Disruptive Technologies and the Music Industry

Incumbents vs. New Entrants

“Nobody is expecting the impact from the Internet over the next 10 years to be as great as the one we have had over the last 10 years. The Internet has a very long way to go before it has an impact like that of CD.”

- Nick Garnett, Director General, IFPI, Billboard, December 1995
Some Headlines

• “Music industry sees future on the Internet”
  Bluespeak, November 1995
• “Music Retailers Criticize Label Sales on Internet”
  Billboard, October 1997
• “Net nightmare for the music biz”
  Business Week, March 1998
• “Music Firms Using New Media to Alter Trad Biz Models”
  Billboard, November 1998
• “Industry Hesitant with MP3”
  Billboard, December 1998
• “Music spending expected to rise 5.5 % per year”
  Billboard, November 1999
• “RIAA Sues MP3 Search Site” (Napster)
  Billboard, December 1999
• “Metallica Sues Napster & 3 Universities”
  Billboard, April 2000
• “RIAA, Metallica Win Napster Round”
  Billboard, May 2000
• “File sharing will never die”
  Business Week, April 2001
• “The music industry is dead – I don’t see a future for it”
  Jack Valenti, HBR, 2002
• “The sky is falling”
  Music Biz Academy, February 2003
Background and Motivation

• Information economics and innovation theory indicate that end-to-end digitalization has a profound effect on the structure and competitive dynamics of information industries
• Music industry is within the first content industries in which this development can be empirically analyzed
• To analyze the influence end-to-end digitalization has had on the music industry competitive environment and available business strategies, a study drawing on related literature and empirical analysis was conducted
• **Theoretical background**
• **Industry context**
  • Music industry characteristics
  • New enabling technologies
  • Online music industry
    – A brief history
    – Online industry actors
• **Industry change and structure analyzed**
  • Change agents and the waves of change
  • Analysis framework
  • Case studies
• **Conclusions and discussion**
Theoretical Background
Economics of Information

- **Characteristics of information**
  - Intangible, inexhaustible, has the nature of a public good
  - Theory of the public good: non-rival, non-excludable
  - Free-rider problem

- **Digital information presents the characteristics of information in the most extreme form**
  - Fixed costs high, zero replication costs, etc.

- **Implications industry structures: (Evans & Wurster)**
  - Deconstruction
  - Disintermediation
  - Reintermediation

- **Implications strategy:**
  - Information cannot be priced based on costs
  - Fixed costs can spread across all users willing to pay for it
  - Price-discrimination, dynamic pricing
  - Versioning, mass-customization, segments-of-one
Theoretical Background
Innovation Theory

• **Disruptive innovation**
  • Simple, convenient-to-use innovations that initially are used at the low end of markets
  • Incumbent companies overshoot the needs of their mainstream customers
    – Simpler, cheaper and more flexible technologies can come in from below
  • Implications to industry structures:
    – Opportunities for new ventures to enter the industry
    – Dramatic changes if entrants manage to develop an independent value network and reach the mainstream
  • Incumbent strategies:
    – Ride the wave
    – Co-opt
    – Block
Positive feedback
- Each new subscriber to a network increases the network’s value to other subscribers

Implications to industry structures:
- Path-dependence
- Increasing returns
- Winner-takes-all economy
- Monopolies

Implications to strategy:
- Standardization
- Lock-in management
Industry Context
Music Market in Numbers

• Market size: 40 billion euros annually
• 3.7 billion units of recordings sold each year
• About 90% of units sold are new CD albums
• The U.S. the largest single geographic market
  14 billion USD per year
• In global scale 68% of music is domestically
  produced, 92% in the U.S.
• U.S. genres: Rock 24%, Pop 12%, Classical 3%
• In the UK 65% of music purchases is made by the
  heavy users (16%)
Industry Context
Winning Artists, 2001

