

Napster & The Music Industry
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Table of Content

1.	Purpose, Scope and Structure of this Paper.....	4
2.	Introduction	5
3.	The Napster Phenomenon.....	6
3.1	Enabling Factors.....	6
	Personal Computer Multimedia Capabilities	6
	Internet as a Distribution Platform.....	6
	Availability of Standard Formats for Compressed Multimedia (MP3 and DivX)	6
	“Digital Laws”	6
3.2	File Sharing and Online Communities.....	7
3.3	Napsters Contribution to Music Sharing.....	8
3.4	The Napster Business Model.....	8
	The Old Dot.Com Business Model.....	8
	The Business Model after the Bertelsmann Takeover	9
3.5	Napster Marketing.....	9
	Some Statistics	9
	Marketing Policies.....	10
4.	The Music Industry Value Chain	11
4.1	The Offline Value Chain.....	11
4.2	Scarce Resources at the Music VC	12
	Shelf Space: Limited Space at Retail Shops.....	12
	Media Scale: Restricted Information Content per Medium.....	12
	Screening: The Selection of Successful Titles	13
4.3	Risk and Chances in the Value Chain.....	13
	General Tendencies.....	13
	Winners and Losers	14
5.	Napsters Future	15
5.1	Scenarios.....	15
5.2	Influence Factors	16
	RIAA wins against Napster	16
	Napster licenses Big5 content	16
	Gnutella succeeds	16
	Napster convinces its users	16
	Watermarking and SDMI fail	17

Napster & The Music Industry

RIAA wins DeCSS case	17
International Pressure Fails	17
Civil disobedience continues.....	17
Big 5 successfully establish subscription platforms.....	17
5.3 Recent Developments.....	17
5.4 Conclusion	18
6. References.....	19

1. Purpose, Scope and Structure of this Paper

This paper has been written in the context of the “Global E-Business Master” program at ESADE Business School in Barcelona. It is part of the “E-Marketing” course and accounts for 50% of the grade of the course. The exercise description is:

“Using a variety of [...] sources [...] report on the following:

- 1. What is the business Model of Napster?*
- 2. Evaluate the marketing policies exhibited on its Web site?*
- 3. How is Napster changing the value chain in the industry sector?*
- 4. Is the value chain different when viewed from the perspectives of its different participants?*
- 5. Make a considered judgement of how the situation is likely to develop over the next year.”*

2. Introduction

“[Napster is] the most important application since the Web browser”

Clay Shirky [Shirky 2001]

Napster.com is an example of a disruptive technology that is profoundly changing the music industry. It allows users to conveniently share music songs over the Internet and thus competes with the classical offline distribution channels.

Obviously the music is taking on the thread and is reacting fast. During the last two years we have witnessed a legal fight between the RIAA and Napster, trying to enforce copyright and to block Napster. But just as the Greek hydra, new heads are growing as Napster is getting under pressure. Derived applications have emerged such as Gnutella [Gnutella] and FreeNet [FreeNet], that provide a similar functionality as Napster but operate without centralized control and thus cannot be shut down by legal actions.

This fight between law and technology is likely to continue. The industry is now shifting its focus towards so called watermarking techniques that allow to include copyright information into sound or image files to be able to filter out copyrighted content [SDMI 2001]. However the technical obstacles to this technology are huge [Felton et. Al 2001].

Civil disobedience has already won several cases in history: The speed limit on American motorways had to be changed because of general disobedience and the alcohol prohibition had to be abolished. And copyright is more difficult to enforce than the consumption and production of alcoholic beverages. It seems that people always find ways to satisfy their needs if only these needs are strong enough.

3. The Napster Phenomenon

“Napster [...] has 50 million users”

[Napster Newsletter 2000]

The number of Napster users is only comparable with AOL, the worlds largest Internet Service Provider (ISP). How is it possible that a single application is becoming popular in such short time?

