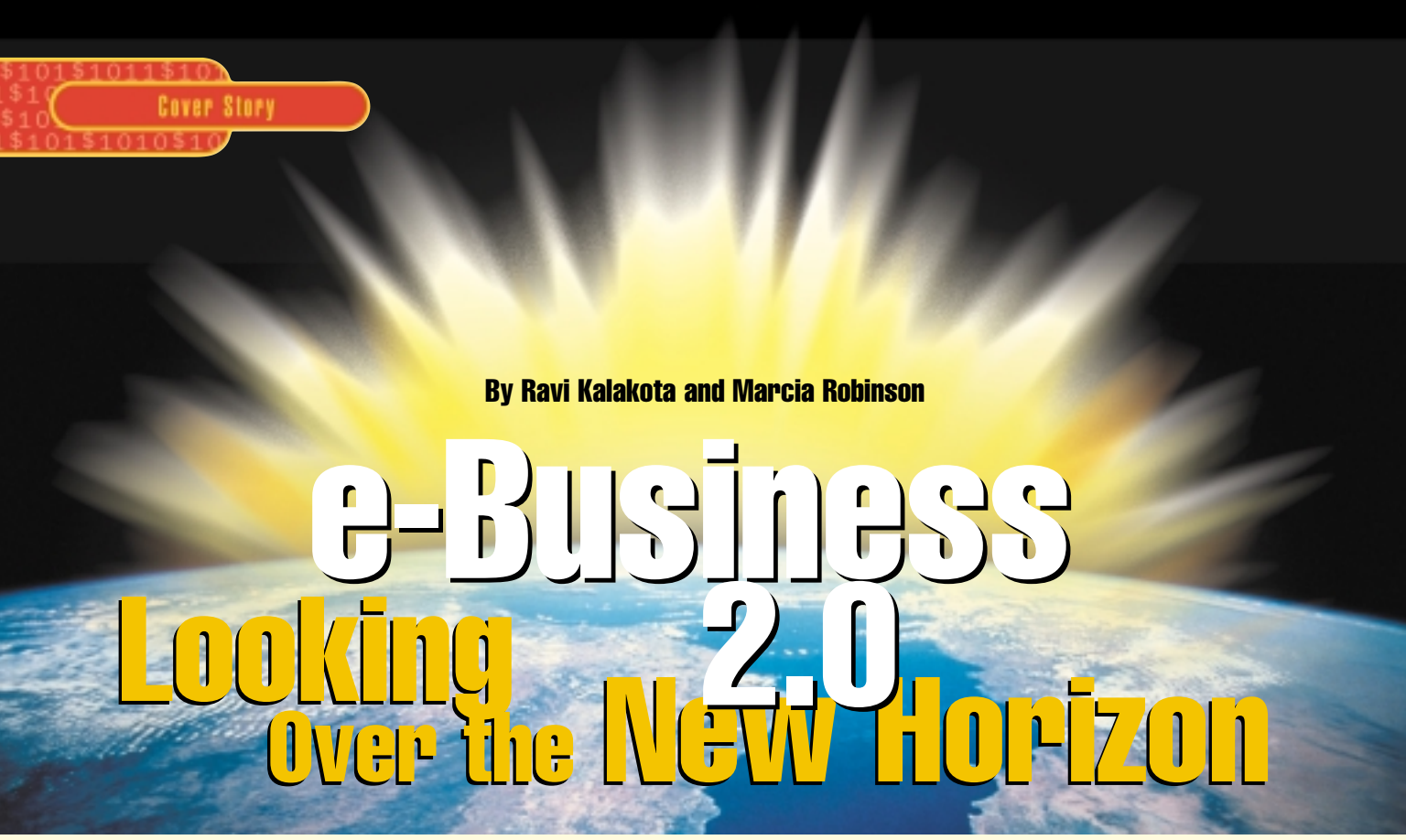


By Ravi Kalakota and Marcia Robinson

e-Business 2.0
Looking Over the New Horizon

When we wrote our book *e-Business: Roadmap for Success*, in 1998, we were using our academic and consulting experiences to analyze and predict what will happen to the e-business application landscape in 1999 and 2000. We wanted managers to see that e-commerce was just the tip of the iceberg. The real stuff that analysts, investors, and managers should pay attention to was the invisible part below the waterline — e-business.

e-Business has evolved considerably in the last three years. We're much more knowledgeable about what works and what doesn't. Meanwhile, technological innovations are creating new opportunities. This article highlights several emerging e-business models — including Net markets, collaborative click and brick, and mobile portals. As you read further, ask yourself which of these emerging business patterns your company can use to compete. Reflect on the Enterprise Application Integration (EAI) requirements associated with each model.

