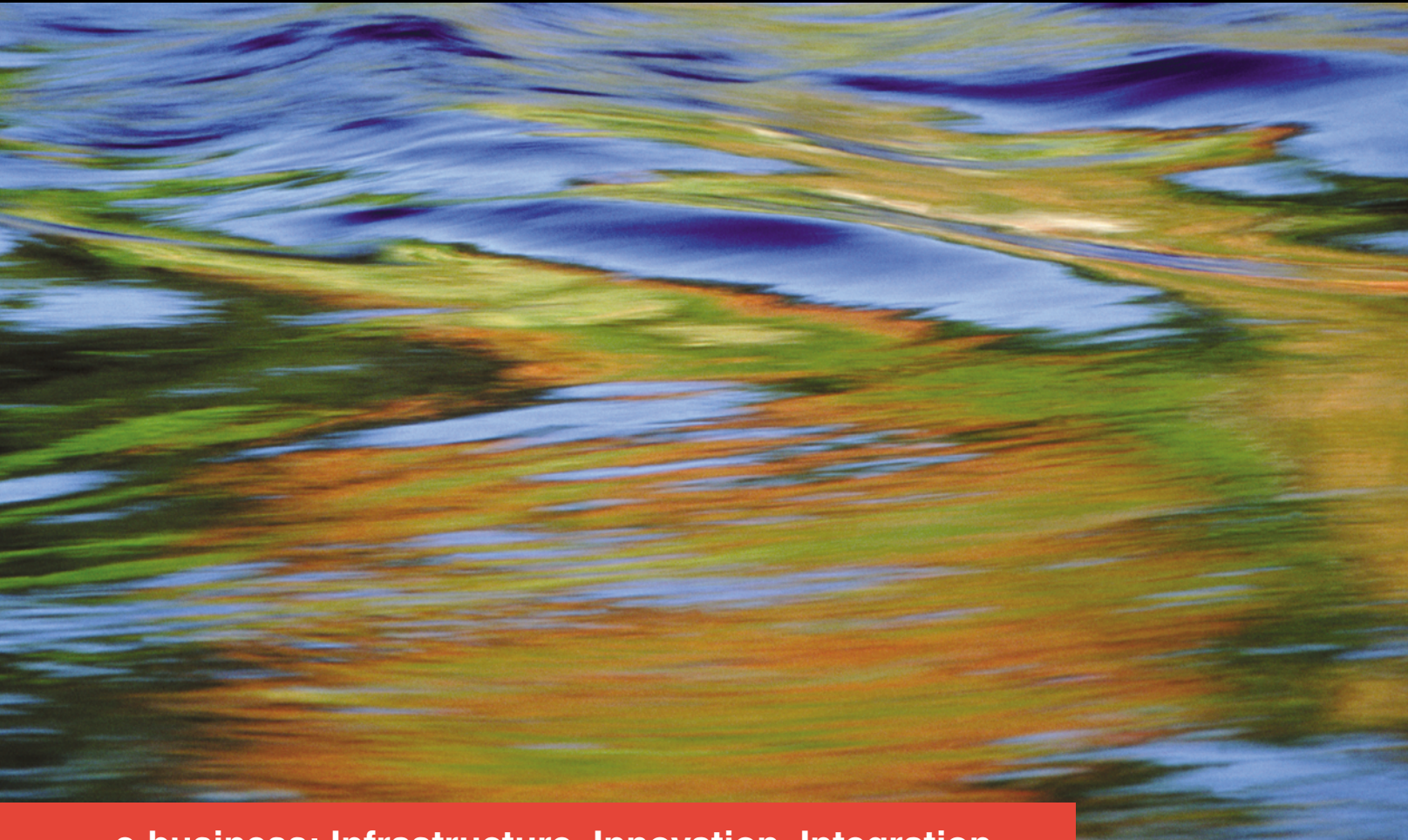


Collaborative Value Networks: Connecting Solutions to Markets to Profits



e-business: Infrastructure, Innovation, Integration

IBM is a global leader in the development and implementation of e-business solutions in strategic areas such as enterprise resource planning, business intelligence, supply chain management, customer relationship management, product design and management, and e-commerce. IBM's technology, software, services, and e-business offerings enable customers to extend the reach of solutions beyond the conventional boundaries of ERP. For more information, please visit www.ibm.com/erp.

About Surgency™, Inc. and Benchmarking Partners™

Surgency is an e-business solutions firm, building market leaders among the Global 1000. Surgency's consulting and collaborative software accelerates the transformation and market impact of its clients.

Benchmarking Partners is the industry analysis and research division of Surgency. Since 1994, Benchmarking Partners has been working with multinational corporations to advance emerging best business practices and assess the benefits of technology-based transformation.

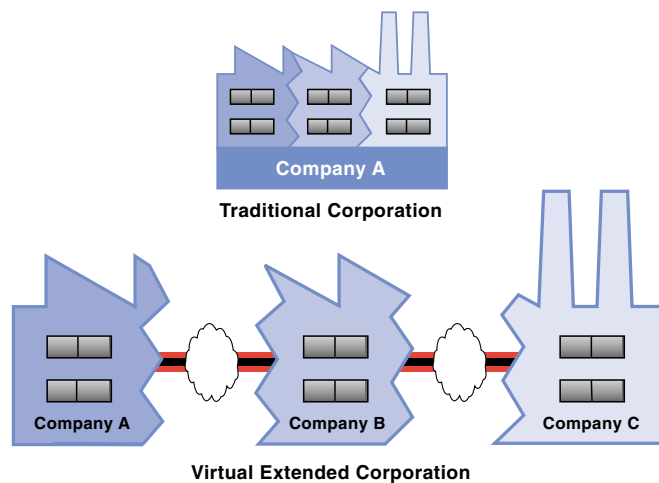
Executive Summary

The past few years have seen unprecedented growth in e-business activity across all sectors and industries. The increase in e-business capabilities has, in turn, enabled the emergence of another significant trend that is fundamentally transforming traditional business models: the rise of the virtual extended corporation.