Net earnings for the top 20 artists in 2001

<table>
<thead>
<tr>
<th>ARTIST/GROUP</th>
<th>Million $/€</th>
<th>ARTIST/GROUP</th>
<th>Million $/€</th>
</tr>
</thead>
<tbody>
<tr>
<td>U2</td>
<td>61.9</td>
<td>TLC</td>
<td>22.0</td>
</tr>
<tr>
<td>Dr. Dre</td>
<td>51.9</td>
<td>Whitney Houston</td>
<td>26.5</td>
</tr>
<tr>
<td>The Beatles</td>
<td>47.9</td>
<td>Elton John</td>
<td>21.0</td>
</tr>
<tr>
<td>Dave Matthews Band</td>
<td>43.4</td>
<td>Andrea Bocelli</td>
<td>20.9</td>
</tr>
<tr>
<td>Madonna</td>
<td>40.8</td>
<td>Eric Clapton</td>
<td>20.8</td>
</tr>
<tr>
<td>Master P</td>
<td>36.0</td>
<td>Matchbox Twenty</td>
<td>20.6</td>
</tr>
<tr>
<td>Santana</td>
<td>32.7</td>
<td>Britney Spears</td>
<td>20.0</td>
</tr>
<tr>
<td>'N Sync</td>
<td>26.5</td>
<td>Tim McGraw</td>
<td>19.6</td>
</tr>
<tr>
<td>Aerosmith</td>
<td>24.2</td>
<td>Eminem</td>
<td>19.4</td>
</tr>
<tr>
<td>Sting</td>
<td>24.0</td>
<td>Destiny's Child</td>
<td>18.9</td>
</tr>
</tbody>
</table>

Data source: Rolling Stone
Industry Context

Music Sales by Format, 2000

- Vinyl albums: 0.2%
- CD Singles: 1.4%
- Cassette Singles: 0.1%
- Used CD Albums: 2.7%
- Cassette Albums: 5.7%
- New CD Albums: 89.9%

Source: NARM 2001
Industry Context

Competitive Dynamics

• Monopolistic competition by slightly differentiated products
• Oligopolistic control structure of “big five” record labels
• These major record labels govern the entire value chain – strong vertical integration
  • Significant scale economies in manufacturing, marketing and distribution
  • Labels have a leading role in distribution media standardization
  • Major labels usually buy any successful indie company
  • Only by contracting with a major record label, an individual artist has been able to reach the global marketplace
Industry Context
Market Shares, 2001

- Independent: 24%
- Universal: 23%
- Sony: 16%
- Warner: 13%
- EMI: 13%
- BMG: 12%

Source: Merrill Lynch
Industry Context
Oligopoly of Five, 1988-2000

Data source: Merrill Lynch
Industry Context

Value Chain and Cost Structure

- Development: composing, performing
- Production: recording, manuf.
- Marketing
- Distribution: 10%
- Wholesale
- Retail

Data source: McKinsey

- Royalties, advances: 16%
- Manufacturing: 7%
- Overhead: 20%
- Marketing: 16%
- Label’s profit: 3%
- Retailer markup: 28%

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Industry Context
Music Retail, 1992-2001

- Specialty store share declining for ten years
  - Still number 1 in 2001, however
- Department stores have increased their share
- Internet music sales counted only for 3% in 2001

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</tr>
</thead>
<tbody>
<tr>
<td>Record Store</td>
<td>60.0</td>
<td>56.2</td>
<td>53.3</td>
<td>52.0</td>
<td>49.9</td>
<td>51.8</td>
<td>50.8</td>
<td>44.5</td>
<td>42.4</td>
<td>42.5</td>
</tr>
<tr>
<td>Other Store</td>
<td>24.9</td>
<td>26.1</td>
<td>26.7</td>
<td>28.2</td>
<td>31.5</td>
<td>31.9</td>
<td>34.4</td>
<td>38.3</td>
<td>40.8</td>
<td>42.4</td>
</tr>
<tr>
<td>Tape/Record Club</td>
<td>11.4</td>
<td>12.9</td>
<td>15.1</td>
<td>14.3</td>
<td>14.3</td>
<td>11.6</td>
<td>9.0</td>
<td>7.9</td>
<td>7.6</td>
<td>6.1</td>
</tr>
<tr>
<td>TV, Newspaper, Magazine Ad or 1-800 Number</td>
<td>3.2</td>
<td>3.8</td>
<td>3.4</td>
<td>4.0</td>
<td>2.9</td>
<td>2.7</td>
<td>2.9</td>
<td>2.5</td>
<td>2.4</td>
<td>3.0</td>
</tr>
<tr>
<td>Internet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.3</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Data source: Peter Hart Research. Permission to cite: RIAA
Enabling the Revolution