In this chapter I analyze the factors allowing this surprising development and explain the underlying business model and marketing strategies. I distinguish between “enabling factors” of the general environment and the original contribution of Napster.

3.1 Enabling Factors

Personal Computer Multimedia Capabilities

Since the 90s, personal computers have become platform for multimedia contents, i.e. audio, pictures and recently life video. Audio capabilities are available to a large percentage of the installed PC base today, while video capabilities have begun to be technically viable since about last year.

Internet as a Distribution Platform

Since 1995, the Internet has become available as a platform for the distribution of multimedia contents at universities and other research facilities. However, it is only since one or two years that high bandwidth connectivity is available to the broad public.

Availability of Standard Formats for Compressed Multimedia (MP3 and DivX)

In 1997, the MP3 file format for compressed audio files became publicly available [Mann 1999]. This file format allows reducing the digitalized music by up to a factor of 10 compared to the format used on CDs, while maintaining a comparable sound quality. This way it became feasible for the first time to transfer high quality music through the Internet using a normal modem or ISDN connection.

“Digital Laws”

When applying the digital technology to business, several new phenomena are arising (“Digital Laws”), that have been cited as the driving factors for the Dot-Com boom and that form the base for the use of Napster:

- Elimination of distance restrictions
- Reduction of transaction costs to negligible values
- Reduction of information discovery costs to negligible values
- Increase in market transparency by the reduction of discovery costs
- Economy of attention
- Democratization of information access and generation
- Elimination of business intermediaries

3.2 File Sharing and Online Communities

Before Napster, music fans used to exchange MP3 files over the Internet by means of regular Web servers:

- A user includes some MP3 files on his or her homepage.
- A search engine indexes the description of the file.
- Other users in the world discover the file when searching for the artists or group using a search engine. They download the file from the Web server.
- The owner of the Web site becomes “famous” between his friends who in turn send him more MP3 files to include on his Web server.
- Some users tell their friend about the location of the Web server who in turn become users.

Figure 2-1 depicts this scheme based on the concepts from Demand Diffusion theory:

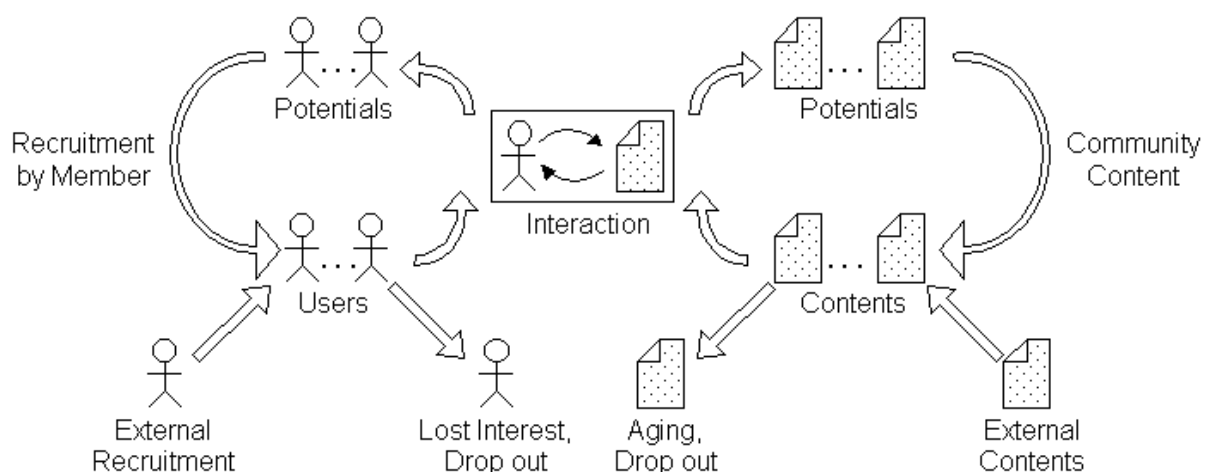


Figure 3-1

The left hand side of the figure shows the user recruitment loop. “External Recruitment” users discover a Web server with MP3 files using a search engine and successfully interact with the server (in the middle of the figure). They tell their friends (“Potentials”) about the success who in turn become users.