A RICH TRADITION OF RIGOROUS, FACT-BASED RESEARCH AND ANALYSIS

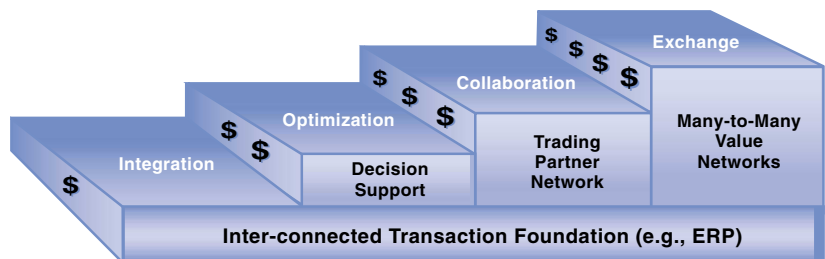
Building on research conducted annually for the past three years with IBM, Surgency senior researchers conducted a series of in-depth interviews with executives at 22 companies representing each segment of the telecommunications and consumer electronics value chains. Findings from this research were then applied to other industries. To ensure comprehensive and candid responses, all interviews were confidential, and the companies and individuals that participated in the study are anonymous.

Driven by market pressures for speed, precision, and agility, leading-edge companies are pursuing a strategy of “focus”. They are focusing ruthlessly on their core competencies, and offloading everything else to trading partners in their value chains. Most of the original equipment manufacturers (OEMs) in the high tech industry, for example, in fact do not manufacture at all; instead, they use contract manufacturers whose sole focus is to excel in manufacturing.



The result is a value chain of trading partners, each specializing in the one or two functions they do best. The functions that were previously handled within one company—order management, manufacturing, warehousing, distribution, finance—are now handled by multiple companies that must be connected and coordinated to perform a process seamlessly. The value chain operates as if it were one company, or a virtual extended corporation.

The next step, already in motion, is to extend those connections across value chains to form Value Networks—from inter-enterprise integration to inter-value chain integration. This “connectedness” is rapidly becoming the next source of competitive advantage. Surgency and IBM have conducted research and published studies over the past three years, that have identified e-business trends and their associated emerging best practices. Continuing this longitudinal research, this year’s in-depth research focused on the emergence of Value Networks. To what extent have Value Networks emerged? What are the drivers, what do they look like, how are they being created, what are the implications, and what, if any, is the business benefit?



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What Are Value Networks?

Value Networks Defined

The traditional, sequential approach to the supply/demand chain is giving way to the next phase of e-business evolution: The Value Network. A Value Network is a group of trading partners, focused on core competencies and connected via Web-enabled technology, collaborating to provide total solutions to customers. This discovery is a key finding in research recently completed by Surgency and IBM.

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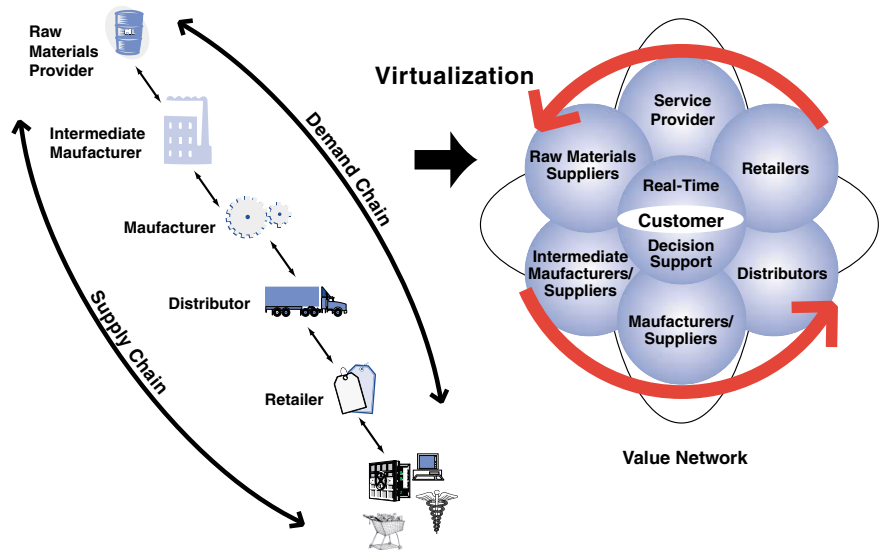
In a Value Network, multi-tiered suppliers, distributors, manufacturers, brand owners, and customers—often from multiple industries—are seamlessly connected. Transactions, information, specifications, and processes flow around the network. With a transparent, end-to-end flow of information, trading partners have visibility into the same supply and demand information, and use it to make decisions in real-time and to serve customers faster and more effectively.

Companies in a Value Network are distinguished by the level of partnership and depth of electronic integration between them.

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Most companies work closely with one or more trading partners. What differentiates the relationships between companies in a Value Network is the depth and level of integration, connection, coordination, and partnership between them.

These are not arms-length, outsourced relationships. These are companies that, in essence, provide an extension of each other's staffs, where the success of one company is dependent on the success of all. One infrastructure company is currently in discussion with one of their major distributors to jointly develop the distributor's business strategy and ensure that this distributor can profitably stay in business. Why would this brand owner company do that? Because it is in their best interest to have a viable and thriving distributor on whom they can rely to provide the critical logistics services for the Value Network that they are best equipped to provide.



