

**Driving e-commerce in a  
challenging economy to  
support the Industrial sector**

*Industrial sector, WebSphere software*

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## Highlights

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*To balance between ROI and long-term viability, you consider strong business relationships, globalization, and speed and depth of integration.*

## Introduction

Throughout all major industries, the need to reduce costs and increase gross margins is placing greater focus on information technology (IT) investments. Particularly in times of economic downturn, IT investments must be backed by impressive business cases and return on investment (ROI) analyses that reveal how IT will affect the bottom line.

Once viewed primarily as technical issues, today e-commerce, Product Lifecycle Management (PLM), Supply Chain Management (SCM) and Customer Relationship Management (CRM) are essential business issues. Customer loyalty, procurement, order management, inventory management and collaboration are focus areas for both new and existing products. Their potential to reduce costs and increase gross margins lies in an Internet-enabled, transformed trading community. In short, business-to-business (B2B) e-commerce.

In the well-executed virtual extended enterprise, businesses are more focused, efficient and competitive than in traditional enterprises. These B2B ecosystems enable employees, sellers, customers and partners to interact and collaborate as one extended enterprise—not limited by time, space, organizational boundaries and territorial borders.

In a budget-constrained environment, the quicker, more direct the ROI, the better. But businesses also need to pursue a viable, long-term payoff as well. With the right balance, fast ROI and strategic imperative are not mutually exclusive, especially with the right technology partners and solutions. To achieve a balance between ROI and long-term viability and success, it is important to consider critical success factors in three key areas: strong business relationships, globalization, and speed and depth of integration.

Just as IBM transformed its own business to increase revenue and lower costs, it is leading the next wave of B2B e-commerce. This paper will discuss how IBM WebSphere® Commerce (WC) solutions tap the Internet's full potential for interactivity and responsiveness—and at the same time, lower costs and accelerate ROI.



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*Highlights*

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*Businesses have to be able to scale and grow without breaking their infrastructure.*

### **Business within the Industrial sector**

B2B e-commerce is poised to offer enormous opportunities—and challenges—as it recasts and remodels nearly every business process and relationship. The potential for unprecedented synergies between trading partners will propel e-commerce to the next level.

### **Industry trends**

The changing business environment has heightened the need to reduce costs while continuing to focus on increasing revenue. Processes—inside and outside the firm—must adapt more quickly to change. Global operations and sourcing require new and collaborative business models that support new markets. Deregulation and consolidation are changing customer relationships. Businesses have to be able to scale and grow, and access legacy systems, without breaking their infrastructure.

As businesses work to increase value and service to customers, they are leveraging e-business benefits through technology partnerships. They are reducing stand-alone, silo application development, and providing service throughout the life of their products.

The role of technology is increasing as businesses exploit the power of the Web. The rapid evolution of technology—from 2D to virtual enterprise, electronic drawing to 3D design, digital mockup to virtual product and process, and the entire PLM—has revolutionized the industry.

The transformative energy of the Internet is apparent in the vocabulary of e-commerce: open standards, personalization, business-process automation, extensible component-based architecture, data warehousing and mining, and digital products. Businesses are incorporating more-effective responses to challenges such as globalization; competition from new, nontraditional players; and the need for lower-cost structures, better market coverage and supply-chain integration.



### **Customer challenges**

The current economic climate has made it even more necessary for businesses to reduce their costs. Executives are demanding realistic business cases and ROI as they apply IT solutions to these business issues:

- High transaction costs disjoint supply chains and inefficient processes
- Poor communications that characterize traditional trade interactions
- Inability to optimize investments for new market penetration and channel expansion
- Need for greater efficiencies and speed through automization and optimization
- Need for reduced costs related to selling and customer acquisition
- Need for increased revenues and improved customer satisfaction, loyalty and retention

### **Changes in the business environment**

#### **Automotive industry**

Internet and e-business strategies are causing many automotive companies to restructure their operations. E-markets and CRM are playing greater roles today, and so are product innovation and delivery of value-added mobility services based on telematics.

To remain competitive, original equipment manufacturers (OEMs) must balance a combination of ever-changing customer requirements, demands for quality and services, price constraints, excess manufacturing capacities, government regulations, labor issues, and many other concerns. These factors must be reconciled in ever-shorter times, within organizations that span the globe.

Automotive companies must increase the speed of their internal operations and supply-chain execution without sacrificing quality. To do this, they need to concentrate on core competencies and outsource non-core activities. They need to exploit collaborative product commerce (to contain costs) as they buy and sell from companies around the world.