• The (broadband) Internet
  • Throughout penetration
  • Increasing bandwidth

• Efficient standard formats for audio compression
  • Near CD quality from 1.4 Mbps down to 128 kbps
  • MP3, LQT, WMA…

• Evolving music terminals
  • Improved multimedia capabilities of PCs
  • CD burning: CD-R, CD-RW
  • Portable MP3 players, new home electronics
  • MP3-enabled mobile phones, MMS

• Peer-to-peer networks
  • Hybrid decentralized (Napster)
  • Pure centralized (Gnutella)
  • Partially centralized (KaZaA)
Online Music Industry Goes Online

1996
- Online e-tailers
- Labels experiment with the Internet
- P2P boom
- Dot.com bubble bursts

1997
- MP3.com launched
- Retailers criticize label sales on the Internet
- Napster forced down

1998
- Online e-tailers emerge
- MP3.com sued by RIAA
- Napster bankrupt

1999
- Napster launched
- Survivors: P2P piracy, platform providers
- Pressplay, Bertelsmann divests CDNow and other online assets

2000
- Bertelsmann teams with Napster
- Launch of pressplay and MusicNet

2001
- Napster forced down

2002
- Bertelsmann divests CDNow and other online assets

2003
- Pressplay, MusicNet to offer tracks from all major labels
Online Music
Companies on Timeline

- CDNow
- Amazon.com
- Musicmaker
- RealNetworks
- Liquid Audio
- Lycos
- Yahoo
- Launch.com
- Emusic.com
- MP3.com
- Vitaminic
- IUMA
- Napster
- MusicNet
- AOL Time Warner
- Universal, Sony, EMI
- Pressplay

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25 initiatives were analyzed to gain insight on the activities they conduct.
### Online Music Revenue Models

- **Pay-per-download**
- **Rental**
- **Pay-per-play**
- **Subscription**
- **Advertising**
- **Datamining**
- **Equity**
- **Hybrid**

<table>
<thead>
<tr>
<th>Revenue Model</th>
<th>Revenue Source</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay-per-download</td>
<td>Consumer selects a track and pays to download and keep it.</td>
<td>Liquid Audio, Best Buy, FYE, Vitaminic</td>
</tr>
<tr>
<td>Rental</td>
<td>Consumer selects a track and pays to download it for a limited period or for a limited number of plays.</td>
<td>Pressplay, Musicnet</td>
</tr>
<tr>
<td>Pay-per-play</td>
<td>Consumer calls up a track and pays to listen.</td>
<td>Sony Musicclub</td>
</tr>
<tr>
<td>Subscription</td>
<td>Consumer pays a flat subscription fee for a service which includes music.</td>
<td>Pressplay, Musicnet, Emusic</td>
</tr>
<tr>
<td>Advertising</td>
<td>Space or banners on the website are sold to advertisers</td>
<td>Launch, Vitaminic, Sharman Networks</td>
</tr>
<tr>
<td>Datamining</td>
<td>Consumer data is sold for marketing purposes.</td>
<td>Sharman Networks, MP3.com</td>
</tr>
<tr>
<td>Equity</td>
<td>No direct revenue source. The company builds up an audience, creates a brand and sells out to another company or through an IPO.</td>
<td>MP3.com (prior to IPO), Listen.com (prior to acquisition)</td>
</tr>
<tr>
<td>Hybrid</td>
<td>Consumer selects and pays on-line for a CD to be delivered by post. This includes CD-burning.</td>
<td>Amazon, Best Buy, Tower Records, Vitaminic, MP3.com, Artists Direct</td>
</tr>
</tbody>
</table>
Disruptive Forces

