Lighthouse'99 Case Studies

MP3

Rockin' the music business

"Why, when you can get music for free, would anyone pay for it?"

— Steve Marks, Deputy General Counsel, Recording Industry Association of America

"Our strategy is going to be to make it easier to buy the music than to steal it."

— Gene Hoffman, President and CEO, Emusic

"Digital distribution is the future, and we've got to get on top of it because it's not waiting for us."

— Lars Murray, Director of New Media, Rykodisc

"The public has the technology before the industry does, and they fear it."

— Chuck D, Public Enemy

"If history has taught us anything, it's that open always wins. An open compression technique will win — it has to be convenient for consumers to listen to their music."

— Bob Kohn, E-music Chairman

ALLIANCE FOR CONVERGING TECHNOLOGIES

October 1999

EBC scorecard

E-business community type	● Alliance
Context providers	● MP3.com, Listen.com, E-music, RioPort.com
Customers	● Music listeners
Content providers	● Music labels, artists, users
Commerce service providers	● MP3.com (Digital Audio Music), CyberCash, Anacom Merchant Services, DigiSign
Infrastructure providers	● Hardware:Saehan — MPMan, Thompson Electronics — the Lyra, Diamond Multimedia — the Rio ● Software:Nullsoft — WinAmp, MusicMatch — MusicMatch Jukebox, RealNetworks — RealJukebox, Microsoft — Media Player ● Telecommunications providers
Competitors	● Other digital distribution systems: Liquid Audio, a2b (AT&T), MS Audio ● Traditional distribution media/outlets: compact disc, cassette, DVD/radio, MTV, Tower Records, etc.
Primary value proposition	● Small, digitally compressed music files that can be transported via the Internet, or stored in any digital device/media
Key technologies and applications	● MPEG – Level 3 audio compression algorithm, software players, "rippers," encoders, various plug-ins, PCs, portable hardware devices, removable flash memory
Governance structure	● Non-hierarchical. MP3 participants are bound only to market forces and a shared compression standard.
Key leading indicators	● Ease of use, fidelity, compressed file size, bandwidth, selection, variety, installed applications base, site traffic, user base
Key lagging indicators	● Number of licensed titles, number of high profile artists, availability/cost of hardware devices, total revenue from downloads, site subscriptions and application sales, advertising revenue
Level of success	● High
URL	● www.mp3.com

Introduction

● A $38 billion global industry has evolved to produce and distribute recorded music in all its forms – CDs, cassettes, vinyl LPs, and music videos. Today, that industry is being challenged by a new compression technology: MPEG 1& 2 – Layer 3 (MP3). At first glance, MP3 hardly appears a candidate for transforming a multi-billion-dollar industry — it's merely a technical standard that enables digital music files to be reduced to one-twelfth their original size while retaining near-CD quality. It was initially designed to improve audio transmission efficiency over digital data lines and wireless communication systems. Now, the technology is challenging business and economic fundamentals within the music industry.

With MP3, audio files that previously took over an hour to transmit over the Internet can now be transmitted in just 5-10 minutes. A CD burner can record over 150 MP3 music tracks on a single disk. Predictably, some of the Internet's less orthodox inhabitants began using this technology for piracy. With simple software applications called "rippers" and encoders, anyone with a CD-R drive can convert a standard compact disc track into a compressed MP3 file.

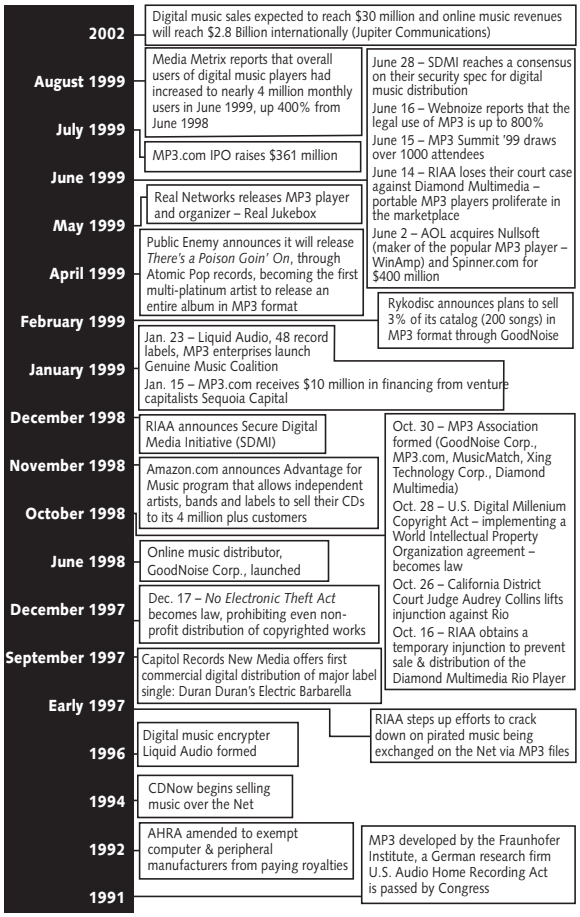


Figure 1. MP3 timeline

A myriad of Internet communities — enabled by online bulletin boards, FTP, and Web sites — resulted in a proliferation of software players and rippers, as well as music piracy and an electronic cottage industry built around the MP3 standard. Hundreds of MP3-related software programs and an installed base of millions of players now exist.

While the Recording Industry Association of America (RIAA) has focused on illicit MP3 activities, it is clear that legitimate uses of MP3 are on the rise. Sites like MP3.com offer legal music files directly uploaded by original artists. The virtual label EMusic (formerly GoodNoise) vastly expanded its online music offering through a series of unprecedented licensing deals with Rykodisc Records, King Biscuit Entertainment Group, and world music labels such as City of Tribes and the Baraka Foundation. Despite recording industry opposition, Diamond Multimedia, Samsung, Thompson Consumer Electronics, and other hardware companies have introduced trendy portable products like the Rio, a Walkman-like player that uses flash memory to store and play MP3 audio files. Microsoft has bundled an MP3 decoder with Windows 98, and new MP3 stereo components and hard-drive–based players are scheduled for release within the year.

With MP3 on the threshold of mainstream acceptance, the music industry could be radically transformed. Experimental business models based around MP3 have already emerged. As with other early Internet innovators such as Yahoo! and E*Trade , MP3 entrepreneurs are determined to leverage the new dynamics and opportunities provided by the Internet, and entrench before established players enter the field. Although it's not yet clear what the greatest sources of revenue or dominant business models will be, the future holds a more complex marketplace and less concentrated industry for the music business.

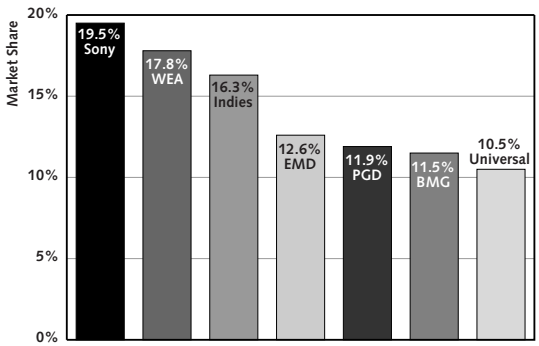
Digital versus physical distribution

● Today's music industry is based on a time-tested model. Artists and record companies gain exposure to consumers through promotional channels like radio, MTV, and movies, and make money from the sale of physical recordings (CDs, cassettes, LPs, and music videos) along with concert tours and merchandise. In this hyper-competitive winner-take-all market, the few artists who achieve fame can reap tremendous rewards, while the vast majority struggle to obtain distribution deals and popular recognition.

Distribution costs and inventory risk play significant roles in the music industry value chain. Record labels have bought up major distributors because making money in the fickle and diffused music marketplace is as much about moving, as producing, musical goods. The traditional definition of a "major" record label is one that controls its own distribution network. In 1998, over 80% of all recorded music was moved to market by distributors owned by the major labels.

Control over distribution — while expensive and risky — has given major labels a stranglehold on the business.

"Independent" labels tend to use the majors' distributors. Even the most powerful and popular artists are wedded to their labels — which control access to mass market sales channels.



Market shares are shown for the first three months of the year
Source: Billboard, April 18, 1998.

Figure 2. Top album distributers — 1998

Today's physical system relies on an elaborate and costly system of intermediaries, including distributors, sub-distributors, and retailers, as well as record clubs and "rack jobbers." These intermediaries help move, market, and sell physical recorded media — contributing more than a third (about $5.50) of the cost to a $15 compact disc in the process.

High fixed production and distribution costs make for an industry heavily dependent on a handful of top-selling artists. The RIAA reports that "85% of records on the shelves today do not recover their production costs."[1] At the same time, the artist typically receives only 15% of the retail price of a tape or CD — minus a series of deductions related to production, marketing, and distribution costs.

For the music industry, virtual and digital distribution transforms important elements of the traditional business model (as represented in Figure 3).

Model	Traditional	Virtual	Digital
Example	Tower Records	CDNow @Tower	GoodNoise or MP3
Order fulfillment	**Retail stores**	**Via mail**	**Online**
Overhead			
Inventory available			
Inventory costs			
Convenience			
Transaction costs			
Copyright concern			

Figure 3. Music industry transformation

Internet-based reintermediation also transforms a number of conventional music industry value elements.

- ***Lower barriers to entry for new artists and new music publishing***. Web publishing exposes listeners to new artists, and free download areas (MP3.com offers over 4,000 songs) provide consumers with free promotional singles to whet their appetite. An opportunity exists for MP3.com and other low-capital digital publishers to carve out new niches in promotion and distribution.
- ***Virtual inventory***. Music sellers can store immense amounts of digital musical content on servers and produce and distribute single tracks, original albums, and customized collections on demand — paying royalties and other input costs only for actual products sold.
- ***Low-to-no distribution costs***. Moving bits is an awful lot cheaper than moving atoms; distribution represents about 33% of the average cost of a CD and cassette. In addition to "virtually eliminating" those distribution costs, a single Web site can service the entire planet — not to mention Wichita, Kansas.
- ***Low retail market entry costs***. It doesn't cost much to set up shop on the Net — about $300,000 for your average retail site; digital delivery eliminates the significant inventory risk that produced an unbelievably complicated returns system in the traditional music industry.
- ***Higher creative royalties***. Eventually digital distribution will drive up artist royalty rates across the board; today, digital distributors such as MP3.com and EMusic attempt to attract artists by offering them royalties of up to 50% (vs. the traditional rate of about 15%) of list price. A fledgling music portal, Riffage.com, recently upped the ante by offering artists 85% of the revenue from sales. In addition to higher royalties, anticipate shorter contract terms between artists and major labels and expect more artists to own master recordings beyond the terms of their contract.
- ***Niche and back-catalog sales***. The Internet makes selling back catalogs an attractive proposition; consumers can readily find the collected works of their childhood heartthrob or make a compilation of tunes from their favorite decade. In the next five years, the biggest chunk of Internet sales growth is expected to come from taking away business from mail-order music clubs.