As they incorporate Internet and e-business strategies into their business plans, automotive companies are also setting up new organizational structures and creating independent spin-offs. To increase value and service to customers, businesses are turning to new distribution and marketing models, such as the emerging “superdealers.”

*Increasing value and service to customers*

Especially in a budget-conscious environment, new technologies should integrate with legacy information systems to support new Internet transactions. Of particular interest within the automotive industry are e-markets, CRM product innovation, delivery of value-added mobility services for telematics and IBM ServiceAfterSales™ solutions.

IBM ServiceAfterSales solutions integrate design, engineering and production functions with service and after-sales business processes to help companies better satisfy and retain customers after products have been sold. This improves a company’s ability to track product performance and feed change and innovation requirements back into design, engineering and production. These solutions also allow manufacturers and service providers to offer more-competitive and profitable service contracts around their products, achieving fast growth in a new market that is untapped by manufacturers. With such benefits and services come increased margins as automotive companies appeal to new customers and boost customer retention.

**Electronics industry**

Electronic components are an increasing part of most products from consumer appliances to automobiles to medical devices. And now that the marketplace is changing from analog to digital, often there is little or no differentiation between competitors’ products. At the same time, margins are shrinking because prices of electronics products in general are falling. In addition, market shares are not growing substantially. To counter shrinking margins and increased commoditization, electronics companies must focus on operational improvements to cut costs, increase profit and be more efficient internally.



Complicating the digital transformation of electronics and discrete manufacturing companies are pressing issues such as hypergrowth, short product life cycles, outsourcing and service. Businesses need an aggressive, but realistic, e-strategy as they adopt new methods and exploit the power of e-markets.

*Changing market demands*

Consumers are primarily interested in what value a product can deliver and how well it meets their preferences. As a result, electronics companies are under pressure to increase options to meet their customers' requirements and to reduce time to market.

The emergence of new marketing channels requires electronics companies to change the distribution links in their supply chains. In some instances, they must reengineer their production processes and back-office systems to meet customer demand from the new channels. The most familiar example is the Internet, which emphasizes immediate feedback and high availability in the products offered. These expectations are creating pressure not only to move more marketing to the Internet, but also to create IT system extensions to satisfy demand from this new direction.

The commercialization of research has become a high-leverage area for electronics companies. New technologies from laboratories offer the benefits of high-margin new products, differentiation from competitors, and possible growth in market share. To achieve those benefits, electronics companies must evolve to a market-driven research and development (R&D) structure, with an aggressive focus on time to market and cost structure.

The interaction among computers, communications and consumers has fueled explosive growth in the electronics industry. Using the Internet and e-business solutions for competitive advantage has caught the attention of industry CEOs. Their goal is to use Internet-based technology to improve their internal processes and enhance their external relationships with suppliers, distributors and customers.



*Increasing value and service to customers*

Consumers are demanding faster, cheaper products with more functionality as components become commodities. To meet this demand, electronics companies need to increase the speed of their internal operations and supply-chain execution without sacrificing quality. To contain costs, companies such as GE participate in reverse auctions online with suppliers. Other cost-saving practices include inventory reduction (and more frequent deliveries) and improved supply-chain speed. By applying technology, companies can reduce costs and risks associated with noncompliance and inaccuracy in order processing.

**Aerospace and defense industry**

The business of getting airplanes built has become more complex because of the changing local conditions the manufacturers operate in. Design and production complexity, and the cyclic nature of aircraft markets create additional risks in this industry. Airlines and government agencies are shifting from technology-based product performance to cost-efficiency as their main design criterion.

The current business environment requires manufacturers to react quickly as market conditions change. Manufacturers need flexible product-development processes in order to respond to market opportunities. Service, parts and maintenance tracking are required in order to address life-cycle business and regulations.

Manufacturers must meet the challenge to increase the speed of internal operations and supply-chain execution without sacrificing quality. To compete in a global market, they are using virtual extended enterprises to help them contain costs.

*Increasing value and service to customers*

Manufacturers are responding to more customer requests for mass customization. In order to meet customers' needs, manufacturers are increasing offering options such as being set up to modify (cost, engineer build, document, maintain) a fleet of planes or an individual plane.



