business model. Dell builds PCs to order in a matter of days, often collecting payment from its customers before making payment to its suppliers. This model is not easily copied, although certainly many are trying.

“PICK YOUR SPOTS” AND CAPTURE THE VALUE

While the entire value chain makes money, there are steps along the way that create value and others that do not. Moreover, there are steps that directly influence the total value created by the entire chain. Companies need to recognize what parts of the value chain they can and should control to maximize their own value capture.

In organizing to capture that surplus, don’t ask the question, “How can I optimize my current supply chain?” As Peter Drucker once said, “There is little point in trying to do more cheaply what should not be done at all.”

Instead, focus on what the ideal value chain would look like. Taking this broader, more strategic perspective will help you develop an understanding of the key levers within your industry and build a strategic vision of how these levers may evolve. Once you know that, you can organize around just those areas that promise the greatest ongoing returns.

Case Study: Power-by-the-Hour Contracts

The recent rise of Power-by-the-Hour contracts for aircraft engine maintenance is a good example of creating additional “consumer surplus.” The primary lever here is cost. The cost for spare parts has always been much lower for engine manufacturers than outside suppliers, since the original manufacturers have access to the original tooling and, for engines in production, can add incremental units to series production. Nevertheless, outside suppliers were eating into engine manufacturers’ market share for spare parts, as the manufacturers raised prices so high on these components that even cost-disadvantaged outsiders could compete profitably.

Engine manufacturers evaluated their value chain and identified an ingenious way to maximize consumer surplus. Rather than lower spare parts prices to recapture market share, they offered major airline customers Power-by-the-Hour contracts, in which they would maintain engines for a fixed price per flight hour. This allowed engine manufacturers to recapture share and profitability, and reduce costs further by replacing rather than repairing parts. In addition, manufacturers leveraged maintenance best practices over a larger pool of engines, reducing costs still further. And customer value was also enhanced, since airlines could now predict and budget for maintenance payments with greater accuracy. Since Power-by-the-Hour contracts do not reduce the market price for spares, they do not damage the manufacturers’ margins on their remaining parts business. It is not surprising then that Power-by-the-Hour arrangements are becoming increasingly popular.

At the simplest level, value created is the difference between the costs and investments required to produce goods or services and the prices customers pay for them. However, such cursory analysis misses the fact that not all costs and investments have equal impact on the final prices paid by end consumers. Often, it is only a few key elements of cost or investment — *value drivers* — that make a company’s products and services worth their price. Exceptional performance in these parts of the value chain usually leads to exceptional profitability, while the same level of performance elsewhere leads to a lesser

reward. Companies should generally focus on controlling the value drivers. Other elements — often the majority of cost or investment — can be outsourced.

The automotive industry presents some interesting examples of “picking spots” as various players — online and otherwise — have infiltrated the automotive value chain (see Exhibit 6). Given their control of the key consumer interface, automotive producers have long held the power — at least potentially — to seize most of the chain’s superior value, and relegate suppliers to commodity status. Suppliers who continue to operate under the old mode of thinking are

vulnerable to profit extraction. But suppliers who change their business models, hone their own understanding of the end-consumer, develop their innovation capabilities, and move strongly into modules and systems can both create and capture value.

The question a company must answer is which capabilities are core to value creation and capture and whether they should exist within the confines of the company’s corporate structure. Who should own which capabilities may be predicated on who is best positioned to create value in that particular context (e.g., by leveraging positional assets, lower labor rates, etc.).

Value drivers also evolve over time as changes take place in underlying technologies, markets, and regulatory environments. Anticipating and taking advantage of these changes is key to establishing or maintaining leadership in any industry. As we have seen with the evolution of the PC sector and the Internet economy, players who win are often those who correctly anticipate changes in value drivers and build new business models that respond to these changes by uncoupling established linkages and reconnecting them in different, and, often, unconventional ways.