Digital distribution creates opportunities for Internet intermediaries as well as direct interaction between musicians and consumers.

- ***Music portals***. Audiences, artists, and providers will cluster around portals that organize the chaos of the Internet and address consumer information needs. MP3.com hopes to establish itself as a portal, a reliable point of entry to the entire world of recorded music in this new format. Many Internet radio stations (such as Broadcast.com) are also vying for this space.

- *Licensing/virtual record companies*. New entrants such as the virtual record company EMusic want to license existing content, sign new acts, and represent them on the Internet.[2] Lower cost structures and contingent royalty payment systems enable vastly reduced profitable sales thresholds.
- *Hardware providers*. Diamond Multimedia, developer of the Rio and the first to market with a portable digital music player, has been followed a multitude firms hoping to break into consumer electronics with Internet-based devices.
- *Applications developers*. Hundreds of companies are developing MP3 playback software, encoders, related recording tools, and other applications designed to enhance the creator or customer experience. Freeware and shareware predominate. Providers rely on low-price ($10-$25) registration fees and high-volume distribution.
- *Just-in-time custom CD pressing*. Media replication may move from a "press it - warehouse it - distribute it" model to one in which product is mass customized and pressed upon receipt of a customer's order. Virtual retailers such as CustomDisc.com and CDNow already offer custom compilations drawn from hundreds of thousands of available titles.
- *Rights protection*. BMI and ASCAP, the largest agencies who track and enforce performance rights, have already moved towards a digital model. Working with music portals like MP3.com and new Net broadcasters, as well as traditional radio stations, their ultimate goal is to make the process of registering and tracking usage of their members' musical works completely automated and virtual.
- *Intermediaries*. As a product or service gets cheaper, more of it tends to be consumed. Expect a more fragmented market and more — not less — recorded music available in the future. Increased opportunity will exist for new intermediaries and automated services seeking to help musicians market and sell their products.

As the digital music market grows, new market entrants will continue to unbundle and disintermediate traditional business functions and deliver them digitally. These might include virtual management, accounting, artist and repertoire, record production, mastering, promotion, tour management, webcasting performances and so forth. Contrary to the predictions of some, major labels will continue to play a central role in selecting quality artists, securing distribution channels, physical publishing, and advertising/promotion. Many industry insiders expect labels to place more emphasis on marketing and promotion — principally because of the anticipated explosion of new artists on the Web. Labels will need to compensate for significant increase in the "noise level" that artists must transcend to reach the top. Tim Dolan, former new media executive at Virgin Records, addressed this point at the MP3 Summit: "I don't think spending should go up, I think spending should get smarter."[3]

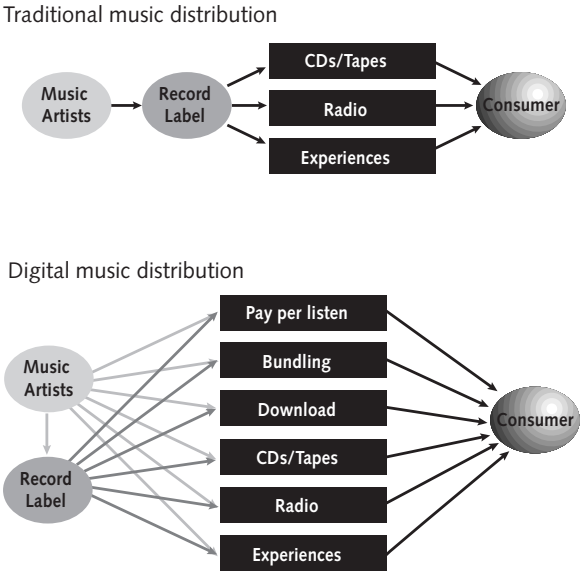


Figure 4. Polymediation models become the norm

MP3 EBC

● Reluctance on the part of the established music industry to aggressively develop commercial digital distribution initiatives has left the field open for new players. Often through partnerships and co-ventures, a group of leading enterprises is working to accelerate the development of a commercially viable MP3 marketplace (see Figure 5).

MP3 Association

● On October 30, 1998, five key players in the MP3 EBC — MP3.com, EMusic.com Inc., Diamond Multimedia, MusicMatch, and Xing Technology, Corp. — announced that they were forming an association to encourage the growth of the digital music standard. Spokesperson Joeli Nelson-Payne said, "The alliance will provide the MP3 community with a united voice in the debate over the future of digital audio and reinforce MPEG 1 or 2, Layer 3 as the primary vehicle for the delivery and enjoyment of online music."[4]

MP3.com occupies a central role in the MP3 EBC. Through its DAM (Digital Audio Music) program, MP3.com offers artists virtual distribution, both MP3 and standard tracks on compact disc, at a 50% royalty rate. It is also the premier MP3 site for music download (as well as software, news, and discussion), and aims to become the Yahoo! of Web music.

EMusic.com is perhaps the purest adherent of the MP3 digital distribution model. By striking deals to license partial catalogs from second-tier traditional labels such as Rykodisc Records (February 1999) and King Biscuit Entertainment (June 1999) for Internet distribution in MP3 format, EMusic has achieved

major coups. EMusic sells single MP3 tracks for 99¢ and albums for $8.99. The label sees an opportunity to sign "really good artists" who may be popular but are being dropped by other labels because they are marginally profitable within traditional cost structures. Initially, they targeted college-aged (18- to 24-year-old) music listeners with an alternative rock catalog listing its own properties and licensed titles. More recently, EMusic has diversified its music selection to include jazz, blues, world music, hip-hop, urban, and electronic.

Diamond Multimedia is a major technology provider in the interactive multimedia market. Its release of the first widely available and affordable MP3 player gave it first mover advantage over traditional consumer electronics' manufacturers in the digital music space. When Diamond was sued by the RIAA in an attempt to prevent further distribution of the Rio, their competitors became hesitant to risk alienating entertainment conglomerates with which they have extensive relationships. Samsung, for example, already had an MP3 player out in the market in Korea but was trying to strike a deal with the RIAA before releasing a device in North America. On June 15, 1999, Diamond obtained a significant victory from the 9th US Circuit Court of Appeals in San Francisco, which found Diamond's Rio MP3 player was not in violation of the 1992 Audio Home Recording Act.

MusicMatch and Xing Technology work closely together to provide applications and plug-ins that enable and extend the capacity of personal computers to record, download, organize, and play MP3 music. MusicMatch is the maker of the popular MusicMatch Jukebox, while Xing is the developer of AudioCatalyst, another popular MP3 player. Xing was recently acquired by RealNetworks to provide the technology for the development of its own MP3 player — the RealJukebox.

Typology

● The MP3 EBC clearly occupies the Alliance quadrant of our typology. It does not have a single leader, lacks the hierarchy found in the rest of the industry, and yet produces a high degree of value integration. The rise of MP3 is a grassroots phenomenon whose genesis resulted from the combination of a new compression standard, hacker-produced software, and the support of music fans (primarily university students). It distinctly manifests the following three core Alliance characteristics:

1) ***Collaboration***. A diverse group of EBC members that includes record labels (EMusic, Platinum, Surfdog/Hollywood, Rykodisc), music aggregators (MP3.com, Dimension Music), and technology providers (Diamond Multimedia, Xing Technology, MusicMatch), as well as thousands of artists, come together to offer customers a new value proposition.
2) ***Standards-based***. Software developers, application providers, artists, and music listeners are united in support and utilization of the MPEG Level 3 audio compression standard.
3) ***Customer-managed integration***. Users engineer a personal listening experience by assembling their own particular content and platform configuration, choosing from a range of software and hardware players, related applications, and thousands of MP3 audio files.

How has MP3 been so successful without centralized leadership, and how have EBC participants coordinated their activities without it? The answer lies in the tremendous value that the EBC delivers to consumers. This value, and MP3's popularity, leaves room for considerable freedom and diversity.

Value proposition

● MP3 has exhibited incredible appeal to both artists and music listeners. MP3's growth is based primarily on the unique value and control it offers online music listeners.

- ***Low cost or free music***. MP3 labels like EMusic offer digital downloads of albums for $8.99 and tracks for 99¢; Web aggregators such as MP3.com offer thousands of free MP3 tracks from independent and aspiring musicians.
- ***Greater choice and diversity***. The promise of MP3 for music fans is the ability to access a much wider variety of music than through existing physical channels. An absence of physical limitations on inventory and low barriers to access for artists will ensure the ongoing development of diverse digital music catalogs and libraries.
- ***Evergreen content***. Many older artists, who get little attention from the big record companies, still have loyal fans. The Internet and MP3 will help those fans and artists connect, while extending the lifetime earning capacity of a work of art.
- ***Online music communities***. MP3 portals such as MP3.com provide music listeners with easy and extensive opportunities to interact (discussion forums), stay up-to-date about MP3 and music events (news and editorial content), learn more about MP3 (FAQs), and find music (links and search engines).
- ***Improved access***. Consumers gain 24/7 access, convenience, and immediate gratification. Music listeners can quickly browse/search extensive online music catalogs, sample, and download near-CD-quality tracks without leaving their homes.
- ***Additional storage and playback options***. Users can easily structure play-lists of MP3 tracks stored on their hard drives into an infinite number of possible orders, with running times far longer than the usual one-hour limit of cassettes and CDs. MP3 listeners with CD ROM burners can store up to 150 MP3 tracks on a single standard compact disc.
- ***Free MP3 software players***. Dozens of freeware and shareware players are offered. Players equipped with extra playback and multimedia features, as well as related utilities, can generally be obtained for $10-$25.