### **Chemical and petroleum industry**

Globalization, cycle patterns, restructuring and consolidation, environmental issues and e-business all contribute to the changes within the chemical and petroleum industry. New technologies are helping to create higher-added-value products, and advances in biotechnologies are creating dramatic breakthroughs.

With process intensification, many manufacturing operations are shifting to the developing world. The chemical market value chain is extending from raw materials to consumer products and medicine. Geopolitics and environment play a major role as globalization increases and the market consolidates.

#### *Increasing value and service to customers*

To improve customer service, chemical companies are implementing e-business solutions, including online channels for low-volume clients; customized Web sites for high-volume frequent customers; online collaboration solutions for custom and joint-development projects; and Web solutions for customer self-service and market communications.

### **A new business model**

B2B e-commerce is not just about selling products on the Web, nor is it just the simple automation of a supply-chain process—it decreases cost in the supply chain. The first wave of B2B e-commerce solutions did little to ease day-to-day inefficiencies, and frequently added to them. Buyers and sellers alike still struggle with high transaction costs, disjoint supply chains, inefficient processes and poor communications typical in traditional trade.

But now, a new business model is emerging: the *virtual extended enterprise*. With this new model comes the potential for unprecedented synergies between trading partners that will propel e-commerce to the next level, such as collaboration and quick-commerce implementation.

IBM is leading the next wave of B2B e-commerce with solutions that tap the Internet's full potential for interactivity and responsiveness—and at the same time, lower costs and accelerate ROI.





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**Highlights**

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*WebSphere Commerce enables you to strengthen and deepen commerce relationships and build customer loyalty.*

**Strengthening business relationships**

It costs five to ten times more to acquire a new client than to retain existing ones, so it is not surprising that 93% of CEOs view customer retention as most-critical success factors. Managing CRM has emerged as one of the most viable B2B strategies because it hedges margin erosion and customer disloyalty. WebSphere Commerce enables you to strengthen and deepen commerce relationships and build customer loyalty by placing the customer at the center of the selling process.

A site built with WC accommodates the needs and preferred ways of doing business. WC “remembers” who customers are, their complete history of transactions and their negotiated pricing schedules, as well as individual needs and preferences. You can deliver targeted content, offerings and shopping experiences to each customer based on any or all of these data points and more. WC provides rich, built-in features that allow you to manage business relationships, negotiate and collaborate with your customers and partners, encapsulate the structure and interrelationships of your extended enterprise, and sense and respond to sophisticated Business Intelligence (BI). Every time a customer uses your site, WC learns and responds, and the barrier against defection gets higher.

In addition to automated assistance, WC provides a collaboration module to enable your customer service representatives (CSRs) to communicate online with your partners, suppliers and customers in real time. Buyers can initiate a “live help” chat session with a CSR, who can answer questions or even redirect the buyer’s browser to another page. This feature is facilitated by Lotus® Sametime® collaboration software, which is packaged with WC so that your CSRs can support your buyer’s requests.



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**Highlights**

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*The WebSphere platform offers comprehensive out-of-the-box functionality, using open, industry-accepted standards.*

**Speed and depth of integration**

To operate efficiently and effectively in Internet time, you need a nimble infrastructure that can react quickly and appropriately to changing business conditions and customer needs—without overhaul or replacement. The WebSphere platform offers comprehensive out-of-the-box functionality and rapid deployment ability, along with scalability and flexible options for system extension and integration using open, industry-accepted standards. The benefits of open-standard architecture are numerous: rapid adaptation and customization, wide availability of skills and tools, and increased scalability. It allows you to integrate faster and more easily, and facilitates portability and reusability of assets.

**Collaboration**

Most companies still manage their business agreements using manual, people-intensive processes—primarily due to a lack of effective, automated contract-management alternatives. A labor-intensive process means a costly, inefficient process prone to errors and missed revenues. Unlike other packaged e-commerce solutions that only support simple, off-contract spot buying, WC allows you to develop long-term selling relationships based on complex terms and conditions—which is how the majority of B2B trade is transacted. WC is the first commerce server to provide built-in, real-time contract negotiation and enforcement.

Using an intuitive, browser-based interface, you can easily create terms and conditions that go way beyond price and quantity to capture all of the complex rules of engagement for all of your customer relationships. WC helps you make the most out of your negotiated agreements by facilitating the entire contract life cycle from negotiation and creation through compliance, suspension, update and renewal—as well as analysis and renegotiation.