The right hand side of the Figures shows the content consumption and generation loop: Some of the “users” are donating MP3 files, which enter into the pool of available content.

Before Napster, several obstacles were limiting the success of these online communities:

- Inconvenience and cost to add a new MP3 file to the content pool

Napster & The Music Industry

- Expensive server bandwidth:
Web hosting providers typically charge for the volume of data transferred from a Web server.
- Limited server performance:
All Web servers have a limited performance in terms of the maximum number of file they can serve.

These limitations lead to severe restrictions in terms of the maximum number of users per music sharing community.

3.3 Napsters Contribution to Music Sharing

The main contribution of Napster was a computer application that allows people to store multimedia files in a decentralized manner. It contributed in the following ways:

- A “distributed storage” technology that allows storing MP3 files on the computers of Napster’s users. This way, the main task of storing and retrieving files was moved away from the central server to the computers of each Napster users. This technique effectively eliminates bandwidth and server performance limitations.
- A centralized server with search and discovery capabilities. The server handles the search and discovery functions necessary for an efficient use of an online community
- A central meeting point for an online community

As a result, the costs and inconvenience of the “content loop” (see Figure 3-1) has decreased dramatically, allowing for convenient file transfers and a nearly unlimited volume of file transfers.

Without limitations at the “content loop”, the “recruitment loop” could act without limitation, allowing for an **exponential growth** up to the limits of the “potentials” user base. The limiting factors to the “potentials” are:

- A strong interest in the music being shared at Napster,
- Basic computer literacy to install the Napster application and
- Access to the Internet

A large percentage of the worldwide Internet users satisfy these criteria, which explains the number of 50 million Napster users.

3.4 The Napster Business Model

In the previous section we have seen how Napster has set up an Online Community successfully. So how is Napster going to make revenues based on these assets?

The Old Dot.Com Business Model

Napster was created during the hot phase the Dot.Com boom. During those days, it was sufficient to attract users and to grow the value of a company to be able to sell off fast

Napster & The Music Industry

and to a good price. Applications such as ICQ had shown that it was possible to turn an online application to something like a marketplace, so Napster might have followed such an example.

Then I assume that the business model of Napster probably was to grow the numbers of users based on exponential growth of their Online Community and to sell off.

The Business Model after the Bertelsmann Takeover

In February 2001, Napster disclosed its official business model [Napster 2001]. The statement defines a membership model based on subscription:

The model includes a "Basic Membership" plan that would cost in the range of \$2.95 to \$4.95 per month with an as yet undermined limit on file transfers. The "Premium Membership" will cost between \$5.95 and \$9.95 and will offer unlimited file transfers.
[Napster 2001]

This statement shows that Napster intends to convert the user base of its online community to regular clients.

Please refer to Chapter 5 for a detailed analysis of the future prospects of this model.

3.5 Napster Marketing

Figure 2-2 depicts the structure of the Napster Web site on June 17th, 2001.