Partnerships and agreements

Date	Partnerships and agreements	Specifics
May 1998	● Diamond Multimedia, MusicMatch Corp., and Xing Technology Corp.	● Licensing agreement that allows Diamond to use Jukebox MP3 software licensed in its Rio player
July 1998	● Xing and MusicMatch	● Joint marketing and development deal which includes Xing purchasing 10% equity share of MusicMatch
October 1998	● Diamond Multimedia, GoodNoise, and The Z Company (which operates MP3.com)	● Agreement to co-promote Rio PMP300 portable music player, bundling MP3 tracks
November 1998	● Diamond Multimedia and Liquid Audio	● Working together on means to support more secure implementations of downloadable music
January 1999	● Liquid Audio, Mp3.com, Diamond Multimedia, Sub Pop Records, etc.	● Form Genuine Music Coalition and release a software kit allowing creators of MP3 files to add traceable "watermarks" to their songs
January 1999	● MP3.com and Sequoia Capital	● Sequoia invests $10 million in MP3.com to assist the site in becoming "the Yahoo! of music"
January 1999	● Diamond Multimedia and Liquid Audio	● Liquid Audio will incorporate the Diamond Media Device Manager into its Liquid Music Player to enable the Rio to play Liquid tracks
January 1999	● Diamond Multimedia and Audible	● Audible will make part of its library available in MP3 format and the two will work to ensure that content can be downloaded to Diamond's portable player — the Rio
February 1999	● MP3.com and Audible	● Audible joins MP3.com to add a significant selection of spoken word audio to MP3.com, including the New York Times Audio Digest
March 1999	● GoodNoise, INVESCO, idealab! Capital Management, and others	● GoodNoise raises $31 million from venture capitalists to purchase new content
April 1999	● Xing and Real Networks	● Real Networks acquires Xing Technologies for $75M in preparation for the development of its own MP3 player
April 1999	● MusicMatch and Thompson Electronics	● Thompson takes 20% stake in MusicMatch to help make improvements to its MP3 software package
May 1999	● MP3.com and No Limit Records	● MP3.com obtains rights to songs from platinum-selling hip hop artists such as Master P and Snoop Dogg from No Limit Records
June 1999	● MP3.com and Atlas/Third Rail Management, Inc.	● MP3.com entered into a consulting arrangement with Atlas/Third Rail Management, Inc., to conduct promotional activities like sponsorship of the Alanis Morissette and Tori Amos "5½ weeks" summer 1999 tour
June 1999	● MP3.com and Cox Interactive Media	● Cox Interactive Media invests $45 million in MP3.com. Both companies will collaborate to create a number of music-related Web sites.
June 1999	● MP3.com and ASCAP	● Work together to further mutual goals. MP3.com gets unlimited license to ASCAP material. ASCAP gets prominent exposure on MP3.com.
July 1999	● EMusic (formerly GoodNoise) and Epitah	● EMusic partners with premier punk rock record label Epitaph to promote and sell portions of the Epitaph catalog in the MP3 format.
August 1999	● EMusic, AOL, ICQ, Spinner, WinAmp	● Emusic partners with AOL, ICQ, Spinner, WinAmp to cross-promote downloadable music products through reciprocal links, Web advertising and other marketing initiatives
August 1999	● EMusic and Blackout!, Cacophone, Coolidge, Fearless, Radical, Taang!, and Torque Records (among others)	● EMusic signs new digital distribution agreements with 10 more top independent punk rock record labels

Figure 5. Partnerships and agreements

- *Convenient portable players.* Solid-state MP3 portables are extremely small (some the size of a credit card), skip-free, and can run for 12 hours on a single battery. While most hardware players are relatively expensive today (averaging about $200), prices are falling (Diamond's first release of the Rio is now selling for $119) as memory prices decline and a mass market emerges.

Strategic options

● True to the high-paced, evolutionary nature of e-business communities, the dynamics of the MP3 EBC are showing signs of change. New strategies revealed by some leading players in the MP3 space signal a significant shift away from an Alliance model — in which a range of content and technology providers produce a virtually integrated solution for MP3 consumers. Agile companies like Diamond Multimedia are shifting into new competencies and moving towards an Aggregation model — in which a centralized leader aggregates content, software, and value-added services for customers.

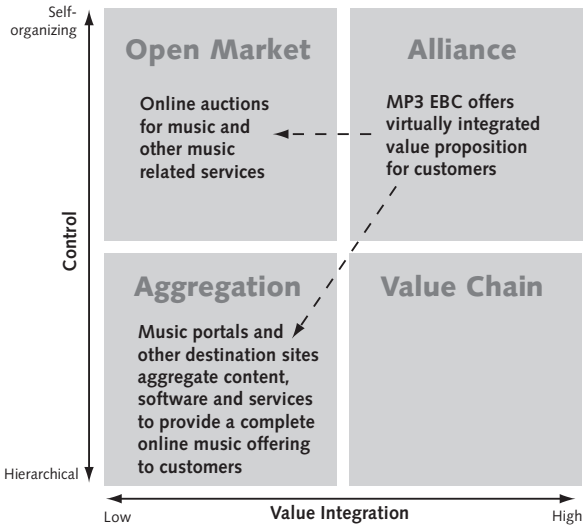


Figure 6. Strategic options

Five layer value analysis

	Who contributes value?	What/how do they contribute?
Customer	● Music listeners	● Knowledge, preferences ● Demand ● Payments
Context	● Music portals	● Immediate and affordable access to a large number of MP3 files ● Access to software and hardware ● Aggregation of content and users ● Forums for discussion ● Information/knowledge ● Services for artists and users
Content	● Artists ● Music labels ● Music portals ● Users	● MP3 music files ● Artist Web pages ● MP3 news and articles ● Online music events ● Discussion, feedback ● Music rankings
Commerce Services	● E-commerce applications	● Convenience, immediate gratification ● Secure online purchasing system ● Payment collection
Infrastructure	● MPEG ● Hardware suppliers/software developers ● Telcos/ISPs	● MP3 audio compression standard ● Playback, creation, recording, encoding, storage, content management, portability ● Internet access

Figure 7. Five layer value analysis

For example, on June 24, 1999, in conjunction with the release of the Rio 500 player, Diamond spun off a new company, RioPort. RioPort aims to offer consumers a new online gateway to aggregated content and a fully integrated platform for downloading, playing, and recording digital music. In August, RioPort launched its own ripper, player and music manager software (formerly provided by MusicMatch), as well as a new Web site (RioPort.com) with its own content, in addition to content funnelled from MP3.com, EMusic, Audible, and many others. Ironically, RioPort now intends to make security a priority — its digital distribution system will employ digital rights management technology from InterTrust and a digital content clearinghouse, Reciprocal. RioPort has also announced support for playing and encoding music in Microsoft's MS Audio codec. According to RioPort president David Watkins, the major labels have already expressed enthusiasm for the RioPort initiative.

Diamond's recently announced initiatives place them in direct competition with other participants in the EBC. If the major labels come into the fold, RioPort will have positioned themselves to be a leading gateway to digital music on the Web.

Case study: MP3.com

● As a pinnacle of the MP3 community, and the most successful purveyor of digital music, MP3.com is an appropriate subject for a more detailed investigation of its business model, revenues, strategy, partnerships, and competition.

Figure 8. MP3.com screen capture

History

● MP3.com was spawned from The Z Company, an enterprise that was founded by Michael Robertson and was primarily focused on merging search technologies and commerce. MP3.com was incorporated in March 1998, with the intention of pioneering a revolutionary approach to music distribution on the Web. MP3.com grew slowly at first. Most of the first year was spent developing the infrastructure necessary to download music on the Internet.

Since the beginning of the year, MP3.com's growth has been dramatic. On December 31, 1998, MP3.com had only eight employees. This increased to 54 employees by March 31, 1999 and to 96 employees by May 31, 1999. Net revenues were $1,162,000 during 1998 and $666,000 in the first quarter of 1999. In the second quarter of 1999, revenues increased to $1.9 million. By July 21, MP3.com had completed its IPO of 13.7 million shares, raising approximately $361 million towards future growth.

Over time, MP3.com has also become a key community enabler — serving as a source of information, discussion, and organization for MP3 enthusiasts. Its second annual MP3 Summit, held June 15-16, 1999, in San Diego, drew over 1,000 attendees — up from 200 the year before.

Accomplishments to date

● MP3.com has created a broad-based music community including over 14,000 artists and 120 independent labels that have posted more than 100,000 songs on MP3.com. Since inception, it has digitally delivered more than 34 million songs to consumers. May 1999 proved to be a record month for activity on the MP3.com Web site:

- An average of 105 new artists and 780 new songs were added each day
- Over 5 million visitors to MP3.com viewed over 56 million pages, listened to or downloaded over 9 million songs, and conducted over 5.1 million music searches
- MP3.com sold on average over 275 DAM CDs (see below) per day

Business model

● MP3.com has leveraged the rich communications and commerce potential of the Internet to develop a unique business model that provides many advantages for artists and consumers. MP3.com allows users to download thousands of songs for free, and relies on sales from its Digital Automatic Music (D.A.M.) system to generate revenue from digital music. The DAM system allows artists to produce, market, and sell their CDs through MP3.com, as long as they agree to offer one promotional song for free download.

In addition to providing value to consumers, MP3.com must attract top artists with a compelling value proposition in order to achieve profitable growth. The following are powerful incentives for artists to join MP3.com over traditional music labels:

- ***Control over distribution.*** MP3.com offers artists a distribution model that allows them to upload and promote their music through their own MP3.com Web page, control pricing of their music, and earn a 50% royalty rate on sales of their DAM CDs. Artists can have a fully packaged CD available for sale to consumers within as little as 48 hours of registration by using MP3 technology to digitize their music.
- ***Global and local exposure.*** Established artists can use the MP3.com Web site to reach a global and growing base of consumers. Little-known and local artists can promote their music to a targeted local audience while simultaneously reaching a broader worldwide audience.
- ***Innovative marketing and promotion.*** Artists can achieve "point-to-point" communications, enabling them to interact with their fans and present music, messages, and other content to them.
- ***Access to consumer feedback and statistics.*** Aggregated Web site data, sales figures, and demographic analyses allow MP3.com to offer artists sales, marketing, and other information that enables them to define, evaluate, and connect with their fan base.

Figure 9. Traditional versus Internet music economics
source: Forrester Research Inc.

Revenue

● MP3.com's model for conducting business and generating revenues is still new and largely unproven. Their business model depends upon their ability to generate revenue streams from multiple sources through their Web site, including the following:

- Web site advertising fees from third parties
- Online sales of CDs and music-related merchandise
- Promotional activity fees
- Marketing artist and consumer information

In the foreseeable future MP3.com will depend substantially on revenue from online advertising. In 1998, revenue from online advertising accounted for 91% of net revenue. In the first quarter of 1999 it accounted for 84%. Revenue from online sales of CDs and other music-related merchandise continues to be negligible at $106,000 (16% of net revenues) in the first quarter of 1999. Some products in development, such as pay-per-view concert Web casts and a series of concerts and festivals featuring headliner bands and regional bands that have posted music on MP3.com, hold some promise for generating revenue in the future.

Key strategic considerations

● With an influx of funds from its recent IPO, MP3.com has sufficient capital to launch a veritable attack on large industry players. Key strategic considerations for MP3.com include:

Diversify revenue streams

To date, MP3.com's primary focus has been on building an advertising-based model that offers advertisers the opportunity to target specific music fans regionally and globally. Its growth depends on expanding its e-commerce initiatives and leveraging its ability to develop a variety of direct marketing, data-mining, and advertising services based on the information extracted from large demographically and geographically profiled audiences.