WC handles every aspect of the buyer's shopping and ordering experience according to the terms and conditions of the appropriate contract, thereby automating the otherwise costly and complex task of assessing and ensuring contract compliance. You can also use the integration and BI capabilities of WC to strengthen negotiation power, target incentives and cross-sell promotions, and extend contract visibility to strategic trading partners.



A collaboration module is available to enable you to negotiate real-time document sharing and online discussion. The collaboration is facilitated by Lotus QuickPlace™ team collaboration software, and is packaged with WebSphere Commerce-Business Edition to give you even more efficiencies and cost savings and to strengthen partner relationships.

#### **Advanced order, inventory and transaction management**

Many e-commerce packages provide simple order automation, as long as orders remain within the confines of the e-commerce system and do not require modification. WC Business Edition, on the other hand, provides end-to-end automation of the entire order process from creation to execution—including mid-process change and adjustment. The robust order- and inventory-management system of WC includes an order connectivity framework plus built-in support for the rich order processes that characterize manufacturers' B2B trade. WC gives you the flexibility to perform some or all of your complex order-processing and management functions directly within your e-commerce system, or to simply connect to and extend the capability of your existing back-end systems. You can create a completely transparent order process with complete visibility into every point in the cycle. A complete order-processing and management system with no manual or redundant processes and no need to modify or replace existing systems means greater efficiency and less waste, reduced processing time, minimized inventory costs and ultimately, satisfied customers. Some of the order- and inventory-management features of WC include:

- **Billing, invoicing and credit management**—WC supports the use and management of purchase orders (POs) and allows you to integrate with billing and accounting systems, to keep track of payments, invoices, POs, credit lines and credit payment authorization.
- **Change orders**—Most e-commerce packages require offline attention every time an order needs to be changed—any change, from a simple increase in quantity to an alteration in a product's configuration. This results in process inefficiencies, ultimately affecting ROI. WC, on the other hand, allows you to access and change orders online.



- **Enhanced order processing**—WC Business Edition supports important B2B order features such as quick order/buy, requisition lists, scheduled orders, multiple pending orders, back orders, split orders, and reorders. It also supports flexible handling of returns.
- **Robust inventory management with available-to-promise (ATP) capability**—You can keep track of inventory, anticipate demand, and track expected incoming inventory by integrating with fulfillment centers. Buyers can find out if an item is in stock, query the shipping date for an out-of-stock item, place a back order and split an order into available and unavailable items. You can allocate replenished inventory to back orders, identify the fulfillment centers to fill an order and allocate inventory from multiple centers if necessary. Fulfillment centers can receive instructions and generate data for pick and pack lists.

#### **System and multichannel integration**

B2B deployments will fall short of their promises of efficiencies if they cannot be integrated with existing systems and processes, as well as those of channel partners and customers. IBM recognizes and respects that customers already have diverse, entrenched systems and processes in place and may not need or want to replace them.

IBM is the vendor who can deliver a vision that weaves all the pieces together —providing an e-business sell-side solution that embraces the breadth and scope of its advanced e-business technology. This is the expertise you need in order to help your customers achieve their e-business goals.

WebSphere Commerce Business Edition furthers that IBM is at the forefront of the e-commerce marketplace as it allows enterprises to optimally leverage their existing capabilities. This provides real business value to their end customers and trading partners by means of a common platform and integration tool set. This can eliminate the need for businesses to manage multiple technologies and skills.



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**Highlights**

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*WebSphere Commerce provides true globalization.*

The IBM B2B sell-side solution strategy features the following key components:

- **The award-winning WebSphere Application Server**, which incorporates extensive and dynamic functionality to deliver a solid foundation for the promotion of robust e-business models.
- **WebSphere Commerce Business Edition**, which weaves the solution together by introducing sophisticated and confident commerce capabilities—automating business processes and managing the complexities of B2B relationships.
- **WebSphere MQ and WebSphere Business Integrator**—which provide powerful integration capabilities that leverage internal legacy systems and externalize complex business processes, allowing enterprises to sell through multiple channels and exchanges. In addition, WebSphere MQ (formerly known as IBM MQSeries® software) integration solutions supports over 35 different platforms, which will enable customers to leverage and extend their existing investments.

### **Global dynamic business infrastructure**

Multicultural capability is becoming a qualifier of doing business online. WC provides a dynamic global infrastructure unsurpassed in its ability to accommodate unique customer, business, language and legal requirements for every region or country in which a business operates. WC provides true, sophisticated globalization including support of multiple languages, multiple currencies, taxation, regional distribution and order policies, payment methods, special cultural or country views and pricing, and more.