These winning companies not only create value in their chains, they effectively capture it

Case Study: American Airlines

Once you have maximized the value created, you want to capture as much as possible, rather than giving it away to the consumer. Airline pricing used to have at most a couple of price tiers, which meant price-insensitive business travelers often paid much less than they would have been willing to pay, while a good many leisure travelers were priced out of the market. But American Airlines found a solution in yield management, powered by some of the most advanced information technology of its era.

With a new and bewildering set of price tiers, each with unique restrictions, American was able to price its tickets much closer to the maximum price each traveler would pay. For example, travelers who did not stay over a Saturday night and who bought tickets at the last minute — mainly business travelers — paid the highest fares, often considerably higher than before the era of yield management. At the same time, advance-purchase super saver fares were lower than the previously lowest price tiers, which expanded the market considerably on the low end. Yield management to capture consumer surplus is now applied in many other industries, but airlines are still the most advanced practitioners of the concept.

for themselves — a critical distinction all too often overlooked by market innovators. Xerox is the classic example. Its Palo Alto Research Center (PARC) was responsible for some of the most groundbreaking innovations in the PC age, among them the graphical user interface popularized by Apple and later Microsoft, as well as the laser printer commercialized by Canon. Xerox did not know how to manage and capture the value it created.

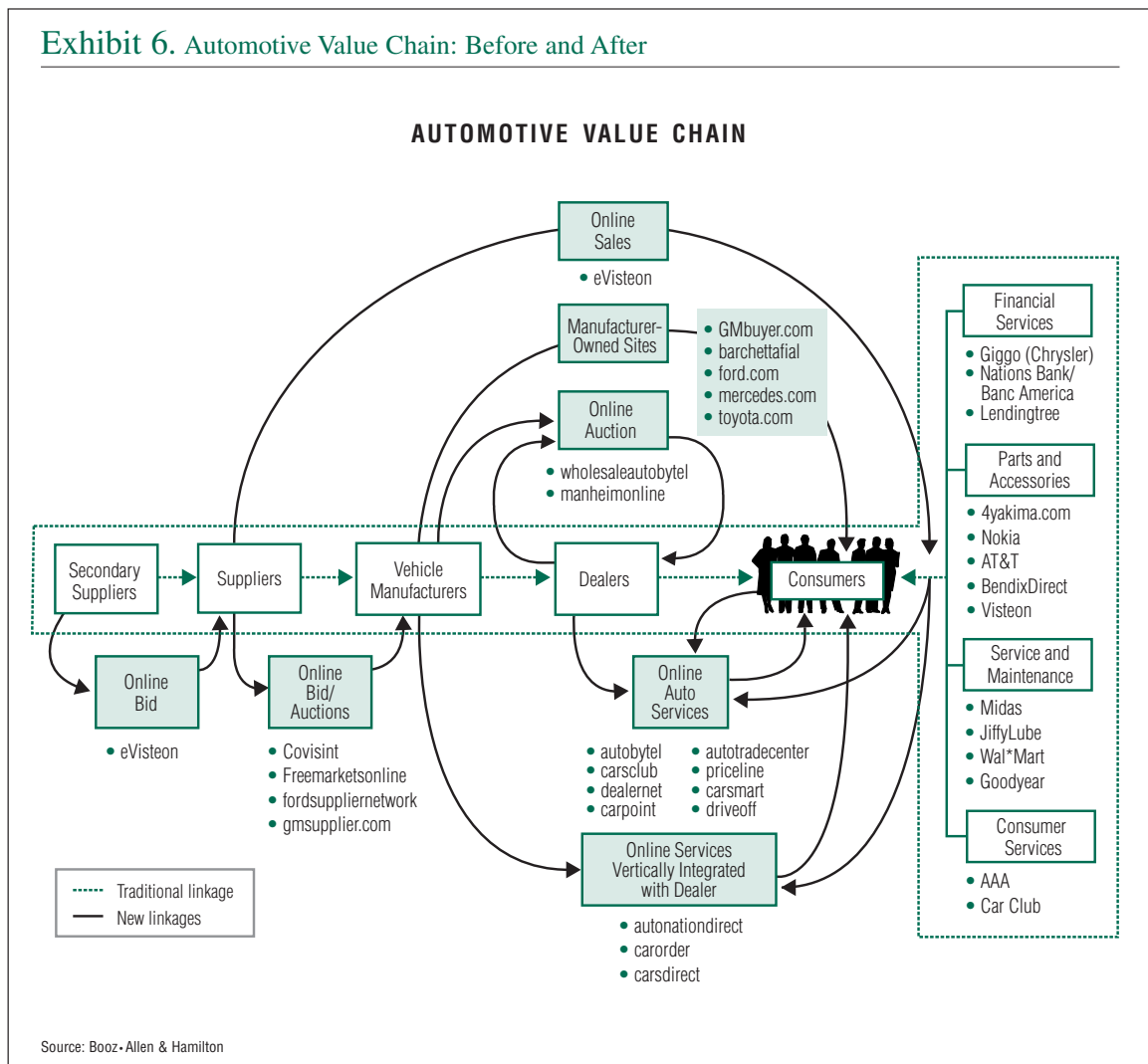
“LOOK BOTH WAYS” IN THE VALUE CHAIN

Companies seeking to restructure their value chains need to look both ways, not only toward the end-customer but toward the supplier. They need to step back and reassess the value in everything they do, not only from a supply chain perspective, but also from a customer requirements perspective. In so doing, they look into the future and ask themselves the question “What

do I want to be?” rather than “How can I make the best of what I have?”

Each company’s value chain has multiple dimensions, along which products, processes, and information flow. Companies should assess the full range of opportunities available to them to create and capture value. While execution and engineering opportunities may be more obvious and more immediate in their payoff, innovation stream

Exhibit 6. Automotive Value Chain: Before and After



opportunities need to be assessed and aggressively exploited as well.