Build a global community of artists

A key component MP3.com's strategy is to continue to expand its community of artists so that it offers the largest group of artists online. Compelling economics and specialized services, such as auto-e-mail notification of new music postings, regional concert calendars, and online concert ticketing, will increase the number of unsigned artists using MP3.com and lure popular artists away from exclusive contracts with major labels. In the absence of available top-selling artists, MP3.com should endeavor to develop its own homegrown "music stars."

Create a unique and robust music-based experience for the customer

MP3.com needs to create an unparalleled experience for customers by offering one of the largest collections of music available online, a rich browsing experience with multiple genre and geographical search classifications, and a cost- and time-efficient way to purchase music. Value-added services such as interaction with artists, personalized news, editorials, and advertising, and customized CD sales will be critical to retaining and increasing its customer base. As bandwidth improves, expect MP3.com to deliver live concert series and an increasing array of interactive multimedia experiences.

Increase brand awareness

The major labels' unpopularity and lack of brand recognition will work against their ambition to become the filter that music consumers turn to — MP3.com must take advantage of this. To increase brand awareness, MP3.com must pursue a

combination of online and offline advertising and promotional activities. Achieving greater offline awareness by targeting radio, television, and magazine advertising, book publishing, and new promotional arrangements with established music talent is highly important. Co-branding with popular artists and consumer brands will draw attention to MP3.com and attract visitors to the site. Finally, MP3.com needs to capitalize on existing brand awareness in key demographic sectors — namely the techno-savvy college and university population.

Expand international presence

MP3.com should increase the number of international artists and consumers. Currently, artists from countries outside the US represent approximately 40% of its online artist community. Moreover, approximately 23% of its DAM CD customers during May 1999 were from foreign countries. Foreign language content, multi-level geographical indexing capability, global reach, and international rankings are significant attractions for users from around the world. MP3.com intends to focus its efforts on Europe and Japan.

Support new technology formats and standards

In a highly unpredictable competition for standards, MP3.com should prepare to support a variety of leading audio compression formats. It currently offers music in both the MP3 and RealAudio formats. The intention is to support standards that achieve acceptance by the Internet community.

Recent strategic partnerships

● MP3.com has recently formed several strategic relationships that will help the company increase its music content, brand awareness, and electronic commerce opportunities. In June 1999, Cox Interactive Media, Inc. invested $45 million in MP3.com and together they formed a joint venture to create and operate music-related Web sites. MP3.com also entered into a consulting arrangement with Atlas/Third Rail Management, Inc., to conduct promotional activities like sponsorship of the Alanis Morissette and Tori Amos "5½ weeks" summer 1999 tour. On June 16, ASCAP (American Society of Composers, Authors and Publishers) and MP3.com revealed a unique relationship that clearly provides great strategic and financial benefits to both. As part of the agreement, MP3.com will be granted unlimited interactive performances of 4 million copyrighted works from ASCAP's 85,000 members. MP3.com and ASCAP will partner to co-host national music showcases and educational workshops, online and off line. They're also planning to create an interactive ASCAP "radio channel" to be broadcast from the MP3.com Web site. Additionally, MP3.com recently entered into a three-year license and promotion agreement with Boutit, Inc., also known as No Limit Records, which represents platinum-selling hip-hop artists such as Master P and Snoop Dogg.

Competition

● The success of MP3.com's business model is premised upon its ability to continue to stay ahead of the traditional music industry in the value of services it offers to artists and consumers. In addition to traditional music industry players, MP3.com faces stiff competition from providers of online music content such as EMusic and Riffage.com, companies offering other compression technologies such as Liquid Audio and Microsoft, destination sites such as online music retailers like CDNow and Amazon.com, and online portals like AOL, Lycos, Yahoo!, Excite, and others. For now, and into the foreseeable future, MP3.com will continue to attract artists and consumers who have been underserved by the traditional music industry. However, to become profitable, MP3.com will have to differentiate itself from competitors in the following ways:

- Enhancement of its offerings to consumers
- Quantity and variety of content
- Ability of consumers to customize their music experience by searching and sampling music according to their preferences
- Ease of downloading music
- Fidelity and sound quality
- Ability to promote its Web site, both online and through traditional advertising and marketing, concerts, and strategic alliances

Future of the music industry

● MP3 has been around for a decade, but it didn't start attracting users until about 1995. As MP3 grew quickly but quietly, the record companies never imagined that the Internet and an audio compression standard could mobilize a revolution in music distribution. By 1997 when the mainstream media picked up on MP3 as a threat to the traditional industry, it was too late for the record companies to do anything to stop it.

Enormous opportunities now await those who act quickly to leverage the existence of the thriving MP3 community. Since March 1999, many indicators have emerged that suggest that an economically viable and legitimate market for MP3 is on the rise. Increases in consumer awareness, Web site traffic, available popular content, portable hardware devices, and strategic partnerships are among some of the current forces building critical mass for MP3. Indeed, the major labels' current rush to hop on the digital delivery bandwagon is indicative of MP3's success.

Unfortunately, obsession with control, piracy, and proprietary standards on the part of large industry players will likely result in squandering the possibilities opened up by MP3. Rather than embrace MP3, the industry has adopted a defensive posture, focusing on the immediate problem of piracy rather than the greater long-term threat digital distribution poses to its

business model. Certain artists and individual labels have experimented with digital distribution — using MP3 for promotional uses — but stopped short of using an insecure format for commercial purposes. By the time of publication, most of the major labels will be well on their way to releasing portions of their catalogs in a range of proprietary standards. As for MP3, the industry has remains fixated on piracy — driven by the concern that MP3 "enables any teenager to become the publisher of Madonna's music...worldwide."[6]

> *"The public has the technology before the industry does, and they fear it."*[7]
>
> Chuck D, Public Enemy

Digital distribution pioneers

● A number of innovative labels dabbled in digital distribution as early as 1996 — both in relation to MP3 and a competing secure standard, Liquid Audio. In November 1996, in conjunction with Internet music retailer N2K, David Bowie gave away promotional copies of "Telling Lies" in an MPEG format. Proving that you could attract consumers to digital download, 300,000 Bowie fans reportedly downloaded the single in various formats from his official Web site.

Capitol Records, an EMI Recorded Music label, gets credit as the first major label to launch a commercial release exclusively on the Internet. In September 1997 — for 99¢ payable only by credit card — Capitol offered Duran Duran's Electric Barbarella single for digital download in the Liquid Audio format. Online buyers also received a key that enabled them to preview the group's upcoming video on the Web. The site also offered links to online music retailers CDNow, MusicBlvd, and Towers Online, which were accepting prerelease orders for hard-copy versions of the group's new CD.

The experiment earned Capitol Records the wrath of retailers, furious that it would set the precedent for circumventing traditional channels. One industry insider, who asked to remain anonymous, told us that even though the release involved "a minor album from a faded band," Capitol "got spanked by all the retailers." The experience caused Capitol to back away from similar endeavors: Capitol executive vice-president Liz Heller said, "We're taking a breather."[8]

For a period of time, various well-known artists, including Billy Idol, the Beastie Boys, and Public Enemy, experimented with using MP3 for promotional releases of individual tracks. In all three cases, however, record company objections forced the artists to put an end to their MP3 experiments. Finally, Public Enemy broke with their label Def Jam in order to realize their ambition to leverage new forms of digital distribution. Signing with Atomic Pop, a new Web-based label founded by industry veteran Al Teller, has enabled Public Enemy to become the first multi-platinum artist to offer a full album in MP3 format. Their new release, There's a Poison Goin' On, is available for digital download from the Atomic Pop Web site.

MP3 goes mainstream

● Evidence is mounting that the enthusiasm for digital music generated by MP3 is quickly metamorphosing from a preoccupation of Web-savvy college students to a mainstream phenomenon. MP3 has now replaced "sex" as the most common search criteria on the Internet, and the phenomenon surrounding MP3 has saturated many online and physical news channels. Beyond the media hype, some statistical evidence supporting claims that a viable consumer market for digital music exists has recently emerged.

Until now, most available information about the emerging online music scene has related to supply-side changes in the industry — entrance of new industry players, new partnerships, changing personnel, etc. These supply-side changes do not necessarily tell us anything about the market for downloadable music — the demand side. Finally, a *WebnoizeInside* survey of 1549 college students, 770 of whom were tracked between December 1998 and April 1999, highlights some important market trends in the development of MP3 into a popular legitimate format. The following are some key findings outlined by Dr. Ric Dube, Webnoize senior editor, during the MP3 Summit '99 panel, *The Cold Hard Facts: Music Commerce on the Net*.

- Awareness of downloadable music jumped from 12.9% in December 1998 to 35.1% in April 1999. Eighty percent of those surveyed learned about downloadable music from the media.
- MP3 continues to be the most widely recognized format. Over the five-month survey period, awareness of MP3 jumped from 7.9% to 59.4% (a 750% increase), surpassing the awareness of downloadable music generally.
- Many of the consumers who have recently begun to download MP3 files are quickly becoming regular users. The percentage of respondents who have never downloaded an MP3 file decreased from 95.2% to 67.6%. Meanwhile, the percentage of respondents who have downloaded over 250 MP3 files increased from 0.5% to 13.9%.
- The majority of consumers still get their MP3 files from e-mail, chat, or ftp servers. Only 5% of those surveyed get their music from Web sites.
- The legal use of MP3 files is up from 1.7% to 13.5% — a factor of 800%. Adam Ryner, senior analyst for Webnoize Inside, offers this statistic as proof that "…online consumers will use legitimate content when its available."[9]
- The use of portable players has also risen. In December, 1.6% of respondents had used a portable player. By April, the percentage rose to 5.9%.

Webnoize also gathered data on current market inhibitors. The following factors, or "dealbreakers," are the leading reasons why consumers would not purchase downloadable music.

- 79% — cover art and liner notes aren't available
- 37% — cannot easily transfer the music to cassette or CD
- 21% — cannot listen to the music away from their computer

EMusic also released results of market research generated from its own Web site during the MP3 Summit. Key findings included the following:

- 70% of transactions on its site are for full-length albums, a surprising statistic for many who assumed that consumers would take advantage of the ability to purchase single tracks
- The majority of consumers come back for more
- 20% of sales come from outside the US
- There is a high demand for content not available in physical outlets

Key consumer demands included:

- The ability to make multiple copies of MP3 files and take the music with them in their car and other listening environments
- Improved sound quality, especially for jazz and classical enthusiasts
- Greater breadth of content available through the Web
- Better software with improved user interfaces
- Artwork and liner notes, although not necessarily on paper

MP3 players and applications proliferate

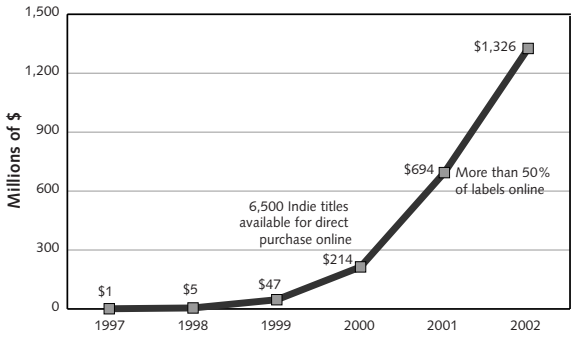
● One clear sign of a burgeoning online music community is the proliferation of hardware devices to playback, record, and organize MP3 files. The technology and new media firms that make portable MP3 players got a significant boost when the RIAA's lawsuit against Diamond Multimedia — an attempt to maintain their monopoly on music distribution — was defeated in the courts. The Judge ruled that the Rio is not a recording device and therefore not covered by the Audio Home Recording Act of 1992. With legal sanction, competitors are now racing to offer the greatest functionality and storage capacity at the lowest price.

