



Pushing the Digital Frontier

Insights into the Changing Landscape of E-Business

by Nirmal Pal and Judith M. Ray
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Take-Aways

- E-commerce has changed the economy in a fundamental way and will continue to expand.
- Companies are merging old-economy fundamentals with New Economy technology.
- Companies are rapidly alternating between competition and alliance.
- Technology is making the management of systems and human capital more efficient.
- Trust brokers are providing guarantees in instant transactions executed between strangers.
- U.S. regulatory policy has supported e-commerce development since 1977.
- In today's environment, you must prepare for continual change.
- Use platform-neutral applications so you aren't wedded to a particular technology.
- The Agile Virtual Enterprise Model brings talented people together for various projects.
- Carefully assess the alignment of your e-business initiatives with your business objectives.

Rating (10 is best)

Overall	Applicability	Innovation	Style
8	9	8	6

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Review

Pushing the Digital Frontier

The Wild West days of the dot-com craze are behind us, but e-business strategy remains a largely uncharted frontier. In fact, e-commerce seems more bewildering than ever, now that many of the strategic maxims that the Internet bubble was built on have been proved false. To help you get a handle on the revolutionary technology that has survived the collapse, Nirmal Pal and Judith M. Ray have collected articles by researchers and executives, including many from their home base, the e-Business Research Center at Pennsylvania State University. This anthology constitutes a solid and well-researched book, which has sufficient gravitas (and jargon) for an academic and enough practical information for an entrepreneur. The multiple authors sometimes overlap as they dissect various e-business approaches, but all offer worthwhile ideas. *getAbstract.com* recommends this book to executives at any company, since Internet technology is now ubiquitous, and distinctions between old economy and New Economy are fast falling by the wayside.

Abstract

Life in the Digital World

In today's digital world, change happens at warp speed, and events occur at the pace of e-mail and Web site connections. Changes underway include:

- Expansion-minded leaders are using more information technology, digital content and digital networks to speed up core functions. New e-leaders need to direct and respond to changing alliances, opportunities, financial conditions and organizational structures.
- Companies are opting for co-opetition, in which two organizations alternate between aggressive competitors and partners in strategic partnerships or alliances.
- Knowledge workers are independent, often deciding to act as free agents, selling their professional and knowledge services to the highest bidder. This undermines organizational hierarchy, in that these well informed workers are better able to make unilateral decisions.
- The growth of teams and alliances reduces the need for hierarchy.

E-business has spurred an increase in the numerous types of electronic marketplaces or bazaars, which enable participants to use dynamic pricing, complex auctioning and sophisticated negotiation strategies with multiple partners. The only limitations stem from the technical capacity of the systems, supporting software and rules of interaction. In some cases, special trading clubs have emerged, including some limited to preferred members within certain industries, such as the Automotive Network Exchange (ANE).

Trust brokers, who can offer operational insurance and quality seals of approval, are becoming important in the global marketplace where relationships with unknown parties may develop quickly. Because new partners have to be able to trust each other's ability to fulfill orders or pay for goods, these brokers contribute to upholding the emerging digital order.

The E-Business Landscape

E-business affects every industry, although the computer and electronics industries have experienced the highest growth rates — recently more than 40% a year. The impact of e-business is very egalitarian, affecting rich and poor nations, but particularly

“Digital networks enable the rapid change from one form of relationship (e.g., fierce competitor) to another (i.e., strategic partner or ally), depending on the particular moment of opportunity in the market.”

“The e-leader must be comfortable with, and a driver of, agitation and change — changing alliances, competitors, business opportunities, financial outlooks, organizational structures, and configurations, all of which transpire in Internet time.”

“In the absence of known relationships, and in markets that are spontaneous and opportunistic, trust in the capacity to fulfill an order is often the basis for the transaction. This offers a role to trust brokers.”