Looking both ways will involve unusual and innovative alliances with not only suppliers and partners, but also competitors. In this age of enlightened competition, it's no longer simply one football franchise playing another; it's an ad-hoc alliance of players playing another such alliance for a few quarters, then stepping back, trading

teammates, and resuming the competition.

- Canada's two largest brewing companies, for example, share distribution facilities, which allows them both to sharply reduce warehousing and shipping costs. Meanwhile, however, they compete fiercely in brand marketing.
- Cisco Systems farms out the manufacture and assembly of most of its products — often-times to its competitors — while

it retains the innovation, supply chain management, and customer sales and servicing links in its value chain.

- Companies like Solectron and Jabil Circuit build partnerships with suppliers and distributors to gain access to specialized capabilities and favorable factor costs, as well as to maintain focus on their core business.

It's important, however, that you manage your relationships with these partners to squeeze out all unnecessary cost. Make sure that your partners have the information they need to do their jobs most effectively and inexpensively. Suppliers, for example, should know what sort of demand is coming their way, so they can prepare without holding high inventories.

As mentioned, a given chain includes many different types of businesses (e.g., R&D-oriented companies, product developers and marketers, component suppliers, contract manufacturers, distributors, retailers). Each of these companies cooperate with each other to create and deliver valuable products and services to the end consumer. But as a customer of one or more links in the chain, and a supplier to others, each also competes to capture for itself as much of the full value created from the chain's activities as it can.

Case Study: Frito-Lay

Several years ago, Frito-Lay reengineered its potato chip value chain. A major wholesale purchaser of potato crops and the largest potato chip maker in the world, the company identified value in exercising even greater control over upstream elements in the chip production process.

Over the previous decades, consumers had developed an overwhelming preference for chips made from a very limited set of potato varieties. Acquiring enough of these potatoes was difficult, requiring relationships with almost a thousand farmers across the United States, many of whom were also producing for other markets. Transaction and coordination costs were high and the average farm's operational scale was low.

Frito-Lay decided that there were two tiers of functionality in its value chain — those that were knowledge intensive, which should be kept within the Frito-Lay fold, and those that were asset intensive, which were best outsourced.