Market volatility makes it difficult to understand, let alone predict, strategic movements. Practicing managers, consultants, investors, and students all face the problems associated with analyzing a dynamic market environment. As the environment changes, ask the following questions:

- Do we understand the emerging business models?
- Are we investing in the right business opportunities?
- Are we attacking these opportunities using the right business model?
- Are these opportunities ever going to be profitable?

In today's environment, managers of "old economy" companies increasingly need the right tools to improve their effectiveness when making strategic moves, allocating scarce resources, and managing risk. Large "old economy" companies have begun to see new, Web-enabled firms take away relatively small pieces of their markets. So they're realizing the e-business threat and have started to seek more efficient digital strategies that improve customer service, integrate the value chain, and accelerate information flow.

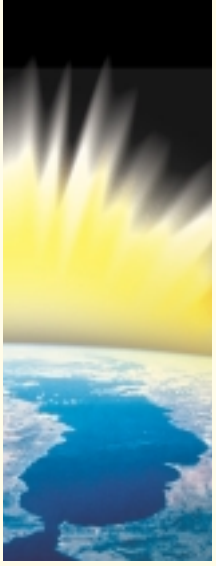
Choosing a strategy is complex. As the focus shifts from physical to digital assets, managers should monitor macro-economic and customer trends as they pursue new e-business structural designs. Such analysis represents the next generation of corporate strategic planning. However, many companies still don't take the digital world seriously. America Online president Bob Pittman noted that some retailers have "500 people devoted to new store openings and two college kids working on the Website."

Clearly, we're in the early stages of fundamental change within the business landscape. Moving forward, we can expect periods of both extreme optimism and pessimism, The one certainty is that e-business is creating new opportunities for companies willing to adapt. For others, this era of change is a destabilizing threat to "business-as-usual."

We'll focus here on characteristics of the emerging leaders in today's continuous battle for corporate survival and ascendancy. We'll also explore several e-business patterns now becoming discernable. We hope you'll gain insight about how to succeed during these turbulent times.

e-Business 2.0: New Business Models

e-Business is tricky business. Management can begin to respond by asking the right questions. e-Business is re-teaching an old lesson. Change the competitive question and you change the rules of the game. By focusing on the right transition, companies can alter the nature of competition. What transitions are happening? Traditional market channels are giving way to new; production-centric processes are yielding to customer-centric processes. Old business models are morphing to new; information is replacing inventory; and digital products are replacing physical goods.



Corporations with substantial buying power are racing to create private portals.

Before you jump into the deep end of e-business change and begin shifting your operation toward the future, it's important to consider the emerging structural patterns that characterize the new economy. These include: e-channels, click-and-brick patterns, e-portals, e-market makers, and pure "e" and mobile portals (see Figure 1).

e-Channels, or extension models of large companies, have evolved considerably. The first phase involved developing a stand-alone channel, or spin-off.com, independent of the parent company (e.g., Proctor and Gamble spin-off venture Reflect.com); the second was a stand-alone channel with some connection to the mother ship (e.g., Wal-Mart.com). The new phase, channel synchronization, is a tightly integrated click-and-brick strategy, like CVS.com, that serves customers seamlessly no matter their entry point.

e-Portals, or business-to-consumer (B2C) models, have evolved in three phases in the last three years. The first was developing appropriate traffic (e.g., Yahoo!); the second was fighting for transactions (e.g., Amazon). Now in the third phase, companies are beginning to battle for margins. Click-and-brick partnerships (e.g., Amazon.com and Toys 'R' Us) represent the new phase. Expect to see more like this.

Both e-channels and e-portals are converging on what appears to be the same business model: collaborative click and brick.

Next, we discuss three e-business patterns that are fairly new: Net markets, collaborative click and brick, and "pure e" to help you better understand the next set of e-wars.

Net Markets

On the Net markets, or business-to-business (B2B) side, business models are fairly young. Although they're furiously evolving, a basic classification of the various types has already emerged. Broadly speaking, B2B applications can be further divided into the categories shown in Figure 2. The table also captures the key differences between the different trading models that form the e-procurement landscape.