“Traditional firms must master relentless innovation, embrace creative destruction, pursue experimentation and partnerships, adopt customer-centric design of products and services and sense and respond with speed and agility.” [David Partridge]

“Hierarchies are inconsistent with organizations structured on decision making that resides with knowledge workers, on information that is pushed to the lowest level, on the need for rapid response, and on teams and alliances that function through multiple decision makers.”

helping developing and underdeveloped countries, because it enables them to leapfrog a copper-based telecommunications system and use an optical fiber-based and wireless technology. The velocity of change that e-business causes, far beyond other changes since the Industrial Revolution or World War II, results in a continually shrinking strategic-planning window.

E-business empowers consumers by giving them far more product and service options. It also provides businesses with ways to improve their efficiency and effectiveness in four key areas that might be considered value drivers. These major sources of value to business are:

- Enhanced operational excellence: Firms use e-business to systematically manipulate process, technology and human capital.
- Advanced relationship management: Organizations include all stakeholders in key business processes. (i.e., bringing suppliers closer to manufacturers and buyers).
- Product and service innovation: Technology provides efficient ways to track packages or to enable corporate customers to order merchandise and monitor fulfillment.
- New business models: Technology delivers fresh ways of creating and delivering value (i.e. Amazon.com’s new method of selling books).

However, as demonstrated by the demise of many dot-coms, e-business has multiple vulnerabilities. Making money online is more difficult than the dot-coms thought it would be. As a result, many hybrid business models are emerging as traditional and online companies combine forces, traditional companies add Internet operations or Internet pure-plays establish brick and mortar facilities. So far, no one knows which models are best. The frontier of the digital world is continually changing through trial and experimentation. You can’t refer to a best practices database, because the models are just becoming known. You must be ready to try new approaches and adapt quickly. Online commerce, which will continue to grow, has changed the business world forever. Business can’t go back, but where its forward path will lead is still very uncertain.

Braving the Black Diamond

Fariborz Ghadar, professor of global management, Pennsylvania State University, and John K. Leonard, former CIGNA Corp. executive.

Think of today’s digital economy as a black diamond or difficult ski trail, which requires special skills. If you can exercise these skills properly, you will have the thrill and satisfaction of using your abilities to your fullest. On this trail, the pace of technological change has been increasing, resulting in shorter product life cycles and more research and development expenses. To cut costs, global firms increasingly seek strategic partnerships with new technology companies early in the product development cycle. For example, AT&T tries to invest early in rising tech firms to make them part of its corporate alliance.

Value Networks

Liam Fahey, professor of strategic management, Babson College, and Rajendra Srivastava, associate dean and professor of marketing, Emory University.

In the e-world, you can specialize and collaborate with producers of complementary products and services. By networking customers and co-aligned partners, you can create market-based assets or value networks. If you effectively manage these relationships, you can develop net assets that increase the value of your business, even beyond your company’s market-based assets. By working with other companies in a network, you

“Quality seals of approval in a digital marketplace are becoming more important given the criticality to screen for execution capabilities.”

“The first and foremost value to businesses comes from improving operational excellence. This is achieved by systematic manipulation of the three key resources of process, technology and human capital by using e-business.”

“Shorter product life cycles and more expensive research and development have resulted in global firms seeking strategic partners with emerging technology companies very early in the product development cycle.” [Fari-borz Ghadar and John K. Leonard]

can do more and find new ways to serve consumers. Companies can redesign their processes to offer customers more customized solutions, such as “AutoFlex,” in which car companies’ customers agree to pay a certain amount of money each month for the use of a range of vehicles as they need them.

Dot-Com Vultures

Rocki-Lee DeWitt, associate professor, Pennsylvania State University, and Kathryn Rudie Harrigan, professor, Columbia University.

As various Internet strategies emerge, old-economy fundamentals are being applied to the New Economy. Even though many New Economy firms have declined recently, consumer and business awareness of the Internet has been growing. Thus, this is an optimal time to acquire a failing or bankrupt Internet firm, since market valuations are low. Determine how your company can use the Internet and its related technologies to participate in vertical chains. You need three critical strategies for Internet success, including becoming a value-added exchange for suppliers and customers, building your brand and reputation, and building on and extending your strengths.

A Regulatory Framework

Richard Taylor, professor, Pennsylvania State University, and Elliot Maxwell, U.S. Department of Commerce.