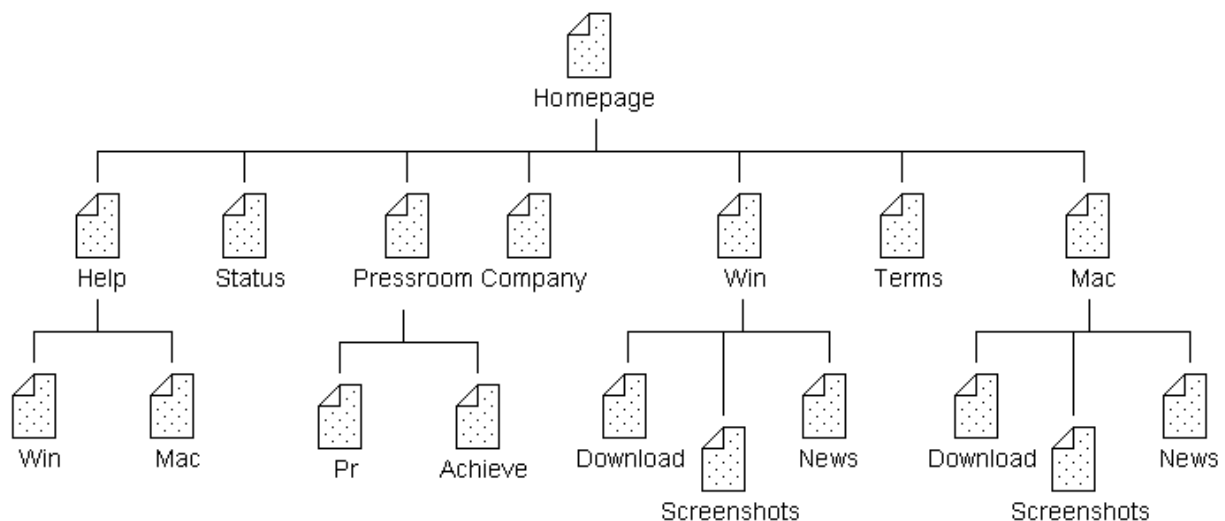


Figure 3-2: The Napster Web Site Structure

Some Statistics

Today, June 17th, 2001, the site consists of a total of 53 HTML files of which:

- 21 files reside in "Pressroom" and subdirectories,

Napster & The Music Industry

- 22 files reside in the “Help”, “Mac” and “Win” and subdirectories,
- 3 files reside in the “Speakout” subdirectory and
- 10 files reside in the other subdirectories.

This distribution of files allows to conclude that the attention of the site makers is focused on the support of the Napster installation and to explain the users the legal fights with the RIAA and the record labels. There are neither product descriptions nor marketing messages on the Home page.

Marketing Policies

Napster obviously does not need to convince or persuade the audience. People who come to Napster know very well what they have to expect from the site. They want to download the software.

This leads to the conclusion that Napster marketing is based entirely on the online community and its decentralized recruiting process.

This result is quite surprising and shows the hidden power of Online Communities for marketing purposes. However, the question about how to apply this new tool to other cases or to marketing in general is far beyond the scope of this paper.

4. The Music Industry Value Chain

“Napster isn’t just about money.

It’s also about control [...]”

Clay Shirky [Shirky 2001]

4.1 The Offline Value Chain

Figure 2-1 presents the current value chain (VC) of the music industry [Dolfsma 2000]. The illustration explains how music moves from a creative artist to its final destination, the consumer.