Corporate Procurement Portals

Corporations with substantial buying power are racing to create private portals for the procurement of both production-related goods and other goods. Production goods include raw materials, components, assemblies, and other items needed to produce finished goods. Other goods are items businesses need for their daily operations (e.g., capital equipment, office and industrial supplies, and travel and entertainment).

However, for many companies, development of a truly effective integrated procurement strategy is still only a vision. For all but a few, there's no clear vision of what needs to be achieved through reengineering and integrating the procurement process, nor is there a good road map of how to get there — or even an idea of what "there" should look like.

Net Markets: Virtual Distributors, Auction Hubs

The first generation of Net markets (e.g., VerticalNet) provided community features alone. However, in the second generation, transaction revenue derived from buying and selling products is becoming critical. Virtual distributors are an example of this genre of trading exchange. Virtual distributors offer one-stop shopping for a fragmented buyer and seller community by aggregating disparate product information, primarily associated with multiple catalogs, from multiple suppliers (i.e., manufacturers) into one mega-catalog. These seller-driven sites digitize paper catalogs to provide easy search capabilities and one-stop shopping.

Virtual distributors help streamline the supply chain for direct goods and lower transaction costs by issuing a single purchase order and parsing the order to each relevant supplier that ships the product direct. Many are starting to add richer services, such as meshing with software that handles a company's back-end operations — from order-taking to tracking inventory. Virtual distributors generally don't carry inventory, nor do they directly supply products. Instead, they assist buyers in arranging for third-party carriers to transport the ordered goods. Virtural distributors can serve specific industries or multiple industries. Chemdex in life sciences and PlasticsNet in polymers and resins focus on specific industries. Grainger's OrderZone.com sells supplies across many industries.

Industry Consortiums: Joint Venture Industry Procurement Hubs

Large companies are using their clout to create industry consortiums. These consortia are of two types: buyer consortiums and supplier consortiums. In a buyer consortium, a group of large companies aggregate their buying power; the premise being that more buying power will drive down prices. Traditional industry players have a big advantage over Net-born start-ups when it comes to starting exchanges for high-volume commodity goods. Their advantage stems from instant commercial

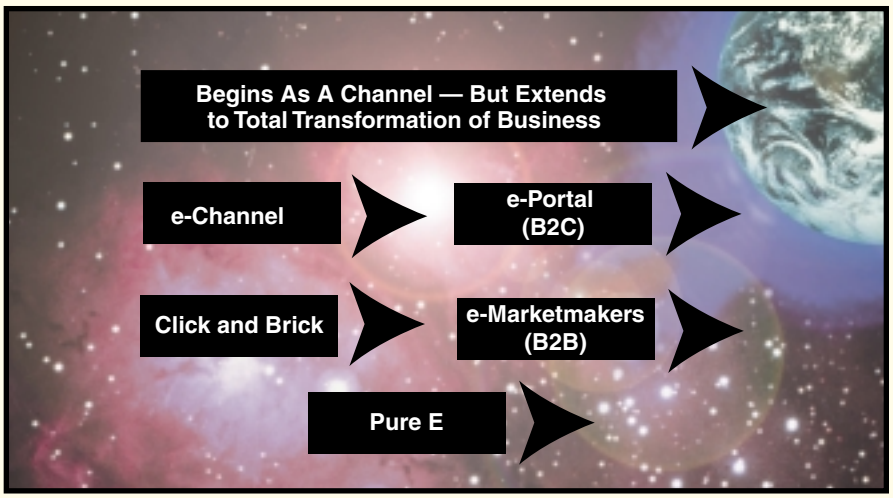


Figure 1 — Different e-Business Patterns

The jury's still out on industry consortiums.

activity and liquidity. For instance, Eastman Chemical spun off its logistics operation into ShipChem.com, which will help chemical suppliers arrange shipments. PetroCosm is an example of an industry consortium for the oil and gas industry — with Chevron and Texaco as anchor participants and Ariba providing the technology. Another example is MetalSpectrum, which plans to be the online neutral marketplace for aluminum, stainless steel, and other specialty metals.