When it comes to e-business regulatory issues, the U.S. government has a fairly supportive approach. The core of U.S. electronic commerce policy was set by the Clinton administration in 1997 in its proposal: “A Framework for Global Electronic Commerce.” The policy states that the private sector should lead, the government should avoid undue restrictions and the U.S. should facilitate global electronic commerce.

E-Leadership

David Partridge, a director at IBM’s e-Business Innovation Institute, and Normal Pal, professor, Pennsylvania State University.

Leaders have two main goals in the digital world: develop an organizational culture that is accustomed to continuous change and move from control-oriented management to leadership-oriented management. Follow these five major principles: master continual innovation, pursue creative destruction, experiment and engage in multiple partnerships, build your brand and promote good customer relationships, and be ready to sense changes in the market and respond to them quickly.

Restructuring Pains

Michael E. Brown, Kevin G. Corley and Dennis A. Gioia, professors, Pennsylvania State College of Business Administration.

Expect growing pains as you restructure, whether you are creating a new division, establishing a wholly owned subsidiary, issuing a tracking stock for part of your business or creating an independent entity. The most common approach to e-business restructuring is setting up a wholly owned subsidiary that gradually moves to an initial public offering (IPO) and complete independence. The other favorite is issuing a tracking stock, which is like a spin-off except the parent and child organizations don’t fully separate.

Tech Building Blocks

Hermant K. Bhargava, professor of management and information systems, Pennsylvania State University and Jun Lee, director of technology, Unisys Corporation.

“Networked market-based assets help a firm create value over and above that created by market-based assets individually.” [Liam Fahey and Rajendra Srivastava]

“This, then, has been the U.S. position: The role of government is to promote and support electronic commerce; regulations should enable such commerce, particularly on a global basis; there should be no undue burdens on such commerce.” [Richard Taylor]

Remain open and flexible as you respond to the changing technical environment so you can maintain the value of your past and present information technology (IT) investments. When you invest in IT, study your choices carefully so you can select the best technological, architectural and community-wide solutions. Design your IT from building-block components rather than starting from scratch, and use industry-wide standards as your guide. Create platform-neutral applications so you are not wedded to a particular underlying technology.

E-Business Observations

Observations about the new e-business environment from other contributors include:

- Evaluation — Use e-business measurements and metrics to quantify and qualify the alignment of e-business initiatives and your business objectives. Identify your metrics before you begin, so you can determine your ROeI (return on e-business investment).
- Staffing — Examine competencies and capabilities in light of the e-business environment. In hiring, seek creative, innovative, informed people with a strong customer focus and an understanding of your business, who are eager to learn on their own time.
- Human resources — Be ready to change your business model and how you use human resources. For example, the Encyclopedia Britannica had to change how it used human capital when it shifted from manufacturing books to creating print and CD-Rom materials. Before its focus was on door-to-door and school sales, but afterward it had to shift to online sales, bricks-and-mortar retail and far fewer sales to schools.
- Marketing — Personalization software, such as cookies and content-based filtering, lets you set up personalized digital delivery systems, and target promotions to selected groups.
- Collaborative commerce — Seek ways to work collaboratively as well as independently with new customers in emerging markets. The Agile Virtual Enterprise Model (AVE) provides one approach. With AVE, you create a shell company composed of highly talented people united through integrated business development, project management, systems engineering and information technology.
- Learning — Use e-learning solutions to align your strategy and information technology, and to optimize the training process.

About The Authors

Nirmal Pal is executive director of the e-Business Research Center at Pennsylvania State University, which fosters research in e-business strategy, management and marketing to improve business profitability. He has worked for 38-years at IBM, including directing IBM’s e-business consulting practice worldwide and working closely with *Fortune* 500 clients on e-business strategies. Judith M. Ray is a senior research associate at the center, where she has been involved in developing and executing research and networking initiatives. She has also been a systems analyst and senior instructional designer for Penn State’s Smeal College of Business Administration.

Buzz-Words

Agile Virtual Enterprise Model (AVE) / Co-opetition / Digital networks / Dynamic pricing / Electronic bazaars / Knowledge workers