Opportunities for Action in Technology and Communications

The Digital-Media Revolution

The Boston Consulting Group
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All forms of consumer media are going digital. This reality is sparking a revolution in music, television, video, and photography—changing the way we receive sounds and images, as well as how we store them, use them, and pay for them. The revolution has quickly spawned a host of new products—including personal video recorders, MP3 players, and photo-quality printers—and such new services as online music lockers and photo albums. As these digital offerings capture an increasing share of consumer spending, products and services from the traditional media are sure to suffer. Billions of dollars are at stake.

Companies are already feeling the shock waves. For example, until a couple of years ago, Eastman Kodak’s chief competitor was Fujifilm. Together they controlled more than 90 percent of a growing pie. But when consumers started to embrace digital photography and video, Kodak’s competitive map was redrawn. Today Kodak’s most serious challengers aren’t other film companies but new rivals such as Hewlett-Packard and Sony. Their pixel-based cameras, color printers, and supplies are generating significant business at the expense of old-line photo products and services.

Equally dramatic changes are also under way in the music, games, television, and consumer electronics industries. Indeed, The Boston Consulting Group estimates that profits from sales of electronic devices, entertainment, access, and related products and services will total more than $300 billion annually. We expect that over the next ten years, a large share of that margin will be up for grabs.

The forces driving this digital revolution are well known. Faster computer processors, declining costs
for data storage, and the ongoing deployment of broadband have combined to make it easier for consumers to capture, manipulate, and share digital entertainment. Currently, for example, users in more than 10 percent of U.S. households are equipped to download digital photos or MP3 music files to their computers in two minutes or less, and this capability will expand. We expect that by 2004, more than 20 percent of U.S. households will be able to stream CD-quality music and VHS-quality video from the Internet.

But although the technology promises to get cheaper and faster, and the consumer’s appetite for all things digital continues to grow, companies looking to profit from these trends are already facing serious challenges. To fend off competitors, senior executives must reexamine their assets and learn how to leverage them in these growing markets. They must prepare to face not only today’s competitors but also those that will appear in the future as the revolution rolls on.

**Understanding the Chokepoints**

We see five chokepoints that companies can use to define their competitive position and extract profits. By establishing these chokepoints, companies can develop mechanisms for taking tolls from competitors and customers. The chokepoints can be summed up as a high switching cost, a critical mass of users, distinctive content, dominant technology, and a strong brand.

**High Switching Cost.** Some digital-media companies are already using high switching costs to bolster their current position. For example, America Online knows that part of the reason many of its subscribers have not defected to less expensive Internet services is that they want to avoid the inconvenience and the loss of popular features that a switch would entail. Among
other concerns, users don’t want to give up their e-mail addresses or abandon the Buddy Lists they use for instant messaging. In fact, with its recent price increase, AOL is betting that subscribers are willing to pay even higher rates to stay put. To reinforce this chokepoint and also add to its revenues, AOL is offering new services, including online games in partnership with Sony and photo services with Kodak; in addition, it will soon launch MusicNet—a music subscription service—in partnership with RealNetworks, EMI Group, and BMG Entertainment.

Similar opportunities to expand offerings, and thereby extract additional profits, are available to satellite television broadcasters including DirecTV and EchoStar Communications, whose customers have already invested money in satellite dishes.

**Critical Mass of Users.** Companies with large numbers of customers have distinct advantages in the race to bring them new services, and they can generate new fees in doing so. One advantage such companies enjoy is special access to leading suppliers that are more inclined to work with major competitors than with weak players. With more than 15 million subscribers, for example, AT&T Broadband has an opportunity to increase revenues by offering digital-cable customers new subscriptions for personal video recording, music downloads, and online gaming. DirecTV, which has 10 million subscribers, already distributes digital-entertainment services in partnership with AOL, Sony, and Microsoft. Yahoo! and other leading portals may also be well positioned to take advantage of this chokepoint.

**Distinctive Content.** Content that appeals to particular segments of customers can open a gateway to a diverse set of revenue sources. The Walt Disney Company accomplishes this with both its movies and its ESPN sports network. Disney works to leverage its con-
tent in several ways: offering subscriptions to online services such as Disney’s Blast and ESPN Insider; supplying online interactive enhancements to television programming such as “Who Wants to Be a Millionaire”; and providing gaming through its sports fantasy leagues. ESPN is now trying to leverage its content chokepoint even further. Recently the company announced plans to distribute its sports programming directly to subscribers over the Internet. In doing so, ESPN aims to get a share of the profits from distribution that is currently controlled by cable operators.