Supplier-led consortiums also are emerging. These consortiums are forming in industries where a few firms comprise a high concentration of market power. The big difference is that supplier consortiums must give sponsors the opportunity to promote and differentiate their products. They must provide the most compelling environment for buyers by aggregating key industry suppliers and offering a compelling amount of product depth, breadth, selection, and service. To this end, supplier consortium sites will quickly evolve beyond the transactional focus of buyer-centric markets to support value-added, pre- and post-sale support. These consortiums will likely be most successful in segments where more complex products are traded.

The jury's still out on industry consortiums because many issues must be overcome. The first hurdle is governance. Traditional competitors must form an independent company that promotes the interests of all the participants. Technology selection is another hurdle. How will the consortium meet the requirements of all its members, each of whom has its own technology standards and systems? It can be difficult at best. Finally, antitrust is another issue that often has to be worked out.

Collaboration Hubs

These emerging exchanges go far beyond the transaction phase to help companies manage the supply chain end-to-end. Collaboration hubs seek to create one common Web platform. That platform lets participants throughout an entire industry supply chain (e.g., raw-material providers, manufactures, importers/exporters, distributors, dealers) share information, execute transactions, and collaborate on strategic and operational planning. The platform facilitates new trading partnerships and should help channel participants better match production with demand (thereby reducing excess inventories), and accelerate cycle times.

Value-added services are the premium services collaborative hubs provide to continuously drive market liquidity. By providing these services, collaborative hubs can increase site stickiness, generate multiple revenue streams, and create barriers to entry. Providing these services is an essential component of a collaborative hub strategy, if the participants expect to develop a sustainable advantage and be the market leader.

Collaboration hubs can help supply chains take cooperation and information sharing to the next level, where trading partners collaborate on strategic and operational planning. At this level of partnering, information isn't just exchanged; it's jointly developed by buyers and sellers. Types of collaboration efforts can include product planning and design, demand and replenishment planning, and pricing and promotional strategies. These platforms record historical trading data that can be analyzed to further improve planning and forecasting, and speed up the design and development cycle.

Collaborative Click and Brick

Brick and mortar + click and order = click and brick (C&B). So-called bricks and mortar (BAM) companies are looking increasingly like new-economy enterprises as they harness technology for greater productivity. A growing number of BAM companies (e.g., Merrill Lynch, Circuit City, Toys 'R' Us, Wal-Mart, and Barnes & Noble) are adopting a digital business model. Meanwhile, several Internet-based companies are also looking to build a physical channel in addition to their virtual one. They want to move beyond selling strictly through the Net. So, the most likely e-tail trend is adoption of the C&B model, a hybrid online/offline model requiring both physical and digital assets and activities.

The C&B model (see Figure 3) allows an existing, offline business to profit from partnering with an emerging online presence. A great example is discount stockbroker Charles Schwab. Schwab's success has proved that storefronts can drive traffic to Websites. The firm continues to open new storefront offices every year because that's where customers feel most comfortable signing up for their accounts. But once the relationship is established, most customers use Schwab's Website to monitor and manage their accounts. The online customer costs less to serve. This lesson has not been lost on other retailers, who are finally starting to see benefits of combining e-commerce with old-fashioned department-store service. An established retailer's name has tangible advantages in cyberspace, where consumers face too many choices.

A new variation in C&B strategy unfolded when Amazon.com revealed a 10-year partnership with Toys 'R' Us. Toys 'R' Us will provide products and Amazon

CORPORATE PROCUREMENT PORTALS	• Make buying fast and hassle-free for employees • Automate approval routing: standardization • Custom negotiated prices posted in multi-supplier catalog • Spending analysis and multi-supplier catalog management
TRANSACTION ORIENTED TRADING EXCHANGES	• Automate requisition process and transact purchase orders • Supplier, price and product/service availability discovery • Catalog and credit management
INTEGRATED TRADING EXCHANGES — COLLABORATIVE SUPPLY CHAINS	• Enable partners to closely synchronize operations and enable real-time fulfillment; • Process transparency resulting in restructuring of demand and supply chain; • Substitute information for inventory
INDUSTRY CONSORTIUMS — BUYER AND SUPPLIER LED	• Buyer-led consortium — few dominant buyers come together and pool their purchasing power to create instant liquidity • Supplier-led consortium — few dominant suppliers come together and pool their might to prevent price erosion

Figure 2 — Comparing e-Procurement Models

The era of the middlemen is ending, thanks to the Internet.

will sell and deliver them through a new co-branded Website featuring toys and video games. Visitors to Toysrus.com will be redirected to Amazon.com. Amazon will receive periodic fixed payments, per-unit payments, and a single-digit percentage of revenue. Many analysts see this strategic move as an acknowledgement by Amazon that it can't compete outside its core markets without significant help selling such things as hardware, lawn and garden supplies, and furniture. Also, it's an admission by Toys 'R' Us that it's better off sticking to its knitting.