Drivers and Market Forces

What is driving this trend? Why are these companies focusing on their core competencies, partnering with other companies for non-core capabilities and forging the system-to-system connections to integrate themselves with each other?

“We grew up thinking no one could manufacture better than us. We’re going through a change of philosophy as we grow bigger.”

—Executive, Telecommunications

The research found that specific drivers and market forces vary by industry and company. Telecommunications infrastructure providers are besieged by an array of competing demands for use of their cash—acquisitions, retaining product dominance amidst unprecedented technological change, responding to deregulation—and must focus their investments on where the true value lies, rather than on commodity or backbone capabilities. For new entrants into the consumer electronics markets, it’s about reducing barriers to entry and rapidly scaling up to compete with traditional players in an environment in which products, formats and solutions are rapidly converging. High tech companies are driven by increasing commoditization, demands for customization, short product lifecycles and rapid product obsolescence. And the list goes on.

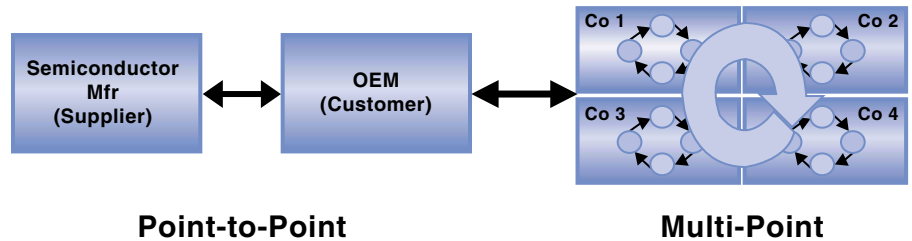
At the same time, there are common themes across companies and industries. For all of them, the underlying motivation is leverage. Companies that are moving to a Value Network model typically have led their markets in driving out costs, reducing inventories, and excelling at innovation, branding, and revenue growth. The techniques they used to bring themselves to that level of excellence, however, will not take them to the next level of effectiveness and efficiency. The Value Network business model is a lever to propel them to the next level of excellence.

Best Practices in Value Networks

Cross-enterprise capabilities and processes, powered by system-to-system, Internet-based connections, are key cornerstones of the Value Network business model. Today’s best practices include the real-time, Internet-based flow of information, documents, and processes across enterprises, system-to-system.

The Value Network business model is a lever to propel companies to the next level of excellence.

Our research found in the collaborative design space, for example, companies are moving from point-to-point connections where customers' and manufacturers' engineers design products interactively, to multi-point, simultaneous, extranet-based sharing of applications, white boarding and project management processes.



The Surgency/IBM research study also discovered multiple cases of the order-to-cash process operating across enterprises. In one of the more advanced scenarios, order and shipment information flows from system to system across nine companies, taking the order from the point of customer entry at the OEM through the multiple contract manufacturers required to build the total order components, to assembly, shipping, billing and payment by the customer. Ninety-five percent of the orders that flow through this scenario are untouched by human hands.

Sample Benefits from E-Business Best Practices

E-Order-to-Cash

- Customer's purchasing system tied to OEM order system
- Order goes direct to contract manufacturer
- Contract manufacturer manufactures, does final assembly, drop ships to customer
- 20-50% reduction in cycle time from receipt of order to collected cash

Configuration Express for Telecom Providers

- Customized on-line configuration for telecom providers
- Configure box software online at order
- Product is pre-loaded with telecom's software and drop-shipped
- Save \$500 per box for telecom
- Get them to billable service 3-4 weeks sooner
- Shorten OEM's deliver-to-cash cycle

Interactive Demand Forecasting and Supply Processing

- Forecasts come through Website, enter OEM's supply chain system
- Check OEM factory for availability, analyze data, post availability back to Website
- Dialogue between OEM and customer to agree on final number
- Factory responds with available-to-promise
- Lead times down from 110 to 42 days
- Fill rates improved from 37% to 89%
- From number eight on-time supplier to number one

Implications

While the benefits of the Value Network business model are substantial, there are also costs and implications to consider.

Hidden Costs of Virtualization: Coordination and Power

Offloading non-core activities allows a company to focus on what is core: reducing costs and increasing effectiveness. At the same time, dispersing activities to many different trading partners requires the coordination of activities among the players performing those activities. For example, if an OEM has offloaded the manufacturing of a product to six different sub-component manufacturers, their activities must be coordinated to result in a final, working, assembled product. The more dispersed the activity, the greater the level of coordination required.

Some companies today are not only offloading activities; they are offloading the coordination of the activities as well.

Some OEMs today, therefore, are not only offloading the activities; they are offloading the coordination of the activities as well. For example, in some cases, OEMs are asking their semiconductor manufacturers to deliver not only a chip, but also the entire finished module, requiring them to incur the cost of coordinating the activities of the various sub-component companies.

There is another point at which more virtualization is not necessarily in a company's best interest: the point at which their source of power would erode. Typically, the source of power in an industry lies in the information assets associated with two things: the design of the product or solution, and the end customer. Both result in the same end: whoever owns the end customer wields the most power in a value chain.

For example, telecommunications infrastructure providers are offloading the design of sub-components to trading partners, but are carefully retaining ownership of the overall architectural design of the network.

Customer demographic and usage data is another important source of power. One infrastructure OEM that is a leader in forging Value Networks has become wary of how much customer demographic data its contract manufacturers have. Another OEM was poised to go the next step and allow customer orders to go directly to their contract manufacturers, but has held back out of reluctance to lose control of the customer information that accompanies the order. An executive at a third OEM mentioned, "We're exploring the option of using the CM's systems. The problem is that we don't want any filters on customer information. Customer information is driving the whole chain through to the suppliers' suppliers. Any break in that and you have to question its validity."