Most MP3 players now offer a wide array of features. Line-in recording to enable users to digitize their favorite music, more advanced recording features such as fade control, equalizers to enhance playback, and user-configurable playback lists and music libraries are all standard features. In addition to playback and recording devices, technology companies are creating innovative applications and hybrid devices — including MP3-playing cell phones — that capitalize on the growing popularity of MP3. The following is a small sampling of devices currently on the market.

- Called the most powerful endorsement of MP3 by a major industry player, RealNetworks launched an MP3 player called the Real Jukebox. RealNetworks opted to please the consumer by not employing encryption technology and by adding encoding functionality.
- British company SSEYO launched new Internet-focused music software with MP3 sample support called Koan. According to company co-founder Tim Cole, "The Koan approach gives musicians, Web site developers, and developers another rich MP3 seam to explore."[10] This generative music system allows the creation of ultra-compact pieces of music that can drive web animations using Flash, DHTML, and JavaScript.
- VaroMan Plus, created by VaroVison, and raveMP, by Sensory Science, are pocket-sized digital devices that provide a personal organizer, digital voice recording, and removable data storage, in addition to playing MP3 files
- A German company, MAYAH, has created the first universal MP3 editor that enables DJs, musicians, and creative users to preserve sound quality by directly editing MP3 audio without decoding tracks to wav format and then back to MP3
- ReQuest Inc. has revealed a stereo component system, AudioRequest, that stores, organizes, and plays up to 150 hours of CD-quality music using the MP3 compression format. The unit includes a CD player, line-in recording, and a parallel port to enable users to download music directly from the Internet.

Internet portals invest in MP3

● Internet portals are the latest players to spend money on MP3 enterprises. AOL, Yahoo! and Lycos have made strategic acquisitions to gain a strong foothold in the emerging market for music online — each ultimately vying to be the "one-stop shop" for digital music. Their investments lend a significant amount of legitimacy and confidence to the emerging digital music industry (see Figure 11). Such major investments in digital music are leading analysts to predict a major increase in revenue from online music communities (see Figure 10).



Source: Forrester Research, Inc.

Figure 10. Revenue from wired communities

Internet portals aquire MP3 start-ups

Portal	Aquisition	Date	Significance
Lycos	● Internet Music Distribution, Inc., makers of the popular Sonique MP3 player	● August 1999	● Lycos plans to incorporate Sonique into its MP3-related offerings, which include playback tools and services, and an MP3 search engine*
AOL	● Nullsoft, developer of the leading MP3 player — WinAmp ● Spinner Networks, creators of Spinner.com, an Internet radio service	● June 1999	● AOL plans to make next-generation music features available to consumers, including live and Internet-only radio, sporting and other public events, and downloadable music, along with directory, search, commerce, and community features
Yahoo!	● Broadcast.com, aggregator of streaming media	● May 1999	● Acquiring broadcast.com enabled Yahoo! to expand the services of Yahoo! Radio.

* Yahoo! was reportedly interested in purchasing Sonique, but was beat out by Lycos

Figure 11. Internet portals aquire MP3 start-ups

SDMI

● Legacy companies have few options when confronted with upstart competitors. They can do nothing. But this leaves them vulnerable. By the time they respond, the new competitors have gone public and have a war chest to fight established firms. Second, they can try to get in early. But that is both expensive and risky, as companies could easily invest money in a dud technology. Third, they can work both the traditional business and the new business model. But that entails extra expense.

> *"The music industry is like an ocean liner. It's travelling in one direction and it takes a long time to turn it."*[11]
>
> Jim Griffin, former entertainment technologist, Geffen Records

In the beginning, the record companies did nothing. Their strategy was to hold their breath until they turned blue, refusing to release music until a scheme that would protect their interests could be implemented. Sure enough, upstarts like MP3.com and EMusic established themselves in the absence of industry action.

After waking up to the fact that MP3 upstarts were rapidly gaining ground, the recording industry finally began collaborating in an attempt to turn the tide of digital music in its favor. Its first major initiative in support of digital distribution is the Secure Digital Media Initiative (SDMI). Launched in December 1998, SDMI brings together technology and recording companies in an effort to develop a common security standard that would work with any compression algorithm chosen by the content creator. As Steve Marks, deputy general counsel at the RIAA, puts it: "The idea is not to come up with a compression of choice for the industry...the idea is to have an open security spec that would enable anybody to use whatever compression algorithm that they wanted, and build whatever business would be successful from there."[12]

The first meeting of the SDMI coalition took place in late February 1999 in Los Angeles — reportedly without developing a concrete strategy for achieving its ambitious goal of agreement on a standard in time for the year-end holiday sales period. Instead, the coalition focused on organizational issues and ground rules for industry cooperation.

A consensus on secure digital music delivery was finally reached during a meeting in London in early May. The SDMI proposal, which entails two phases, is premised on the use of an embedded watermark[13] in digital music files that will allow software and hardware devices to distinguish between SDMI-compliant and non-SDMI-compliant content. In Phase I, portable devices will accept any content, regardless of format or legitimacy. However, software applications supporting portable devices will contain a trigger that will prompt users to upgrade to Phase II technology (once such technology is available), in order to continue to play SDMI-compliant files. Phase II technology will reject pirated versions of SDMI content that does not contain the embedded watermark.

Although the music labels would have preferred otherwise, Phase II players will continue to support "legacy content" such as MP3 files. After reaching an impasse on the issue, the record executives were steered clear of the idea of discontinuing MP3 playback by technology firms during the London meeting. Jim Burger, an SDMI representative for companies like IBM, Hewlett Packard, Microsoft, Compaq, Intel and others, said "[A phase-out of MP3] will not happen as long as

our group is participating in this process. It will be in the spec over our dead bodies."[14] Software companies, in particular, are mindful of the consequences of trying to impose unpopular security measures on their customers. As Burger says, "Whenever our [member] companies have released software that obsoletes other people's data, we've been creamed. We have a real economic interest in not letting something like that happen again."[15]

> *"It's not coercion. It's simply saying if you want the newest and latest stuff easily, come play by the rules."* [16]
>
> Howie Singer, Senior VP, business development, Reciprocal

Despite reaching a consensus on the security specification, a great deal of uncertainty still remains as to how successful SDMI will be. For fear of being locked out of the mainstream music market, most key players in the digital music industry continue to say that they will comply with the initiative once finalized (only MP3.com and Greenwitch.com openly oppose SDMI). But the crucial question regarding success or failure is, how will SDMI be received by music consumers? Two prominent but divergent responses to this question are at the center of the current ideological and strategic struggles over the future of the music industry.

Those supporting open standards insist that this backwards-looking attempt to extend the music industry's distribution clout into cyberspace by imposing rules on user behavior runs contrary to the logic of a networked economy. They predict that SDMI will ultimately fail due to the restriction on consumer rights, the centralization of power within the major labels and technology providers, and, as Michael Robertson says, "[the subjection] of artists to the same economic structure that has served them poorly for a very long time."[17] Even Howie Singer of Reciprocal admits that there is a chance that consumers will reject SDMI. Singer says, "I would argue that if [the rules] are made onerous to consumers, consumers simply won't accept it."[18]

On the other hand, those supporting SDMI maintain that the implementation of a secure means of distributing digital music is the only means of bringing "mainstream" content, and therefore more music consumers, to the online music marketplace. They believe that if the process of acquiring music online is simple, reasonably priced, and the security doesn't stand in the way of what the consumer wants to do — within reason — then the attraction of popular music will draw consumers to SDMI-compliant suppliers of devices, players, and content. Furthermore, SDMI proponents claim that even independent artists who have used MP3 to create consumer awareness want a viable commerce system through which they can control set pricing for their music.

For more on open music distribution systems versus proprietary digital rights management systems see, *Open systems vs. digital rights management: Let consumers decide*, on page 17.

Madison Project

● IBM has teamed with the five major record labels to gain a better understanding of digital music distribution through a pilot project in the San Diego, California area. One thousand families will be chosen from about 17,000 Time Warner subscribers with Road Runner high-speed cable modems. Using the broadband delivery system, test families will be able to browse and sample a selection of titles and make purchases with their credit cards. They will be able to download full-length albums to their PCs in about 10 minutes, including graphics and text. Music files can then be recorded to MiniDisc or CD with provided hardware. Initially, about 1,000 albums, both current hits and catalog titles, will be available from a variety of music genres.

Based on an "open architecture" that includes a clearinghouse similar to that used by the banking system for authorizing and processing transactions, the Madison Project has been a closely guarded secret during its two years of development at IBM. To date, it's not publicly known what compression standard is being used. Also unclear are details about how and whether the so-called "open architecture" will interoperate with other technologies, and how the project fits into SDMI.

Leading voices in the MP3 community have criticized the initiative for trying to replicate a physical world model on the Net. Doug Reece, formerly of *Billboard Magazine*, now editor at MP3.com, writes, "Madison doesn't appear to offer much in terms of the value, flexibility, and convenience that has been the promise of the digital age."[19] In terms of cost, for example, apparently consumers will have to pay the full sticker price — despite the fact that digital delivery reduces costs for producers and consumers supply a significant amount of their own labor and connectivity.

Beyond piracy

● Combating piracy of its members' musical work has always been an important element of the RIAA's mandate. However, in the view of the RIAA, the Internet raises the ante: "Given the speed and ease of widely transmitting information on the Internet, the potential harm to copyright owners is exponentially greater than traditional acts of piracy."[20]

The RIAA has a staff devoted to fighting MP3 piracy. It sends out specialized Web crawlers to locate pirate sites and lawyers to shut them down. The RIAA's most famous battle, however, was its unsuccessful attempt to prevent the release of the Rio player. In arguments outside the courtroom, the RIAA emphasized that the creation of a legitimate Internet music marketplace would be undermined by piracy facilitated by the device.