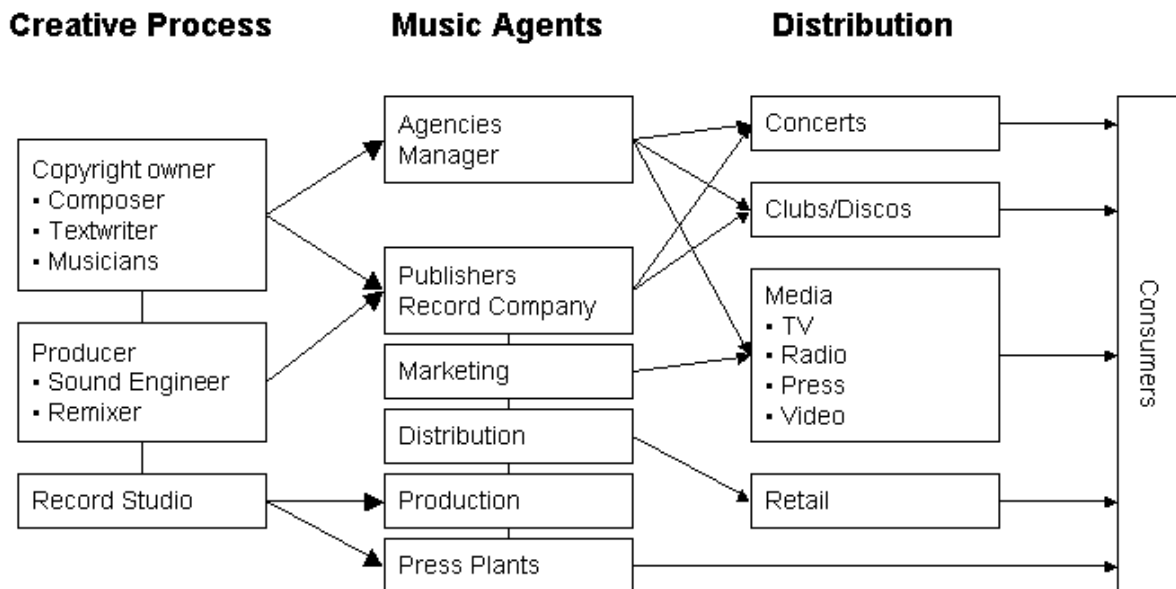


Figure 4-1, Source: [Dolfsma 2000]

Musicians typically come with a sample of their music to a music publisher. If this initial gatekeeper finds the music promising, negotiations start [Dolfsma 2000]. But only a small proportion of all samples submitted to gatekeepers will result in commercial recordings. Other gatekeepers are controlling the access to Radio, TV and music press media.

Before Napster, five record companies were dominating 70% of the global music market as shown in Figure 3-2.

Napster & The Music Industry

<i>Market Shares</i>	United States	Japan	Germany	United Kingdom	France	Netherlands	Global
EMI - (Thorn)	10	14	22	22	13	15	16
Warner - (Time Warner)	22	7	13	11	13	8	14
BMG - (Bertelsmann)	12	8	15	9	11	13	14
Polygram - (Philips)	13	13	23	22	32	23	13
Sony	14	18	12	13	25	14	13
Total	30.5	19.0	8.2	6.5	6.0	1.8	70

Figure 4-2, Market Share of the Five Major Record Companies (% of sales), 1995, [Dolfsma 2000]

Given its domination of the market, these companies provide the majority of gatekeepers, effectively defining and manipulating the global mainstream music taste. Many small labels, mostly targeting “niche” sectors, serve the rest of the market.

4.2 Scarce Resources at the Music VC

[Mendelson et. Al. 2000] explains the structure of the music VC in terms of three constraints that govern the marketing, distribution and sales of music. By virtue of digital distribution, these constraints are heavily affected or completely removed. The following sections explain each of the constraints in detail, together with likely changes that will emerge.

Shelf Space: Limited Space at Retail Shops

Music retail shops are limited by the cost of their shelf space and their inventory. To survive commercially, they have to limit themselves to the best selling music in their sector.

Online music retail completely eliminates this constraint, allowing for a nearly infinite number of titles and artists due to marginal costs of computer hard disk space on the side of the Internet servers.

As a result, title of niche artist can more easily be included into the product range of online retailers, probably increasing the diversity of the overall music market.

Media Scale: Restricted Information Content per Medium

An important property of physical music distribution is that it allows only a limited amount of music per medium (for example 70 minutes of music on a CD). A considerable fixed cost is required for setting up press masters, packaging and printing of such media.

Digital distribution reduces the costs to store and transfer music to negligible amounts based on low costs attached to Internet connectivity and storage space on the hard

Napster & The Music Industry

disks of personal computers. Additionally, both types of resources have grown exponentially during the last 10 years following Moors Law.

Screening: The Selection of Successful Titles

Due to the shelf space and media scale restrictions, only a limited number of titles and artists can be offered at the offline retail. The scarce resource in this case is the attention of the 'gate keepers' of the music labels.