Pure e: Digital Products and Mobile Portals

Clearly, we're entering the pure "e" decade: an era of digital products. A digital product is one where the product is made online, stored online, sold online, delivered online, and consumed online. First-generation examples include music, software, books, and photos.

Delivery of digital goods is already changing. Soon, delivery will often come as an Internet service (e.g., streaming media) instead of as a packaged product. Even the means for creating digital content is changing. Factors contributing to the growth of digital products:

- The proliferation of Internet-access devices (e.g., set-top boxes, WebTV, and video game consoles)
- Increasingly cheap and abundant bandwidth
- Falling prices for PCs
- The growing number of free PC programs
- Industry standardization of Application Programming Interfaces (APIs).

In the standards area, eXtensible Markup Language (XML) lets digital content be written so it interfaces with speech and handwriting systems. This means such content can appear in different forms than it has in the past.

Two types of models currently characterize the digital goods market:

- **Digital products infrastructure** — sustainable business models built around the software and hardware platforms that support the digital products industry.
- **Mobile infrastructure** — new delivery vehicles to enable digital products to be delivered quickly, easily, and at lower cost anywhere, on any device.

Implications of the Digital Music Trend

Recent events within the digital music industry have illustrated a classic distribution pattern. This pattern, the collapse of the middle, is characterized by the elimination of intermediaries in the market channel. It first appeared in retailing, financial services, and computing. As Figure 4 shows, in the old distribution model, multiple intermediaries touched the music product on its way from the artist to the customer. Consequently, the product cost steadily increased as each participant added his or her margin to the product. The Internet has forever altered how music will be distributed. Consumers can now completely bypass the traditional distribution network. This threatens the entertainment industry's control. Meanwhile, new companies are emerging within the digital music download business and are positioning themselves within the artist, retail, and fulfillment sectors of the business. For example, MP3 (San Diego, CA) offers about 250,000 songs from 40,000 artists (mostly regional and lesser-known acts) for free downloading at its Website.

The digital music arena is burgeoning with creative activity; many new ways of locating, accessing, and distributing music have appeared on the Internet:

- Napster lets users find music files through a centralized index on the company's servers and then download those files directly from other users' computers.
- Gnutella skips the centralized index and lets users find and download content (in a variety of file types, including music, videos, and documents) directly from other users who also use its software.
- Pointera skips the downloading process by letting users "play" content (such as music or videos) directly from other users' computers without downloading the file.

These new "distribution" models are creating quite a stir in the music industry because they lack the means for content originators to collect royalties and protect copyrights on music. But the implications for the world at large are also significant. These programs represent the emergence of new distributed, decentralized models for finding and accessing all kinds of data.

What does it all mean? The traditional intermediaries involved with the music industry supply chain are in for an interesting ride. Major record labels, music stores, and radio stations will survive in one form or another, but we can expect some level of industry consolidation and a much smaller major label presence. The era of the middlemen is ending in the music industry, thanks largerly to the Internet.

Mobile Portals: New Platforms for Digital Media Delivery

Seemingly overnight, wireless technology has created a new phenomenon —

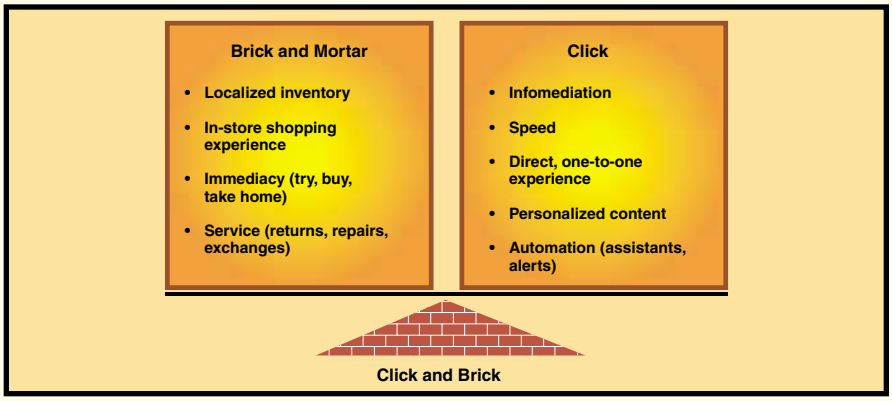


Figure 3 — Click and Brick

The m-commerce trend and its implications will be fascinating to watch.

m-commerce. New programming languages, platforms, and protocols are embraced almost with reckless abandon while new partnerships and wireless portals are announced daily. The new market for the delivery of Internet services through hand-held devices is rapidly evolving.