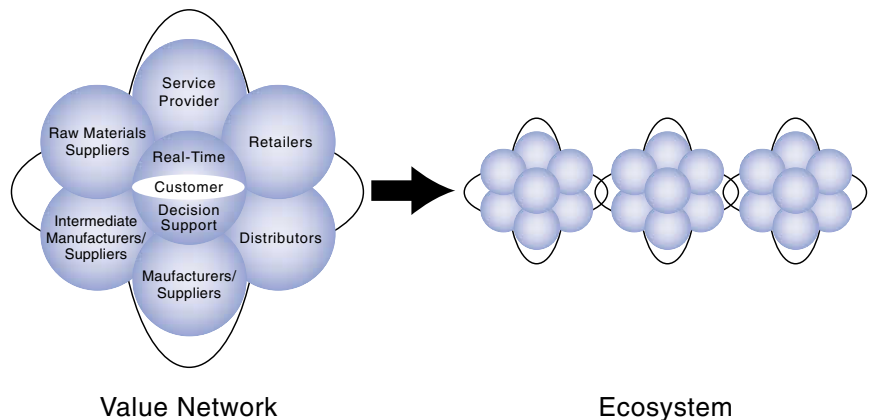
New Measures of Value

Traditional measures of value such as return-on-investment are insufficient for measuring investments in Value Networks. New measures are necessary to assist managers in evaluating their e-business initiatives, and leading-edge companies today are exploring and experimenting with possible new approaches.

For example, companies told Surgency researchers that the ability to partner and de-partner quickly is critical in a Value Network environment. Some firms are tracking their ability to reduce their time-to-partner as a result of their e-business connections. Other firms are experimenting with a return-on-relationship metric, to measure the cross-enterprise costs and benefits associated with Value Network investments and to help build accountability into partner relationships.

Future Directions

The trend towards providing total solutions and services, coupled with the convergence of technologies and products already underway, is driving the next stage of Value Networks: the connection of multiple Value Networks into ecosystems. To bring a total solution to market, the individual Value Networks that deliver each component of a total solution will need to work together and connect to one another, much the way the companies within each Value Network do today. Collaboration, partnership, and system-to-system connections, in turn, will evolve dramatically to enable this trend.



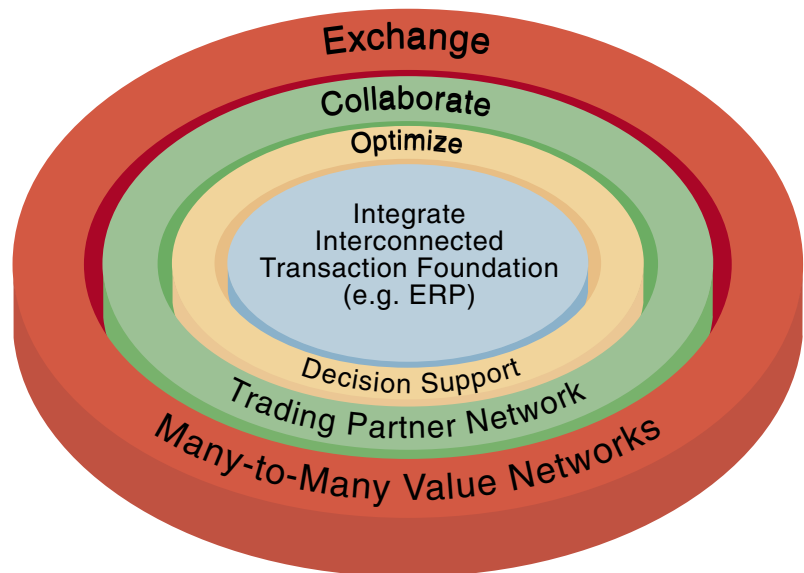
Value Network Enablers

There are four key technology enablers in Value Networks: ERP, SCM, CRM and Exchanges. Market leaders effectively leverage these four enablers in their Value Network strategies.

Role of Enterprise Resource Planning (ERP)

Collaboration with trading partners in a Value Network requires each participant to have an interconnected or integrated transaction layer. The research indicates that the type of internal integration is not as important as the fact that it exists. For some firms, ERP provides such integration; other firms rely on alternatives such as a three-tier architecture to layer connections across disparate systems, or connections through online exchanges. Having a connected transaction platform is essential to the ability to have system-to-system connections across companies; disparate systems inside any company along the way stop the flow of information.

Integration fosters optimization of processes through decision support systems. Optimized decision support allows for improved customer relationships and enables collaboration. Collaboration fosters new business models and paves the way to Value Network participation through many-to-many connections.



Role of Supply Chain Management (SCM)

Supply chain management extends from intra-enterprise functions—such as manufacturing, distribution, transportation, and purchasing—to inter-enterprise partnerships across the Value Network. Internet-enabled supply chain partners are able to provide real-time, inter-enterprise design, production, and delivery of products and services.

For companies that participate in multiple supply chains, supply chain management (SCM) tools are invaluable for integrating disparate demands into a cohesive set of plans that can be dispersed to work centers and partners. True connectivity across multiple organizations has redefined the timing and scope of business processes, ultimately enabling and enhancing direct responsiveness to customers.