This constraint is probably going to be changed in two ways by digital distribution:

1. The screening process itself is going to be cheaper and more efficient due to digital music formats and search engines and
2. More and more companies can enter to into the screening process (see chapter 4.3).

4.3 Risk and Chances in the Value Chain

General Tendencies

The elimination of the main constituents of the offline music industry will lead to an important reorganization of the music industry. The following enumeration summarizes a range of changes predicted by [Shirky 2001], [Mendelson et. Al. 2000], [Dolfsma 2000] and [Rantanen 1998]:

- **Elimination of Intermediaries:**
Those intermediaries who are based on the offline constraints shelf space and media scale are going to go out of business.
- **New Intermediaries:**
New intermediaries will emerge, satisfying with the screening requirements of a more diverse market. Magazines such as Rolling Stone, Clubs and DJs, radio and television will gain importance to inform the customers about new products and may take a more active role in the distribution and sales [Dolfsma 2001].
- **Diversification of the mainstream market:**
In the offline world, agents and labels have gained the majority of their profit with "super star" products. With a shift in retail pricing policies from one-by-one pricing to subscription-based model, these products lose their dominating role in revenue generation.
- **Diversification of the niche markets:**
The niche markets are going diversify. New intermediaries will emerge, dealing with the screening process in highly specialized sections.
- **Rise of Online Communities:**
Online communities can provide efficient screening capacity for a broad range of niche segments, for example by online polling or download statistics. Such features are currently under development in the customer relationship management (CRM) scene and should be easily applicable to the music industry.

Napster & The Music Industry

Winners and Losers

Table 3-3 concludes the risk/chance balance for the music VC players based on the previous analysis, assuming a flat rate subscription model for Napster or its competitors:

	Mainstream	Niche
Artists	The importance of new “super star products” is going to go down. However the number may go up as more potential candidates reach the market.	It becomes easier and cheaper for new firms and authors to enter the market ([Dolfsma 2001]). “[...] Niches will be created to economically sustain many previously unknown kinds of music and artists” ([Dolfsma 2001]).
Agents/ Labels	Big 5 companies will lose control; new players will enter the market. However, their financial strength gives them a good start to dominate the new Internet markets and communication channels.	Maintaining their importance. Agents/ labels have to learn about the new channels.
Club, DJs, Discos, Magazines	May increase their importance by taking advantage of their strong local brands and their screening capacity to reach larger groups of end clients.	
Production/ Packaging	Big loser	
Physical Retail	Big loser. However, sales and margins may stabilize at a lower level when the competing channels turn out to be complementary	Niche record shops may “offer a satisfying enough customer experience to compensate for that kind of price gap” ([Tolia 2001])
Digital Retail	Big winner	
TV and Radio	Continuing their role within the segment of passive clients	
Customers	“[...] Diversity in music may increase significantly, especially as perceived by the average music consumer”. Prices in general will go down, but overall consumption is likely to rise.	

Figure 4-3: Winners and Losers

5. Napsters Future

The future of Napster depends on a large number of factors in the difficult area between technology, law and business. Some of these factors are very difficult to predict, for example the outcome of legal struggles or whether certain security technologies will succeed or not. For these reasons I am taking a scenario based approach to evaluate the future of Napster: I am going to describe a range of possible scenarios, the important factors that may influence the future and analyze how these factors influence the scenarios.

The scope of interest is on the time 12 months from now.