Major labels jump on the digital distribution bandwagon

Major label	Technology partner	Date	Significance
Universal	InterTrust/Reciprocal	May 5, 1999	Universal, the first to announce plans to digitize music before the completion of the SDMI process, signed with InterTrust and Reciprocal to use their Digital Rights Management (DRM) system. Universal will sell digital music from its GetMusic Web site - a new online venture formed in partnership with BMG
Sony	Microsoft	May 13, 1999	Sony will use MS Audio 4 to encode singles - rather than albums - that will be sold from the Sony Web site and other online retailers
EMI	Liquid Audio	June 20, 1999	EMI hired Liquid Audio to use its format to encode as much as their library as possible before releasing digital music to consumers before Christmas
BMG	InterTrust/Reciprocal	June 30, 1999	BMG followed Universal in its adoption of the DRM system provided by InterTrust and Reciprocal. In addition to music, BMG plans to offer software and "traditional publishing materials" through the DRM system.
Warner Bros	Real Networks	August 16, 1999	Warner Music Group will offer songs for download via Real Jukebox from the Trans World Entertainment e-commerce site

Figure 12. Major labels jump on the digital distribution bandwagon

Most people in the MP3 EBC do not share the view that Internet music piracy is "exponentially" more dangerous to the music industry. According to Ken Wirt of Diamond Multimedia,"It's a lot easier to catch pirates on the Internet than it is to catch people who bootleg CDs at a flea market. Do a little experiment: go into your favorite search engine, type MP3, and you'll get 20,000 hits or whatever. Click on those links – I guarantee that 98% of the links that you click on are going to be broken. The ones that look like pirate music – they don't work."[21]

Web crawlers, in combination with server and domain identifier utilities, make finding the ISP hosting MP3 music sites very easy. Once notified, ISPs tend to quickly shut down offending sites or have illicit music files removed. Recent copyright legislation, notably the No Electronic Theft Act and the Digital Millennium Copyright Act, gives the recording industry new legal clout in fighting pirate sites and identifying repeat offenders.

The established record industry has been roundly criticized for an obsessive attention to piracy. The Campaign to Support Digital Audio Freedom of Expression (CAFÉ) — a new online campaign launched by the Electronic Frontier Foundation (EFF) — is but one example of an attempt to preserve the public's ability to exercise all lawful uses of music and digital audio equipment. In his keynote address to this year's MP3 Summit, co-founder of CAFÉ John Perry Barlow suggested that returning control to those who create and establishing good relationships with customers are more valuable initiatives than vigilantly protecting copyright.

While the strongest criticism anti-piracy measures comes from the MP3 community, many mainstream business publications have questioned the music industry's resistance to the Internet:

"But with security still lacking — and fearful of straining their ties to retailers — the six majors (Bertelsmann, EMI-Capitol, Universal, PolyGram, Sony Music, and Warner Music) are sticking to promotional use, stopping well short of commercial downloads. But by doing this, they risk missing the boat, just as film studios did in the early 1980s when they opposed the VCR, only to cede lucrative distribution and retail markets to Blockbuster Entertainment and others."[22]

Michael Robertson, CEO of MP3.com and a leading voice in the MP3 EBC, offers this advice to the established recording industry:

"Undoubtedly, the concern over music piracy cutting into profits is of grave concern. But it's not clear that even accounting for losses to piracy, the music industry as a whole will make less in a digital world than in the current marketplace. It is probable that easier access to song titles might spur music

sales and make it easier for bands to reach their audiences. The economics of digital music makes it possible for bands to be closer to their fans, making it possible for bands to appeal to a smaller listener base and still be profitable.

The recording industry should embrace the digital audio movement. It will allow them to showcase far more artists than the relatively small number of mainstream artists now promoted by the major labels. It also has the power to allow for innovative products and to give users more choice (say, to buy a single rather than a whole album) and instant gratification of electronic sales."[23]

Emerging competitors don't view piracy as a reason not to use MP3 or not to move into the Internet marketplace. Shortly after launching the virtual label EMusic, president and CEO Gene Hoffman stated, "Our strategy is going to be to make it easier to buy the music than steal it."[24] More recently, commenting on a licensing deal with Rykodisc Records, Hoffman made this point: "Piracy right now exists in the void of legitimate product. In Prohibition, people made wine in their homes, but once you could buy it, they went to the stores."[25]

No encryption system is going to eliminate piracy — most importantly, because the vast majority of pirated tracks don't originate from digitally distributed music. Instead, they come from an estimated 11 billion standard audio compact discs in circulation today, and millions of personal computers with compact disc drives. As well, hackers will continue to find ways to crack encryption, something leading encryption providers Liquid Audio and a2b music learned recently when a "crack" called a2b2wav was posted on the Internet. The program enabled users to convert encrypted files to the unencrypted WAV format. Casting further doubt on the technological resilience of security schemes like SDMI, Dimension Music reported the posting of a crack to the recently released audio codec from Microsoft, MS Audio 4, on August 17, 1999. The crack, called "unfuck," was tested by MP3.com and genuinely disables all of the security features in the MS audio file.

Music pirates are also becoming harder to track down because they've shifted to using IRC (Internet Relay Chat) and Web sites that operate just a few hours a day. This is actually good news for the recording industry: if it's difficult for experienced piracy trackers to find such sites, it will be impossible for the vast majority of consumers. If the industry maintains reasonable vigilance, it can create an environment where the time-value ratio involved in finding pirate sites will be high enough to deter otherwise tempted consumers.

Implementation

● Much of the MP3 EBC's success has stemmed from the tremendous momentum created by the widespread, though generally underground and decentralized, adoption of the MP3 standard by millions of online music listeners. To move forward, it will need to navigate an increasingly mainstream, complex, and competitive space.

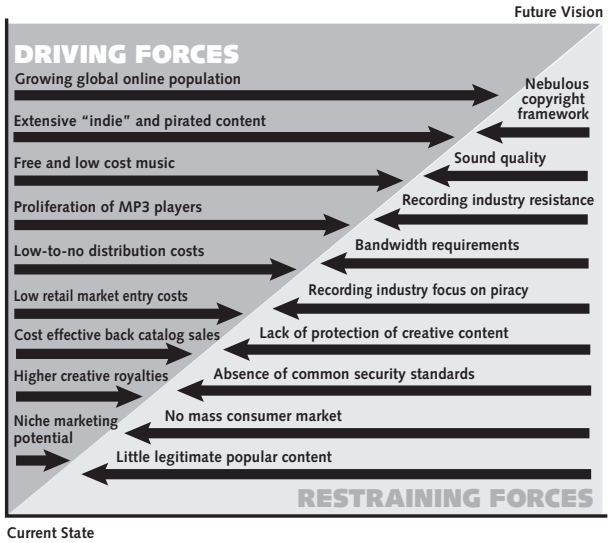


Figure 13. Force field analysis

MP3 faces much closer scrutiny than during its early development period. With the media and established industry now paying close attention, MP3 can no longer grow quietly and undisturbed in the far reaches of the Internet. One consequence of such increased scrutiny is that commercial success will involve the replacement of pirated material, an important early growth factor, with licensed, legitimate musical works.

Mindful of the vast opportunities involved in supplying infrastructure technology to the burgeoning online music marketplace, various proprietary standards have emerged to try to usurp MP3's position as the dominant digital music standard. Competitors such as Liquid Audio, AT&T's a2b, Microsoft's MS Audio, and Lucent's EPAC are trying to differentiate themselves from MP3, usually by claiming better security, sound quality, or content management features. To date, such alternative standards have not had great success, but competition has intensified as the major music industry players align themselves with different technology and telecom firms.

Since May of this year, several new strategic alliances have formed that will surely impact on the race for a final format. Seagrams' Universal Music Group has announced a deal with InterTrust Technologies to offer a secure music delivery system. "Digibox," a digital rights management (DRM) solu-

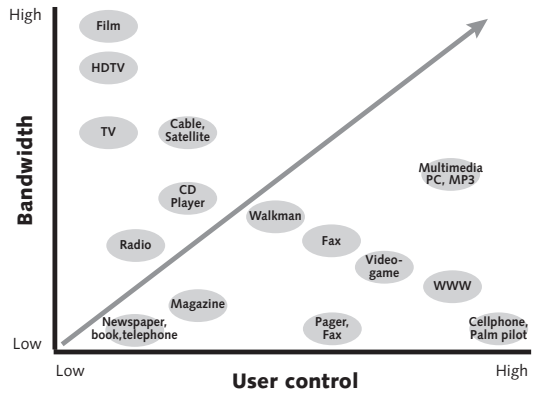
tion, will be integrated into Universal's e-commerce system. AT&T was in talks with BMG for an alliance that would develop a system for online delivery of music to consumers using the a2b compression technology, but BMG followed Universal's lead, choosing InterTrust's solution. EMI, who owns rights to music by artists ranging from the Beastie Boys to Garth Brooks, has hired Liquid Audio to use its secure format to encode as much of its library as possible. Microsoft and Sony have also struck a deal. Sony will use MS Audio to sell singles, rather than full-length albums, through Sony Music's own Web site, as well as through other online retailers.

Notably, most music portals and software and hardware manufacturers are unwilling to stand behind one compression standard alone. Rather, many companies currently trying to make a stake in the emerging digital music industry are choosing political and economic neutrality through format agnosticism.

Which compression standard will prevail? It's still hard to predict, but a short-term scenario where several competing standards exist simultaneously doesn't seem unlikely. Inevitably, though, a dominant practice for digital distribution must emerge. In the long run, music consumers, not the music industry, will decide the future of digital music delivery.

Open versus digital rights management: Let consumers decide

● The Internet provides a communications platform that enables customers to network in ways that were unavailable previously, undercutting the traditional informational power of producers. Customers are now taking control of standards, as illustrated by the widespread, largely grassroots adoption of MP3.



User control not bandwidth disproportionately dictates the success of new media products/technologies. The most successful media products/technologies of the past three decades have enhanced user control of the experience, by offering greater convenience, portability, choice, and interactivity. The initial World Wide Web was text-only yet became the fastest growing medium in history. High bandwidth products that are adopted quickly, such as television, must follow Hawkin's Law: They must offer a 10x improvement in quality over the previous consumer experience.

Figure 14. Bandwidth versus user control

Open formats and interoperability are the logical strategy for networked music businesses. Open formats leverage network effects to achieve ubiquity quickly, and help build critical mass. They maximize choice and flexibility for customers, and put users in control of their music experience. Open formats also engender a sense of "communal" ownership by encouraging industry participants — including customers — to be stakeholders in advancing the format. Finally, artists who distribute their music in open formats, say, MP3 evangelists, will gain competitive advantages over those who lock theirs up.