Role of Customer Relationship Management (CRM)

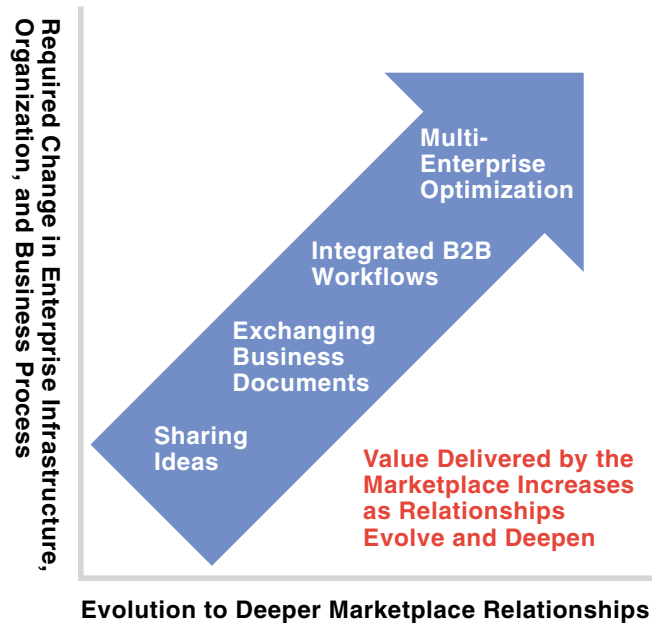
The Customer Relationship Management (CRM) market has grown into one of the hottest segments of the software industry. In many ways, its message is simple: If you take care of your customers by developing more personalized relationships with them, you can create sustainable competitive advantage. Delivering on that message has been enabled by a combination of marketplace changes that are still in their infancy. As these changes continue to evolve, they are creating opportunities for innovative enterprises and risks for slow-moving organizations.

The growth of the Internet as a medium for connecting with customers has played the lead-influencing role in the developing customer care strategies and the solution marketplace. From its earliest days as a source of information for customers, the Internet began to emerge as a source of information about customers. Applications or tools have been developed to mine this new source of customer data and to enhance customer relationship development over the Internet. As the Internet has become further entrenched as a basic part of people's lives, it has become the most noteworthy platform for development of new market processes and changes in relationships. These changes are manifested in the development of online marketplaces, communities of interest, and collaborative customers.

Role of Exchanges/Marketplaces

Many firms have one-to-one connections with several firms, but as the number of trading partners increases, such connections become less practical and more difficult to manage. Online exchanges have the potential to change the fundamentals of buyer/seller relationships by enabling a whole new level of transactional efficiency and providing a hub for tightly synchronized B2B collaboration. Exchanges allow firms to scale up as needed. This allows firms to leverage their core competencies to achieve competitive advantage and power in a Value Network.

Although the promise of online exchanges is enormous, the research indicates that firms across industries differ in their approach to participation. Some firms have participated enthusiastically, building and/or joining exchanges, still others question the value that online exchanges provide. Reasons for differing approaches include the rapidly evolving nature and early stage maturity of the functionality offered through online exchanges.



The first online marketplaces were community sites, focused on providing information and sharing ideas. Next, the exchanges added procurement functionality, greatly extending B2B potential. Marketplace functionality will continue to mature along the following dimensions:

“We expect the exchanges to play a bigger role as ASPs. The risk/return is not there yet for us—we already have a big IT investment. Even so, over time we’ll shift to using them for hosting.”

—Contract Manufacturer Executive

- Marketplace-to-marketplace (M2M) integration, enabling wider and more productive exchange of information.
- Verticalization and specialization, addressing the proliferation of industry-specific and process-specific marketplaces, such as a collaborative design hub.
- Collaborative supply chain management and product development—challenging but highly valuable areas. Marketplaces are evolving to facilitate deeper, higher value relationships.
- Marketplaces as pseudo application service providers (ASPs), providing hosted software functionality that replaces or integrates with customers’ enterprise applications and systems.
- Blurring of lines between marketplaces and their service providers, allowing a combination of services from different companies to appear as one continuous system.

Transformational Strategies

As a result of research and direct customer involvement, Surgency has identified key transformational business strategies that industry leaders are deploying to increase shareholder wealth and enhance their competitive position. Why are these strategies transformational? Ecosystem virtualization, which requires adherence to all the core transformational strategies detailed below, brings about the most powerful results.

Surgency Transformation Strategies			
Transformational Strategy	Description	Benefits	Characteristics
Customer Life Cycle Management	An approach for managing customer relationships in which each relationship is designed in a closed loop fashion that makes sequential customer experiences easy and rewarding while optimizing account profitability over the life cycle of the relationship.	<ul style="list-style-type: none"> • Improve profits • Improved customer retention • Improved customer satisfaction • Tailored solutions 	<ul style="list-style-type: none"> • Extended enterprise positioned close to the end consumer • Companies that sell services or products with services embedded
Customer Self-Service	Customer self-directed business services that leverage the Internet to make it easier and more satisfying for customers to do business with your company while reducing costs for both customer and company.	<ul style="list-style-type: none"> • Customer empowerment • 24x7 customer access • Faster solutions • Improved scalability 	<ul style="list-style-type: none"> • Extended enterprise positioned close to the end consumer • After-market and cross selling opportunities • Industries which have a lot of customers touch points
One-to-One Customer Interaction	A unified enterprise identity for all customer interactions resulting in the additional trust of a consistent relationship between the customer and the company enabled by seamless knowledge sharing infrastructure throughout the extended enterprise.	<ul style="list-style-type: none"> • Brand management • Improved customer loyalty • Reduced operating costs 	<ul style="list-style-type: none"> • Marketplaces in which branding and trust is critical
Total Solution Provider	Offering a comprehensive set of aggregated products and services that presents the customer with an end-to-end solution. Establishing value chain relationships with suppliers and partners to extend beyond capabilities not directly provided by the company.	<ul style="list-style-type: none"> • Increased sales • One touch point for the customer 	<ul style="list-style-type: none"> • Industries that provide products and services and have a great portfolio of customer touch points