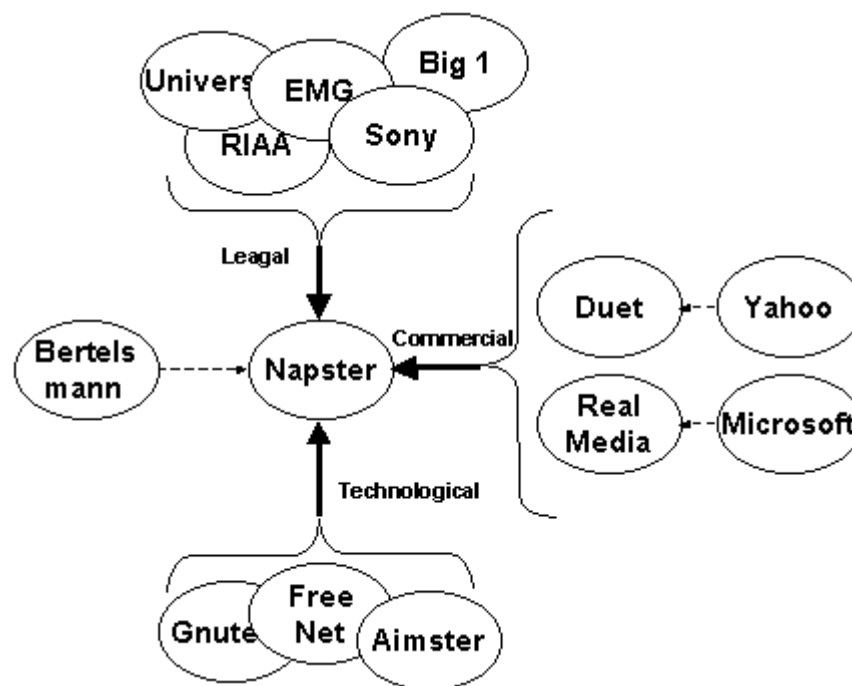


Figure 5-1: Players attacking Napster

5.1 Scenarios

The following scenarios are extreme cases based on the idea that a single player distribution scheme is going to dominate the market.

1. "Napster Wins":
Napster manages to close a deal with the Big 5 record labels and is able to convince a large part of its initial user base to join its subscription service. It beats Gnutella & co. by providing convenient access and good contents. It manages to establish its sales platform as a standard for independent intermediaries such as online communities or magazines.
2. "Gnutella Wins":
Gnutella or a similar free distribution service (FreeNet, Aimster,..) wins the

Napster & The Music Industry

overwhelming part of the online music distribution. All technical copyright protection systems fail or are being cracked. The RIAA is engaged in continuous legal fights to shut down the service but does not manage to inhibit the copyright infringements.

3. “The Big 5 eliminate online music distribution”:
The Big 5 record labels manage to close down Napster and to establish technical measures such as SDMI to eliminate the non authorized distribution of music and video. They manage to deploy a worldwide content screening infrastructure to prohibit the distribution of MP3 files through other channels.
4. “The Big 5 establish their own distribution platform”:
The Big 5 open their own platform for digital distribution and manage to impose the platform as a standard for online communities and other screening intermediaries.
5. “No one wins”:
No player reaches a dominating position. Legal distribution platforms fight for dominance, while a considerable percentage of the users use illegal platforms. Such as situation currently exists in the video game industry, where a large part of the video games are copied illegally, but the remaining volume is sufficient to sustain the video game manufacturers.

5.2 Influence Factors

RIAA wins against Napster

In this current legal “RIAA v. Napster” case [RIAA Napster Case 2001], the Record Industry Association of America is suing Napster to eliminate copyrighted material from its exchange system. As a result, Napster will have to introduce a content filtering system to inhibit the trading of copyrighted titles.

Napster licenses Big5 content

Napster closes a deal with the Big 5 record labels to distribute their contents using a subscription-pricing model.

Gnutella succeeds

Gnutella, FreeNet or Aimster manage to establish a scalable and secure distributed file sharing system. Just like the Internet does not have a central point of control that might be destroyed during a nuclear strike, these services do not rely on any central server that could be shut down as the result of a lawsuit.