To ensure the most efficient production of the particular potato strains it needed, the company invested in the advanced breeding of potato seed stocks, the development of potato growing and harvesting best practices, and the implementation of optimal chip manufacturing processes. To address the logistical challenges of dealing with hundreds of suppliers and lock in their supply, Frito-Lay canvassed its farmer-suppliers to identify those who would be interested in concentrating on Frito-Lay bred potatoes and expanding their acreage significantly. These farmers, armed with long-term contracts, were able to gain financing and achieve efficient, profitable scale in other areas of the value chain. Frito-Lay partnered with a logistics management firm to handle other asset-intensive operations, such as shipping.

Using these strategies, Frito-Lay eventually reduced its supply base to fewer than a hundred farmers and one logistics partner and optimized asset utilization in its potato chip value chain. Moreover, it retained control over the knowledge value drivers that have helped it achieve a 45% share in salty snack foods and some of the highest operating margins in the business.

EMBRACE NEW E-ENABLED OPPORTUNITIES

While there is a lot of hype around the Internet, there is little doubt that it will drive fundamental shifts in nearly every value chain. Companies across industries and markets are re-evaluating their entire strategy and business proposition as they restructure themselves to compete in an arena transformed by e-technology. The Internet has dramatically reduced transaction costs, leading to the disintegration of many traditional value propositions and the de-integration of certain value chains. That trend will likely continue.

The lower costs and instant, convenient communication afforded by the Internet allow the members of a value chain to link much more tightly, producing a more efficient, responsive product/service for the end-customer. Furthermore,

the Internet provides a platform for building entirely new and possibly advantaged business models — both revolutionary new models like eBay, or incremental improvements on existing models like Auto-by-Tel.

To succeed in the new e-enabled world, companies need to do four things:

1. Be aware of the way the Internet can and will transform your business — unlocking consumer value, reducing cost, or both.
2. Decide what improvements can be implemented within your current business model and what requires reinvention.
3. Decide how to compete — either with an e-enabled version of your current business model, or with something completely new and revolutionary.
4. Remember the need for speed and urgency. Internet competitors will be sure to remind you if you forget.

Conclusion

Value chain restructuring demands a very deliberate, proactive approach and a new set of core capabilities.

It starts with understanding where and why value is created — both in today's environment and in the future. The primary targets for capturing sustainable value will have to be defined in terms of the end-consumer's requirements. Aspects of the value proposition that are critical to the consumer from the point of view of cost, quality, and time-to-market must be distinguished from those that are not.

Additionally, you must make a realistic assessment of the value-added roles of existing partners. Which have unique capabilities that ought to be nurtured? Which have short-term advantages, such as low labor rates, that can be leveraged today? Which have longer-term advantages that deserve more careful and ongoing support, given your understanding of where your industry and the economy are moving?

Case Study: Online Travel Agents

In looking at the travel space and the complexities of executing transactions within this space, it almost appears as if the Internet were specifically designed to correct the inefficiencies inherent in the travel industry. Consumers and suppliers are, by definition, dispersed. Travel involves moving from someplace you are to someplace you are not. Moreover, the process of researching and buying travel is information-intensive, involving a tremendous amount of data about each component of a trip from a wide variety of sources.

The Internet offers the possibility to reduce or eliminate these research transaction inefficiencies, and new competitors in this space such as Travelocity and Expedia have seized on this opportunity. That is why sales of travel products through online services are expected to quadruple from 1999 to 2003 to \$29 billion according to Forrester Research. While this is still only 10% of all travel sold, a fierce battle is expected to occur between travel suppliers and online travel agencies to control a leading share of this market.

Establishing a value creation perspective requires a substantial change in mindset. Growing profits is no longer just a matter of securing a larger slice of the pie, but rather increasing the very size of the pie. That means focusing attention on both innovation and delivery activities. Companies need to exercise vigilance to keep from slipping back into a cost-containment mode.

Value chain restructuring will redefine traditional relationships and arrangements. People and assets may have to migrate not just geographically but between companies as players outsource non-core activities.

The end goal, as always, is to save time and money in getting high-quality products that customers want to market. Providing market-valued, competitively differentiated products that offer superior economics in terms of pricing and life-cycle costs is now a prerequisite for success in today's global economy as the basis of competition shifts from enterprise versus enterprise to value chain versus value chain.

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