For example, in under four months, IBM Denmark and Business Partner ProActive devised a solution for HABURI.com, which operates in fourteen different languages and currency zones.

### **Multicultural enablement**

Wherever appropriate, all of the features of WC respect and accommodate the needs of an international or culturally diverse customer set. Multicultural enablement is supported within a single store, catalog and database. You do not



have to duplicate any part of your e-commerce deployment to support multiple languages and cultures. Some of the site characteristics you can modify to support different locations or customer preferences include:

- Language and currency
- Address and data formats
- Tax, shipping and payment methods
- Products and prices
- Catalog and page content
- Administration

### **A ServiceAfterSales case in point**

For qualifying racers, Mazda North American Operations offers parts at dealer cost through its Competition Parts program. Fielding up to 100 calls per day, the Competition Parts department needed to integrate an online catalog with inventory information so that customers could check parts availability. In addition, they wanted to enable racers to order and pay for parts online. They needed an out-of-the-box package with rich e-commerce functionality.

“WebSphere Commerce, Version 5.1 has cataloging, payment processing, ordering, campaign management and reporting capabilities already in it, along with many other features we will need to grow our e-business,” says Ross Katz, Web Development Consultant, Mazda North America. “WebSphere Commerce not only integrates seamlessly with our back-end systems, it allows us to use a Java™ infrastructure we already had.” WebSphere Commerce is expected to help Mazda increase parts sales to racers by at least 25 percent per year.

### **Confident commerce**

E-business enablement is part of an evolutionary transformation, not a one-time endeavor or a single initiative. Deploying B2B e-commerce is not an all-or-none proposition. A sound e-business strategy can be incremental and modular. No matter where you are in the e-business cycle, IBM offers solutions that allow you to grow—at the speed the market demands, but no faster than you are comfortable going. You can start small and grow fast, or you can start big and grow bigger. Either way, you can rest assured that your technology solutions can scale with you. WebSphere Commerce provides a safe yet innovative platform on which to achieve rapid ROI and scalable, sustainable success.



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**Highlights**

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*IBM supports the whole e-business cycle at your speed.*

Continued innovation will drive the evolution of WebSphere B2B e-commerce offerings and enable you to build stronger trading relationships, streamline business processes, and optimize global business models. This will be accomplished by delivering the following advantages:

- Sophisticated partner and channel management capabilities for enhanced visibility, collaboration and planning, as well as tight integration of business partners at all levels
- Advanced analytics and new measurement systems (integrated supplier score cards, for example) enabling businesses to continually measure their success and refine strategies in response to changing market conditions
- Support of the Web services standard enables the extended enterprise to respond rapidly and cost-effectively to dynamic business opportunities
- Enhanced capability to integrate trading partners and commerce processes globally.

**Bringing it all together**

*The life of many of today's software vendors is measured in months, not years. To avoid dead-end investments, firms need to perform a thorough health examination of the vendors they rely on and are considering. Check for strong revenues, installed base, and product commitment ... In a world of struggling vendors and tight budgets, firms need to minimize their technology risk. ... This means assessing the vendor—not just the technology ... Strong revenues are a must ... Product commitment and experience build confidence ... Global companies have a leg up. Only infrastructure vendors are a safe bet. Vendors like IBM.*

**“Evaluate The Vendor — Not Just The Product,” Forrester, May 2001**



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**Highlights**

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*WebSphere Commerce is built on the WebSphere software platform, providing three areas of functionality: reach and user experience, business integration, and foundation and tools.*

IBM also has relationships with many independent software developers (ISDs) who add leading-edge functionality and innovation to WC.

IBM Business partners and Solution Providers have received WC training. They are ready to help you design and implement your B2B e-business solution. In addition, IBM Global Services can help you get your e-business up and running quickly with a solution tailored to the needs of your business.

The foundation on which WC is built is the WebSphere e-business software platform, which includes the fastest-growing application server on the market, an industrial-strength application-development environment and market-leading integration middleware. In addition, your e-commerce deployments can leverage Lotus applications for teaming and collaboration, and Tivoli® for advanced systems management.

To learn more about IBM e-commerce solutions, contact your IBM marketing representative, IBM Global Services, an IBM Business Partner, or visit [ibm.com/software/websphere/commerce](http://ibm.com/software/websphere/commerce)

WebSphere Commerce





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