**Dominant Technology.** As technologies and products gain wide acceptance, they can be turned into platforms for further advantage. The growth of ink-jet technology for printing digital images provides a good example. As increasing numbers of consumers look for high-quality printers and supplies, HP has been the leading beneficiary. It now has more than 40 percent of the ink-jet-printer market, and its income from ink cartridges and other supplies is growing rapidly.

Gemstar–TV Guide International, which provides interactive programming guides through digital-cable and satellite systems, has a similar advantage. Currently Gemstar licenses electronic programming guides to many television and VCR makers, as well as most cable and satellite television operators. In addition to receiving licensing fees, it leverages its chokepoint by claiming a share of the fees that operators get for advertising inserted in the programming menu.

**Strong Brand.** The importance of brand as a chokepoint in digital media is sometimes overstated. But we think that as consumer choices become more confusing, the opportunities for product and service branding will increase. The potential benefits for companies such as Sony, which has decades of experience selling electronic products to consumers, are obvious. However, uncertainty about digital media may also
create opportunities for players such as AOL Time Warner and HP, which have earned reputations among consumers for quality and trustworthiness. Some companies may be able to use their current market position as a springboard into related businesses.

**Preparing for Change**

As diverse elements of consumer media go digital, the pressure on companies to create new sources of advantage will intensify. Because some developments will have profound implications for content owners, content distributors, and device manufacturers, players must be prepared to do the following:

**Establish efficient mechanisms for managing digital rights.** One of the most critical concerns the owners of music, video, and film content must address is the problem of piracy. As services such as Napster and Gnutella attract millions of users, content companies must respond with new business models. These models must achieve two goals: they should allow the companies and artists to make money from their digital content, and they should allow consumers to use electronic file-sharing systems they clearly like.

**Prepare for massive revenue cannibalization.** Traditional content distributors, such as television networks, face their own set of challenges. In the next few years, their old revenue models, which are based on advertising, will come under aggressive attack by personal recording devices that allow consumers to bypass commercials. Networks will need to develop alternative revenue models—or face extinction.

**Gear up for accelerated product innovation.** Device makers, too, must learn to operate effectively in a less predictable environment. The next few years will be characterized by the proliferation of new electronic
devices, short product life cycles, confusion on the part of consumers over what and when to buy, and relentless margin pressure. These conditions will make it difficult for device makers to generate profits.

Secure a seat in the digital home. The biggest—and potentially the most far-reaching—digital-media battle has already begun. It is the battle over who will control the digital-entertainment hub in the home. The list of players preparing to offer “Trojan horses” that will store, manipulate, and play digital media and games is long—and growing. It includes television set-top-box makers, PC companies, storage companies, cable and satellite operators, game console makers, and Internet portals. (See the exhibit “Battling for Control of the Digital Home.”)
Developing New Strategies

Many companies have already begun to execute strategies for competing in the digital-media era. Others are just beginning to think about what they must do. Senior executives can facilitate this process by addressing the following concerns:

- What new players are competing for your share of consumer spending? As Kodak’s experience shows, your new competitors may be very different from your old ones. Increasingly, for example, Sony and Microsoft are finding themselves in the same boxing ring—with Microsoft competing on the basis of its strength in software and Sony on the basis of its strength in hardware.

- Given your capabilities, what chokepoints could you control? Many companies will need to take steps either to establish a chokepoint or to prevent competitors from building one at their expense. These moves may involve linking up with partners or making acquisitions.

- How can you create options to hedge the bets you must make, and what else can you do to help mitigate risk? Instead of relying on one strategy, you may need to pursue two or more to ensure that you will have a defensible position as the market evolves.

- How will you manage the transition? Because many market changes will take several years to unfold, companies will need to provide simultaneous support for both old and new products and channels.

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The dynamics of the digital-media marketplace are changing fast. Now that the revolution is upon us,
there will be many opportunities for growth and profit even as some product categories wither and die. The jockeying for position will continue for many years, but losers will outnumber winners by a wide margin. Executives who ignore this reality do so at their peril.

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