Napster convinces its users

Napster manages to convince a large percentage of its users to stay and to join the subscription based service

Watermarking and SDMI fail

The “Secure Digital Music Initiative” [SDMI 2001] aims to build an encrypted path for digital contents from the distribution service to the end device (sound card, video monitor). Such systems are already working for digital TV as Set-Top boxes, but it is questionable whether such systems will succeed in the environment of personal computers. A recent security analysis ([Felton et. Al 2001] and [Felton 2001]) has shown the weaknesses of this project and have questioned the technical feasibility of watermarking system in general.

RIAA wins DeCSS case

The DeCSS case is a ruling that prohibits the “reverse engineering” (i.e. breaking of) copyright protection schemes. However, the case is being disputed by freedom of speech activists. In the specific case ([DeCSS 2000]), one hacker has broken the protection system for DVD (Digital Video Disk) video media, thus allowing to copy and share these videos using DivX, similar to Napster audio files.

The case has important consequences concerning the ability of copyright holders to act against hackers who are cracking their security schemes.

International Pressure Fails

This factor deals with the question whether copyright holders are able to enforce actions against violators on an international scale outside the American or European legal spheres. The entrance of China to the WTO (World Trade Organization) can be seen as step towards such international control. However it is doubtful whether a complete control will ever be enforceable, taking into account the different legal systems worldwide.

Civil disobedience continues

Another interesting case was the prohibition to export of cryptographic software from the US to other countries. As a result, a flourishing software security companies have emerged in Europe and Australia, that are now dominating the market [PGP 2000]. Since late 2000, the US has eliminated most of the legal restrictions.

Big 5 successfully establish subscription platforms

Napster could get considerable competition if the Big 5 labels manage to establish their own subscription based online music distribution platforms. At this moment, Vivendi Universal and Sony are creating the “Duet” online platform.

5.3 Recent Developments

- On 6/16/2001 C’t magazine has reported that Napster is closing a deal with the Music-Net alliance to publish songs from Warner Music (AOL Time Warner), BMG Entertainment (Bertelsmann) und EMI Group on its application [C’t Napster 2001].
- Another article from 6/12/2001 [C’t Pressplay 2001] reports that the “Duet” music service from Sony, Vivendi Universal and Yahoo has changed its name to

Napster & The Music Industry

“Pressplay”. The service will offer music using Microsoft WMA-Format (Windows Media Audio) on a monthly subscription base.

5.4 Conclusion

*“Predictions are always difficult to make,
particularly if they deal with the future.”*

Albert Einstein

Table 1 shows a possible evaluation of factors and their effect on the various scenarios.

	%	Napster Wins	Gnutella Wins	The Big 5 eliminate online music distribution	The Big 5 establish their own subscription platform	No one wins
RIAA wins against Napster	90%	neutral	neutral	required	required	Neutral
Napster licenses Big5 content	80%	required	neutral	neutral	negative	Required
Gnutella succeeds	90%	negativ	neutral	killer	killer	Positive
Napster convinces its users	70%	required	neutral	neutral	negative	Positive
Watermarking and SDMI fail	80%	positive	required	killer	neutral	Required
RIAA wins DeCSS case	70%	positive	negative	required	neutral	Negative
International Pressure Fails	90%	positive	Positiv	killer	killer	Required
Civil disobedience continues	70%	positive	required	negativ	negative	Required
Big 5 establish distribution platforms	80%	positive	negative	positive	required	Required
Summary		Likely	Possible	Unlikely	Possible	Likely

Table 1: Factors and Scenarios

Conforming to the evaluation of factors above, it is most likely that Napster is going to obtain a considerable market share within the next 12 months because it will probably manage to start its subscription service in July 2001 while Gnutella still has a lot of scalability problems and the Duet initiative is in their infancies.

However, the long-term (> 18 months) perspective looks different. As soon as digital online distribution becomes an accepted standard and its free rivals are going to mature, Napster will only be able to succeed if it manages to provide a real added value compared to its free competitors.

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