Demand-Driven Forecasting and Replenishment	<p>A customer-centric focus on real-time consumer behavior and consumption patterns for products and services directly linked to sales and fulfillment decisions that impact financial performance goals.</p>	<ul style="list-style-type: none"> • Optimized inventory • Optimized labor • Improved customer satisfaction • Reduced costs 	<ul style="list-style-type: none"> • Demand forecasting is critical • Industries which typically have huge inventories
Employee Self-Service	<p>Self-directed sets of services to improve work-life and create more satisfaction for employees by allowing each to focus on their higher value activities. Numerous, common administrative activities are enabled and simplified by Internet technology distributing responsibility to the employee.</p>	<ul style="list-style-type: none"> • Improved employee satisfaction • Increased employee retention • Improved productivity • Reduced non-value-added activities 	<ul style="list-style-type: none"> • Valid for all industries
Supplier and Partner Self-Service	<p>Improved trading partner access to the information and transaction systems making it easier and more cost effective to do inter-enterprise execution in a business-to-business model. Numerous, common supply-side administrative activities are enabled and simplified by Internet technology distributing responsibility to the supplier.</p>	<ul style="list-style-type: none"> • Informed, coordinated decision making • Improved profits • Improved customer service levels 	<ul style="list-style-type: none"> • Industries with deep vertical focus and multiple suppliers
Community Empowerment	<p>Facilitating the establishment and growth of a network of relationships between participants sharing similar interests that are aligned with the goals of the organization. Providing support through business and Internet enablers such as standards on information sharing, identification and conduct.</p>	<ul style="list-style-type: none"> • Increased brand presence • Improved customer satisfaction • Reduced costs • Targeted marketing • Increased profitability • Increased value in the marketplace 	<ul style="list-style-type: none"> • Valid for all industries
Innovation and Collaborative Design	<p>Proactive assimilation of partner capabilities and sharing of customer and product knowledge over the product life-cycle to improve overall solution value and shrink time to market for new/improved products.</p>	<ul style="list-style-type: none"> • Increased sales • Improved profits • Innovative new product designs • Speed to market 	<ul style="list-style-type: none"> • Emerging market-places • Research and Development intensive industries

Even enterprises implementing only certain elements of these transformational strategies should see nearly immediate benefits—including dramatic gains in sustainable competitive advantage and returns in investment within just three to six months. The scope and impact of these benefits is propelling enterprises into the Internet world, fueling feverish innovation, and driving the enthusiasm with which the new economy is defined.

Developing a Value Network Strategy

What is the right portfolio of transformational strategies that a company should pursue? How should a company position itself to compete in an e-business environment?

A firm needs to address the following questions to develop a comprehensive Value Network strategy:

- **Context:** In which industries and Value Networks does the company operate?
- **Value Network Role and Power Positioning:** What role should the company play in the Value Network, and what role is it playing now? What should the company's power differentiator be in the desired role? What is the unique value add that the firm brings to the Value Network?
- **Capabilities:** What organizational and infrastructure capabilities are required to support the desired role and power position, and how does that match to current capabilities?
- **Initiatives and Partnerships:** What initiatives and partnerships need to be undertaken to close the gap? Initiatives that close the gap include application solutions, organizational competencies (including practices, processes, flexibility, etc.), governance and leadership. Partnerships for total solutions as well as to offload non-core activities need to be identified.

These questions provide the starting point for developing a Value Network strategy.

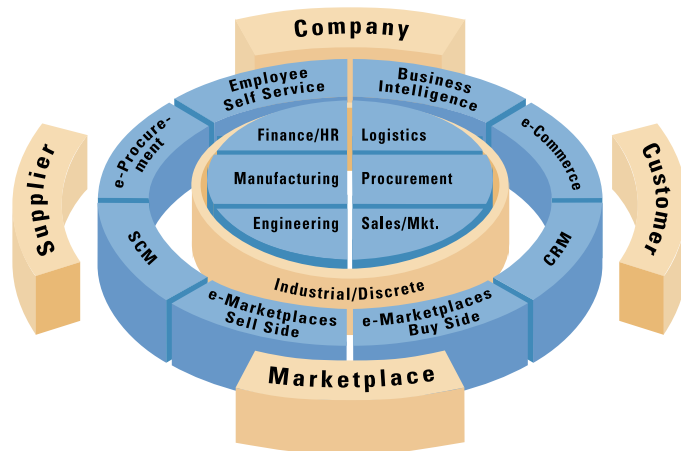


Key to developing and then implementing any of the transformational strategies is the alignment of leadership, technology and organizational competencies under a unifying umbrella of overall e-business governance. The Value Network strategy, supported by an optimal governance strategy, enables a firm to propel itself through transformation to the next level of excellence.

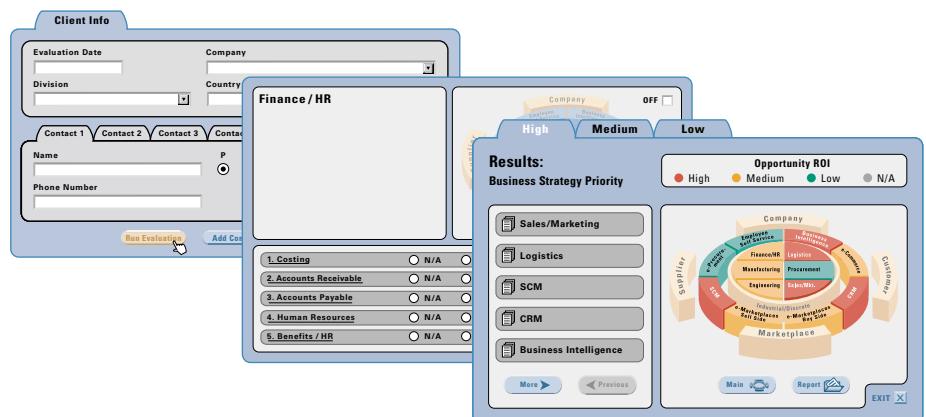
A Diagnostic Approach to Value Networks

Since 1994, Surgency (formerly Benchmarking Partners) and IBM have conducted annual research programs into integration, optimization and collaboration best practices. These research programs have consistently had extremely high marketplace impact by gleaning the insights of Market Leaders from the most mature e-business industries into best practices for every business regardless of industry or role.