The business strategy behind hand-held computing marketing is straightforward. If you take control of the operating system infrastructure, you'll also control the software applications developed to run on it. Three companies are racing to seize the pole position in the "pocket PC" market: Handspring, Palm Computing, and Microsoft. As hand-held devices and hand-held device applications become integrated into other information appliances, an opportunity exists for these operating system developers to extend their platforms for use on other hand-held devices.

m-Commerce isn't only about hand-held devices. It's also about the new generation of mass-market wireless phones that are starting to bring together the Internet and mobile telephony. Phone.com, which developed its initial technology in 1995, pioneered the delivery of Internet-based services to wireless telephones. In 1996, Phone.com introduced and deployed its first products based on this technology. To provide a worldwide open standard enabling the delivery of Internet-based services to mass-market wireless telephones, Phone.com, Ericsson, Motorola, and Nokia formed the Wireless Application Protocol (WAP) Forum.

The next-generation mobile delivery systems include voice browsers and telephony-based, speech-recognition systems. Now telephony-based speech recognition is extending to the Web. Many companies, such as TellMe and HearMe, are racing to make telephone access to e-commerce and Web information ubiquitous. The type of content that would benefit the most from these efforts is real-time, high-value information such as flight data, weather forecasts, and stock quotes. Several companies, chief among them Motorola, Nuance, AT&T, IBM, and Lucent, have introduced initiatives and technologies that let users access time-sensitive Internet content using their voice over a wireless phone. Recent advances in speech-recognition technology have made it possible to use the telephone to search the Web. The technology advances include:

- Natural-language and interactive-dialog processing
- Speaker-independent speech recognition
- Speaker verification
- Multi-lingual text-to-speech synthesis
- Barge-in options
- Keyword and phrase spotting.

The business models in this area are in their infancy and it's too soon to declare a dominant platform, but the mobile commerce trend and its implications will be fascinating to watch for the next several years.

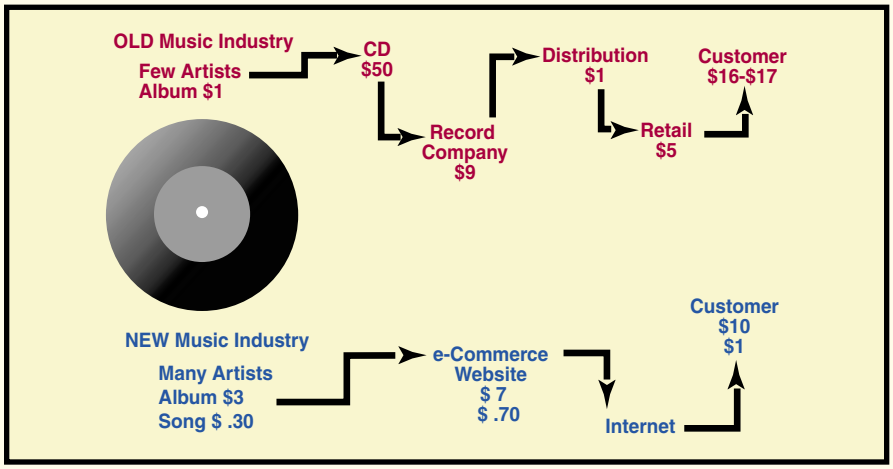


Figure 4 — Digital Music Industry

Conclusion

Digital strategy is a game now played at breathtaking speed. Everyone needs to think and act like venture capitalists; they must quickly evaluate opportunities and act decisively. Corporate success requires finding and applying a winning business model.

Even with the uncertainty surrounding the early stages of e-business, it's possible to identify companies that are building a solid foundation for their future success. Such companies are not only asking the right questions, they're answering them in innovative ways. Their leadership is changing the rules of today's business game. eAI

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