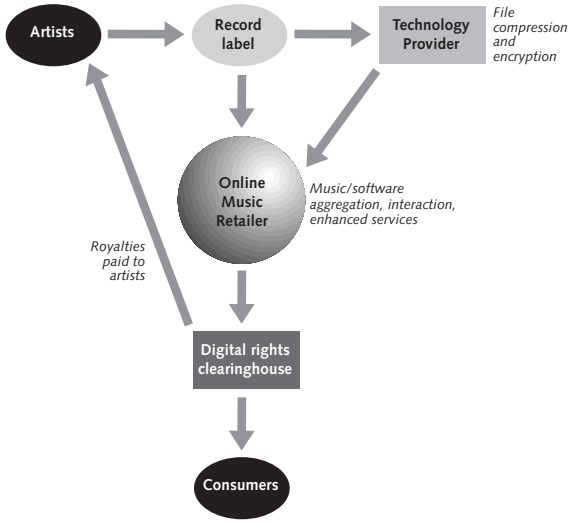


Figure 15. Digtal rights management system

By pushing ahead with plans that run counter to the open nature of the Internet, the music industry may be setting itself up to learn this lesson the hard way. Heavy-handed anti-piracy initiatives, such as SDMI, ignore a fundamental rule in the digital economy: you can't make customers do what they don't want to do just because it happens to be convenient for your business. As MP3 gains popular appeal, the industry may face opposition from a community of users that are reluctant to abandon their ability to freely copy and encode MP3 files. The industry would be wise to let consumers do what they want — then align its business model in a way that allows it to profit from consumer behavior. The recent failure of Divx — Circuit City's scheme to create a digital video format that metered out usage of the video — is a recent example of the consequences of disregarding this principle.[26]

Clearly, a great deal of misplaced effort to kill MP3 could have been redirected towards sustaining and profiting from the momentum behind the open format. Indeed, if SDMI fails, the major labels will have ceded much valuable time to their rivals. A more enlightened approach to digital distribution would have record execs learning about the dynamics of open systems. As EMusic chairman Bob Kohn says, "If history has taught us anything, it's that open always wins. An open compression technique will win — it has to be convenient for

consumers to listen to their music."[27] Music and new media guru Jaron Lanier goes further, suggesting that "when you make a system open, it serves people better. Therefore, there will be more commerce." Lanier points to the fact that digital distribution leads to lower input costs which makes it possible for more artists to achieve profitability (see Figure 17). Although he admits it requires a bit of faith, Lanier says that "it's just an illusion that there is any other way of doing things that requires less faith."[28]

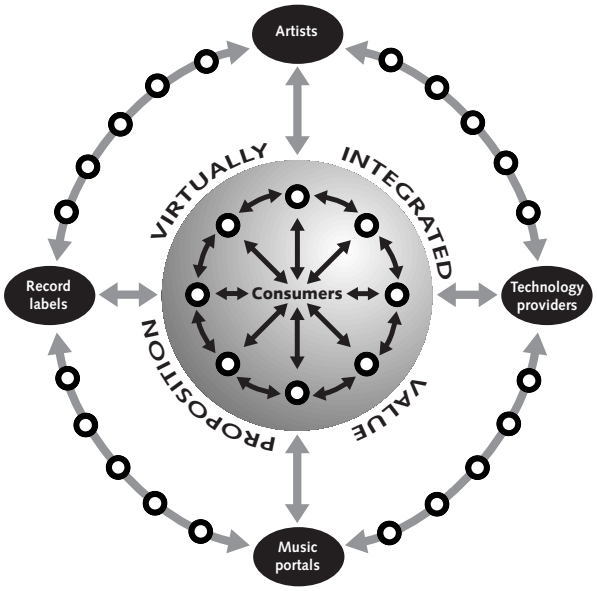


Figure 16. Open music distribution system

Digital music business models

● Business models, and business model innovation, are key success factors in the digital economy. Internet entrepreneurs have discovered that direct communication with customers enables breakthrough business models with improved service and reduced costs. As knowledge becomes the basis for competition, giving value away, empowering users, and leveraging customer and market knowledge quickly have become key differentiators — much more so than traditional assets like capital, facilities, and physical products. MP3 startups have harnessed these new dynamics to develop several experimental business models for music consumers. The following is a list of existing and future revenue models for online music:

- Collecting e-mail addresses and demographic information for data-mining and marketing purposes,
- Membership- and subscription-based models
- Music auctions
- Pay per download
- Advertising
- Giving away music for free to promote ancillary sales of CDs, merchandise. and concert tickets
- Customized CD manufacturing and distribution
- Streaming media and Internet radio
- Online performances and Webcasts
- Experiential offerings such as virtual jam sessions with a favorite musician

"Something I've said over and over and over is that your strongest security mechanism is your business model, or the business models that you enable. If you build a system that steers people in the right direction and provide a cool user experience backed by easy and fun to use services, you take away the incentive to hack it. If your security is difficult to use or is unwieldy, then people will attack it. Or, it won't get used at all, and it becomes irrelevant in that way."[29]

SDMI Chairman Jack Lacy

It's still too early to pass final judgement on the various business models for music on the Internet that currently exist. A wide array of forces are currently driving and restraining the development of a more vibrant, diverse, and profitable online music industry. Thus far, the quest for profitability from sales of MP3 files has proven to be a Holy Grail for entrepreneurial startups. Most digital music portals are relying on free downloads and low-cost music to attract users, and ultimately, advertising and sponsorship revenue to cut some of their losses. However, as startups continue to innovate, bandwidth and the online population grow, and more artists and music listeners are drawn to the Internet, the future for Internet music pioneers will begin to look more promising.

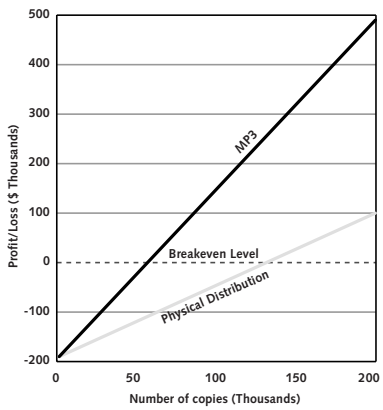


Figure 17. Profitable sales level

Internet music business models

Music sites	Business model description	Cost	Success factor
Artistdirect.com	● A music information network, artistdirect.com sells CDs and merchandise directly to the public, as well as offering industry news and free downloads to its clients	● free	● Aggregates music industry information in one place. Offers convenience and broad industry coverage.
Audible.com	● Sells more than 15,000 hours of spoken audio programming from over 95 different providers. Also markets the Audible Mobile player, a handheld playback device.	● $0.95 - $9.95 per track	● Supported by heavyweights in the e-publishing industry, including Microsoft, Electronic Arts, and Creative Labs
Broadcast.com	● Largest aggregator and broadcaster of streaming media programming on the Web. Revenue through advertising prior to streamed media.	● free	● Acquired by Yahoo, broadcast.com has also built critical mass, and has first mover initiative in streaming multimedia
CDNow	● The Amazon.com of the music business, CDNow sells tapes and cds online	● $1.75 and up	● Undercuts retail-based competitors on price
Emusic.com	● Virtual music label signs new artists and licenses content from 2nd tier labels. Advertising and partnerships with music e-tailers create revenue. Approximately 10,000 MP3 tracks available in most music categories.	● $0.99 per track $8.99 per album	● Strong partnerships with music publishers provide exclusive content
Internet Underground Music Archive	● Revenue from downloadable music sales are supplemented by banner-ad sales and corporate sponsorships.	● free - $0.99 per track	● Hip image
Launch.com	● Offers more than 5,000 streaming music and video files. Revenue comes from advertising displayed prior to streamed media.	● free	● Has partnerships with leading Web brands AOL, Snap, Yahoo, MSN and the Go Network
Liquid Audio	● Liquid Audio player software offered for free. Ad-free content offered for sale.	● free - $1.99 per track	● Software restrictions prevent unauthorized copying or redistribution
Listen.com	● Music directory offers links to externally hosted pages with downloadable music content. Advertisements generate revenue.	● free	● Content generated externally. Low maintenance costs.
MP3.com	● Offers over 100,000 songs for free. Revenue from banner ads and sales of music through its Digital Automated Music program.	● free - $9.99 per album	● Artists gain excellent share (50%) of music sold. MP3.com facilitates marketing, sales and distribution.
MP3s on UBL	● Limited selection of downloads supplements The Ultimate Band List's directory of band-related information. Revenue generated through advertising.	● free	● Leverages The Ultimate Band List's brand presence among Web-savvy young music fans.
Musicmaker.com	● Sells customized music CDs that users build themselves from a catalogue of music available for sampling online	● $1.99 per track	● Allows mass-customization to sell users exactly what they desire
Riffage.com	● The voice of "indie" music, Riffage sells MP3 files of independent artists. Revenues are also generated through banner advertisements.	● $0.40 - $0.99 per-track	● Collaborative filtering technology offers customized music recommendations to its users
Shoutcast	● Offers software to facilitate streaming radio programming, and provides a list of Internet radio servers. Advertising generates revenue.	● free	● Allows individuals to set up their own independent Internet radio stations
Spinner.com	● Offers over 175,000 songs played on over 120 channels. Revenue is ad-driven, and the software allows users to purchase the songs for independent listening.	● free	● First mover initiative coupled with high-quality, professional music programming

Figure 18. Internet music business models

Barriers to widespread adoption

● All of the recent media attention paid to MP3 has attracted curious consumers and will help develop a larger market for digital music. Media Metrix recently reported that overall users of digital music players increased to nearly 4 million in June 1999, a 400% increase from June 1998. However, mainstream consumers will be looking for easy access to popular content. Most won't be willing to take the necessary Byzantine routes to pirated mainstream content. Nor will they tend to be satisfied by the scant licensed popular content or even the more extensive alternative content that's currently available.

The following are the biggest hurdles in the development of MP3 and digital music:

- ***Lack of a mass consumer market***. No one is getting rich on digital delivery yet. In order for the MP3 EBC to thrive, the market for digital delivery of music will need to expand dramatically. Online distributors such as MP3.com still draw the vast majority of their revenue from online advertising. Total Internet sales in 1997 amounted to a relatively miniscule $37 million.
- ***Little legitimate popular content***. While a number of big name artists have experimented with MP3 for marketing purposes, little "mainstream" content (beyond Public Enemy's recent MP3 release and select tracks offered free from artists like Master P, Snoop Dogg, Q-tip, Alanis Morissette, the Beastie Boys, and others) has actually been licensed for sale. One of the biggest deals to date involved a second-tier label, Rykodisc, licensing only 200 tracks (or 3% of its catalog) to EMusic for distribution in the MP3 format.
- ***Competing standards***. MP3 may have the lead, but a number of competitors would like to replace it as the dominant standard. Liquid Audio, the Silicon Valley startup MS Audio 4, a2b from telecom giant AT&T, and Lucent's EPAC are four leading contenders. Meanwhile, the big five record companies and others continue collaborating on SDMI.
- ***Nebulous digital copyright environment***. There are still some major unknowns in the global copyright environment. In the United States, major elements of the US Digital Millennium Act remain to be resolved by market participants. Furthermore, various patent and copyright claimants want to create tithes on the sale of MP3 music and players.
- ***Recording industry attitudes***. The big five record companies appear startled and disturbed by MP3's explosive growth. Given their control over three-quarters of the worldwide music industry, the major labels' refusal to play means that MP3 will remain the purview of music pirates and independent artists.
- ***Consumer learning curve***. Many music consumers have never been online, let alone downloaded the software and content necessary to enjoy MP3. Downloading software and content must be simplified, and consumers need to overcome the learning curve before digital delivery even begins to rival physical distribution.
- ***Bandwidth***. Over a standard Internet connection, it still takes an awful long time to download an MP3 track, never mind an entire album. Further improvements in compression technology and the roll-out of high-speed ADSL and cable Internet services will help a lot, but bandwidth will circumscribe the market size of digital music for the foreseeable future.
- ***Sound quality***. Nobody really seems to mind that MP3 only approaches CD-quality sound and that digital equipment is not engineered for musical performance. However, just as CD quality was used to get consumers to replace their cassette collections, sound quality could be employed as an important market differentiator in the future.