As a result of this on-going research, IBM and Surgency also continue to build and add to a suite of value-based diagnostic tools based on both the research results and experience with our clients. The latest of these tools is a diagnostic tool called the e-business Collaboration/Evaluation Tool that allows IBM customers to more effectively identify, select and deploy Value Network strategies.



This tool assists IBM's customers in the determination of the process maturity or capability in six primary core businesses within five industry groups: Industrial/Discrete, Process/CPG, Distribution/Retail, Utilities/Telco, and Services.



IBM Solutions for Optimizing Value Networks

IBM is the world's largest business and technology consultancy, with some 140,000 specialists and consultants.

Newly emerging competitors. Converging industries. Shifting business models. Changing political climates. Companies are finding it increasingly difficult to retain a competitive foothold in the ebb and flow of the business world today. To thrive in this ever-changing environment, companies are transforming themselves from formal, closed, linear organizations into Value Networks: fluid chains of trading partners linked via Internet technology, performing core functions. More and more, businesses are turning to IBM as one of the few vendors with all of the infrastructure elements to help them transform themselves into truly networked, highly functioning e-businesses. IBM's portfolio of solutions includes: the expertise of the world's largest consulting and services organization; a rich set of tools; world-class middleware and hardware, and market-leading applications. These are the building blocks to help you plan and deploy an integrated infrastructure that will derive the maximum advantage from your company's Value Network.

Innovative Approaches

Enterprise Application Solutions (EAS)

Enterprise Applications provide the foundation for an e-business. These have traditionally been defined along the lines of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM), and Supply Chain Management (SCM). These software solutions support the integration of the core business processes that drive an enterprise. As these business processes become more integrated, the boundaries between these applications are blurring. Reliable guidance and implementation experience is required to create and sustain these critical functions.

To that end, IBM has partnered with many of the leading application vendors in each of these categories to offer you expertise and "best of breed" solutions. These offerings can be tailored to your specific industry, geography, company size and unique business requirements. But where do you start? How do you choose the right application? Which application works best within your existing environment? How will you manage these new functions? After literally thousands of e-business engagements, IBM has created these services offerings to guide you through the business transformation process, from the initial evaluation of applications to implementation through the final day-to-day management. They include:

- Application Evaluation and Selection
- Implementation and Integration Solutions
- Application Management Services

Customer Relationship Management (CRM)

Your customers determine the health of your business. CRM is a combination of business strategy, process and technology that helps you optimize revenue and shareholder value by better understanding the needs of your customers. CRM solutions allow you to view customer information across multiple channels, in real time. They enable you to enrich your relationships with your existing customers, reach out to new markets, enhance employee satisfaction and become more profitable. They give your customers the power to engage you in the way that they want to, on their own time, an important credential in today's wired world. CRM is the cornerstone of IBM's e-business solutions portfolio and fundamental to the functioning of your Value Network. IBM has alliances with leading CRM application providers in a variety of markets to provide you with the solutions most suited to support your sales, marketing, and customer service organizations.

Supply Chain Management (SCM/B2B)

Speeding time to market, reducing distribution costs, and getting the right products to the right place at the right time, cost, and price all lead to competitive business advantage. Supply Chain Management solutions feature a combination of IBM infrastructure products and partner applications to optimize and extend your Value Network, from end-to-end, with best-in-class software.

Business Intelligence (BI)

Business Intelligence transforms business data into conclusive, fact-based information and insights. It allows you to spot customer trends, understand how to enhance customer loyalty, strengthen supplier relationships, reduce financial risk, and uncover new sales opportunities. In short, business intelligence is the path to gaining—and maintaining—your edge. The IBM portfolio provides solutions that help companies implement data warehouses as well as the tools to mine and analyze that data, such as:

- **DB2® Warehouse Manager™** is designed to simplify the process of building, managing, and analyzing data warehouses that accelerate the delivery of business information to professionals who must make the tough decisions that lead to business success.
- The **Intelligent Miner™** family helps identify and extract high-value business intelligence from a company's data assets. It uncovers associations and trends that can lead to real competitive advantage in an e-business environment where contact through the Web is the sole source of customer information.
- **DB2® OLAP Server** is an analytical tool designed for multidimensional planning, analysis, and reporting that delivers the business information needed to manage a growing e-business.

IBM customers can access more than 14,000 IBM products and services on its Web site, ibm.com. At \$47,000 in sales per minute on an average business day, it's IBM's lowest cost channel.

E-Commerce

E-commerce is the buying and selling of goods and services using Web technology. E-commerce can take place over proprietary networks and the Internet. It includes Business-to-Consumer (B2C) markets and Business-to-Business (B2B) markets. Critical to the success of e-commerce is the seamless integration of the front-end e-commerce application with the enterprise back-office functions. IBM offers a number of e-commerce solutions for B2C and B2B environments.

- **WebSphere™ Commerce Suite** gives companies the ability to establish effective, high-function electronic commerce, from creating a storefront to payment processing to integration with other business-critical systems. With the **MarketPlace Edition**, companies can rapidly develop high-function trading hubs.
- **WebSphere™ BtoB Integrator** expands business-to-business transaction capabilities by integrating workflow, business process, security and other services.