Many of these hurdles are quickly being overcome, as MP3 is driven forward by an array of positive forces that contribute to its adoption by online music listeners.

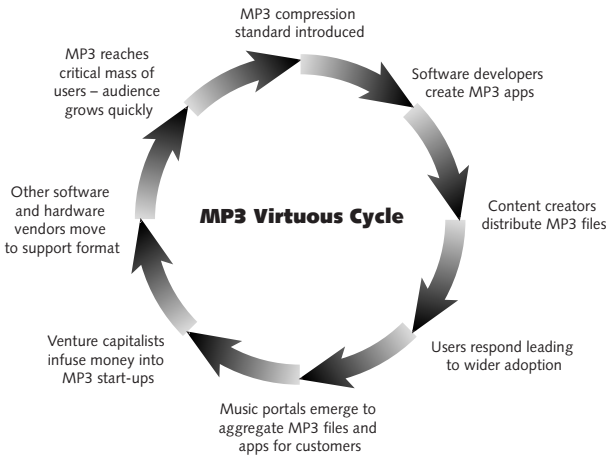


Figure 19. MP3 virtuous cycle

Metrics

● The MP3 EBC exemplifies how traditional metrics can fail to capture the significance of Net activity. Many emerging EBC metrics are as intangible as music itself — having little to do with the exchange of goods, services, or revenues per se. Instead, important metrics relate to the exchange among EBC participants of knowledge and intangible benefits.

As for more traditional concerns, such as profitability, The Artist Fomerly Known As Prince characterized the nature of Net music economics in saying, "At the bank, I'm platinum at 50,000."

Emerging EBC metrics

Performance zone	Critical performance factor	Leading indicator	Lagging indicator
Knowledge	● User orientation ● Community self-awareness ● Developer activity ● Embedded information	● User interaction ● Number of chat groups ● Level of awareness of open standard ● Amount of available basic information (e.g., FAQs)	● Number of proficient users ● Number of portals and aggregation sites ● Extent of developer activity ● Amount of "professional" content ● Digital watermarks and content tracking systems
Process	● Ease-of-use ● Download and transfer time ● Online sales ● Partnering	● Ease of format conversion and execution ● Efficiency of distribution mechanisms ● Compressed file size relative to standard bandwidth ● Relative price and effort to find satisfactory music ● Number of informal coalitions	● Number of downloads ● Number of licensed/legal MP3 titles ● Selection, variety, and quality of MP3 audio files ● Popularity of "MP3" as Internet search term ● Revenue derived from MP3-related products ● Number of co-marketing and partnership agreements
Attention	● Brand ● Network effects ● Access ● Word-of-mouth	● User and artist exposure capacity ● Industry and media "buzz" ● Installed base of users ● Established artist endorsement ● "Cool" quotient	● Mainstream recognition and legitimacy ● Amount of physical world cross-over ● Number of high profile artists releasing songs in MP3 format ● Second-wave user interest and adoption ● Advertising revenue/rates earned by popular sites
Experience	● Media quality ● Community ● Selection ● Control ● Loyalty	● Fidelity of compressed audio files ● Level of user exchange and content contribution ● Immediacy of music consumption ● Enjoyment of discovery process	● Dislocation of other media formats ● Degree of community complexity ● Community metabolism rate ● Percentage of business from regular customers ● Rate of return visits and "habitual" users

Figure 19. Emerging EBC Metrics

Key learnings

More complex music industry

Contrary to the earnest exclamations of MP3 proponents, the ultimate impact of digital distribution is not the death of physical channels and intermediaries, but simply a more complex marketplace. One key effect is the rise of polymediation, given lower barriers to entry and expanded offerings.

Online community dynamics

Network effects and traditional "word-of-mouth" advertising are powerful forces on the Internet. An interest in listening to and sharing music has driven the explosive growth in MP3 usage. MP3.com and others interested in exploiting the MP3 community for commercial purposes are careful to respect members' sentiments and values.

Expect more music

Digital music delivery parallels the introduction of cable and satellite technology into the television marketplace. Cable and satellite broke down the television oligopoly and reduced the big three networks' relative market share. Lower production costs and increased competition gave consumers much more programming choice, including single-theme specialty channels. Now the networks make more money than ever – even though they have a smaller slice of a much bigger pie.

Significance precedes momentum

While MP3 has been around for a decade, it didn't start building momentum until 1997. It was only recognized as a threat by the big five record companies when the mainstream media picked up on the MP3 phenomenon in the past year — too late for the record companies to do anything about it. Furthermore, MP3 is transitional. Legacy companies can bet that new technologies that challenge industry fundamentals will emerge. These companies must have better antennae scanning the ecosystem for new trends and competitors, and they ought to be ready to tackle what comes next.

Standards and platform control

Media and entertainment companies can no longer rely on control of standards and platforms to protect their market position. Consumer electronics companies and the music industry collaborated to kill the consumer market release of Digital Audio Tape (DAT) because of concerns about high quality reproduction. The Internet, digital devices, and open source dynamics destroy traditional development models. MP3 achieved an installed base of millions of users/applications in spite of industry opposition. To survive in the digital economy, companies must embrace new technologies that spring from user choice.

Maximize revenues, not control

Customer value, not control is the answer in the digital economy. The industry must resist the temptation to impose its will on consumers as a matter of convenience, or worse, as a result of a lack of ingenuity and agility. Rather, music labels should develop Internet business models and offerings with the right combination of "free" goods, consumer control, versioning, and ancillary products and services. Early movers' strategies provide plenty of insight. Consumer software, a much larger and vital industry, whose business model incorporates widespread piracy, also deserves scrutiny.

More competitive music industry

The major labels could use digital delivery to become more competitive. In addition to permitting higher creative royalties and corporate profits, digital distribution cost-savings could be re-directed to increase the value offered to consumers. Through providing consumers with lower prices, more music, and/or "bonus" merchandise, the music industry could enhance recorded music's attractiveness relative to other entertainment products such as video games.

Artists go direct

Big-name artists — not labels — represent valuable brands in the media world. Look for labels to increase artist royalties and expect portals to vie for deals with top recording stars. Labels will face additional pressure to ensure that their integrated service offering — artist development, financing, production, tour management, promotion, and so on — provides compelling value to artists. Otherwise Madonna and other mature artists may join the thousands of aspiring and independent artists already exploiting the unprecedented opportunity for direct interaction with fans that the Internet provides.

– Anthony Williams, Edward McDonnell and Phil Hood

1 Interview with Steve Marks, deputy general counsel, Recording Industry Association of America, January 18, 1999.

2 Gene Hoffman, president and CEO, EMusic, Inc., ZDNN, June 30, 1998.

3 Tim Dolan, former new media executive with Virgin Records, speaking at the MP3 Summit '99, June 16.

4 "MP3 Association Formed to Encourage Growth of Digital Music Standard: Industry Leaders Unite to Educate Consumers, Promote Popular Online Music Format," MP3 Association press release, Los Angeles, CA, October 30, 1998.

5 Amazon.com announced that it will launch a free digital-download area in its music store via Liquid Audio, with a number of songs available in MP3.

6 Interview with Steve Marks, ibid.

7 Brett Atwood, "Straight Outta .Com / Renegade Rappers Are Heard and Sold in Cyberspace," *Billboard Magazine*, June 1, 1999.

8 Steven V. Brull, "Net Nightmare for the Music Biz," Business Week, March 2, 1998.

9 MP3.com News, "Legal Use of MP3 up 800%," June 15, 1999.

10 MP3.com News, "MP3 Sample Software." June 15, 1999.

11 Michael Robertson, "Conversation with Geffen Records," MP3.com News, undated.

12 Interview with Steve Marks, ibid.

13 SDMI announced the adoption of the ARIS Technologies watermark on August 9, 1999.

14 Doug Reece, "SDMI Announces Watermark," MP3.com News, August 9, 1999.

15 Doug Reece, August 9, 1999, ibid.

16 Doug Reece, "DRM: Making Music Pay," MP3.com News, August 18, 1999.

17 Michael Robertson, president and CEO, MP3.com, "Demand Mp3: The Future Is Riding On It," MP3.com News, August 7, 1999.

18 Doug Reece, August 18, 1999, ibid.

19 Doug Reece, "Madison Project Gets Sneak Preview," MP3.com News, undated.

20 Interview with Steve Marks, ibid.

21 Interview with Ken Wirt, Diamond Multimedia Systems, January 12, 1999.

22 Steven V. Brull, ibid.

23 Michael Robertson, President and CEO, MP3.com, "Does the $5 Billion Music Industry Want MP3 to Survive?," MP3.com News, undated.

24 Gene Hoffman, President and CEO, EMusic, Inc., ZDNN, June 30, 1998.

25 Gene Hoffman, WSJ Interactive, February 4,1999.

26 The Circuit City business model had consumers purchasing a Divx video for about the same price of a rental. The video could be watched as many times as the consumer wanted for the first 48 hours, after which consumers had to pay for additional viewings. Circuit City assumed that consumers would adopt the system, but it evoked little enthusiasm. Some consumers balked at the idea of having two different standards for digital video, and others were unwilling to continue paying for something they had already purchased.

27 Beth Lipton, "Pundits at Summit Ponder MP3's Future," CNET News.com, June 16, 1999.

28 Jaron Lanier, keynote speech at the MP3 Summit '99, June 16, 1999.

29 Jack Lacy, chairman, SDMI Portable Devices Working Group, quoted in Webnoize News interview, June 30, 1999.

Alliance for Converging Technologies
360 Adelaide Street W, 4th Floor
Toronto, Ontario. Canada M5V 1R7
Tel 416.979.7899. Fax 416.979-7616
www.actnet.com
winning.actnet.com