E-Commerce Services

IBM's portfolio of services provide customers with the consulting and expertise to guide them through any and all phases of implementing e-commerce, ranging from preliminary market analysis, building a business case and evaluating return on investment, to the final step of implementing a payment process.

- Strategy and Design Services for e-business
- Return on Web Investment
- e-commerce Implementation and Hosting Services
- Interactive Branding and Design Services
- Web Selling Services
- Payments Services

In addition, IBM has established **B2B Centers of Excellence**. These are teaching centers where senior executives can learn to think creatively to meet business-to-business and supply chain opportunities and challenges. IBM research and industry expertise are applied to present innovative prototype supply chain solutions.

Application Management Services (AMS) for ERP

To help you address the challenges you face in maintaining an enterprise resource planning (ERP) environment including delivering to your original business objectives, competing for skilled technical professionals, dealing with the inherent complexity of these environments, and extending your ERP system further—from the supply chain to customers...and beyond. AMS further provides the skills, expertise, methods, and assets needed to manage your ERP applications including:

- Effective ongoing support for your ERP portfolio
- Stabilization of your ERP environment through defined service levels and predictability of cost
- Ability to realize better return on your ERP investment

Fast, Agile Infrastructure

Successful e-business strategies depend on the strength and flexibility of the underlying e-business infrastructure—hardware, middleware, and services that work together seamlessly, to support your Value Network as a whole.

Hardware

Systems

IBM @ server is a new generation of servers featuring mainframe-class reliability and scalability, broad support of open standards for the development of new applications, and capacity on demand for managing the unprecedented demands of e-business. They include:

- The **xSeries®**, affordable, Linux-ready, Intel-based servers with mainframe-inspired reliability technologies.
- The **iSeries®** for fast implementation, high performance, and near-zero maintenance for thousands of ready-to-run business solutions.
- The **pSeries®**, the fastest, most technologically advanced UNIX servers.
- The **zSeries®**, highly reliable mission-critical data transaction servers.

Storage

IBM storage systems are scalable offerings with utmost reliability needed for around-the-clock business demands.

- **LTO Ultrium Tape Products** perform backup at twice the speed and capacity of conventional data protection solutions.
- **IBM Enterprise Storage Area Network (SANs)** work across platforms to provide cost-effective, reliable, manageable storage solutions that scale to meet business needs.

About 70% of the world's business data and business transactions are managed by IBM servers.

In 2000, IBM was awarded the National Medal of Technology by President Clinton for its contributions to storage and hard disk drive technology.

Middleware

The IBM Framework for e-business is a set of software solutions needed to build, integrate and run an successful e-business. IBM software is industrial strength, designed to help you build and manage an infrastructure that can cope with overwhelming demands in this dynamic e-business environment. IBM software is: based on industry standards; implemented on servers for rapid deployment, and scalable as offerings and volumes grow.

Systems Management

The **Tivoli® Enterprise** family is a comprehensive set of solutions for internal systems management, including tracking configuration information, updating software, minimizing response time, managing problem calls, resolving problems and scheduling work. Tivoli also offers solutions extending to the Web and wireless devices, as well as providing storage capabilities.

Messaging and Collaboration

The **Lotus® Notes and Domino™** families combine global messaging and collaboration capabilities with the reach of the Web to make the most of business information resources, connect communities and teams and manage relationships to create an organization that responds faster. Lotus-K station enables the creation of browser-based portals.

Web Serving

The **WebSphere software platform** is a complete e-business platform-Web application servers, development and deployment tools and applications for building, integrating and running a coordinated e-business.

Enabling

MQSeries® messaging and integration software simplifies the task of intelligently connecting and reconnecting applications across diverse environments. It enables the flow of information and processes across 35 operating platforms.

DB2® Universal Database™ is a built-for-the-Web relational database system that combines power with industry-leading performance and reliability to drive the most demanding e-business industry solutions. It can meet the business intelligence, data warehousing and data-mining demands of even the largest corporation, and yet is flexible enough to serve small and medium-sized services organizations.

Infrastructure Services

Integrated Technology Services provide a broad range of IT support, implementation, and management services to help you maximize performance and availability, improve productivity and reduce cost, and increase the value of your IT investments. Included are:

- Enablement Services for e-business
- Infrastructure & Systems Management Services

Lotus Notes is the industry leader with more than 78 million users worldwide.

More than 40 million users and 300,000 companies rely on IBM data management solutions.

- Networking and Connectivity Services
- Business Continuity and Recovery Services
- Technical Support Services
- Security and Privacy Services

Strategic Outsourcing Services help you become more competitive, allowing you to concentrate on your business strategy. These services include:

- e-business Hosting Services
- Interchange Services for e-business
- Application Management Services
- IT Outsourcing Services
- Network Outsourcing Services.

The IBM Value

e-business is a reality, reshaping the way companies function. IBM has helped its customers-companies in all industries, of all sizes, around the world-reinvent themselves as Value Networks, maximizing their efficiency and capturing profits from the value they create for their customers. Some of our customers are just starting out, extending themselves as single-tier Value Chains; others are mature, highly functioning Value Networks. To find out more about how IBM can help your company create greater value for your customers today, please visit our Web site at ibm.com/erp or e-mail ibm4erp@us.ibm.com.

The Next Step

e-Business Collaboration Portfolio

IBM's Business Information Services (BIS) can help companies identify opportunities for leveraging their back-end ERP systems toward strategic e-business collaboration with customers and partners, to help achieve the business results described in this paper. The IBM e-business collaboration portfolio is a core set of services, performed by business experts across BIS, to help companies integrate, optimize and collaborate back-end ERP systems with e-business solutions, such as supply chain management, customer relationship management, e-commerce, business intelligence, e-procurement, e-marketplaces and pervasive computing.

For more information about the IBM e-business collaboration portfolio, contact:

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