- Masses of new entrants, incumbents having suffered considerable losses
  - Suggests disruption
- Several technologies with disruptive potential introduced within a small time frame
  - It is difficult to identify which technologies have caused certain effects and which not
**Analysis**

**Music Industry Change Agents**

- **IDEA**: there have been two simultaneous yet distinct waves of change
  - One caused by opportunities for online sales and digital distribution → **Online Wave**
  - Another as a result of MP3, P2P, etc. → **Wave of Freedom**

<table>
<thead>
<tr>
<th>Disruptors</th>
<th>Disruptees</th>
<th>Entrants</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Online Wave</strong></td>
<td>• Online sales</td>
<td>• Liquid Audio</td>
</tr>
<tr>
<td></td>
<td>• Digital distribution</td>
<td>• Emusic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Amazon</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Prince</td>
</tr>
<tr>
<td><strong>Wave of Freedom</strong></td>
<td>• MP3 compression</td>
<td>• MP3.com</td>
</tr>
<tr>
<td></td>
<td>• P2P networks</td>
<td>• Artists Direct</td>
</tr>
<tr>
<td></td>
<td>• CD burning capabilities</td>
<td>• Napster</td>
</tr>
<tr>
<td></td>
<td>• MP3 players</td>
<td>• Kazaa</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consumers</td>
</tr>
</tbody>
</table>
Analysis

Two Waves of Change

• **Online Wave**

• **Wave of Freedom**

- Online Wave:
  - Online sales
  - Digital distribution

- Online Wave:
  - MP3
  - P2P

- Wave of Freedom:
  - Deconstruction
  - Disruption

- Wave of Freedom:
  - New types of actors

- Wave of Freedom:
  - Disintermediation

- Wave of Freedom:
  - New industry structure

- Wave of Freedom:
  - Convergence

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Disruptive Technologies and the Music Industry
Analysis Framework 1/2

- Offer content for free
- Enable free content
- Charge for content
- Enable content control

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Disruptive Technologies and the Music Industry
Analysis Framework 2/2

Content and Community
- Artists directly contract with a site to gain attention
- Primary revenue sources:
  - Advertising
  - Artist services
  - Donations
- Dominant format: MP3

FREE

P2P Universe
- File-sharing software manufacturers; manufacturers of MP3 player software and hardware; burner and music copying software
- Users of these tools create communities for virtual and physical networks for digital delivery
- Revenue sources: software sales, advertising, data mining, donations

CONTENT

Online and offline physical retail, copyright managed digital music
- Primary revenue source: sales transactions
  - Offline retail still # 1
  - Hybrid retail in strong growth
  - Downloads and subscriptions minor business
- Dominant formats: CD, DVD, WMA, LA, RA

TECHNOLOGY

权利 enforcement

CONTROLLLED

Rights Enforced

Infrastructure

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Music Industry 26
Analysis
Rights Enforced Value Network

- Network
- Music Sales Operator: product and pricing
- Infrastructure Partners
- Target Market
- Content Partners

Selection → Value Proposition → Attention
Affiliation
Infra

• Players in the Rights Enforced arena face three distinct competitive interfaces

• Each interface requires a different competitive strategy, tools
  • RE-RE
    – catalog, attention, lock-in
  • RE-CC
    – spotting and developing talent, artistic quality, marketing, promotion
  • RE-P2P
    – new high quality formats with DRM, court room, copyright education, versioning, immediacy, personalization
Analysis
Industry Players Mapped

Content and Community
- ACID
- Artist Direct
- Adoptaband.com
- People-sound
- IUMA
- MP3.com
- Vitaminic

Content and Community

P2P Universe
- WinMX
- KaZaa
- Napster
- Music Match
- Sonique
- RioPort
- Real Networks
- Liquid Audio
- Microsoft

Rights Enforced
- Launch (Yahoo)
- Listen (Lycos)
- eMusic
- Audio Galaxy
- pressplay

Rights Enforced

Incumbent Retailers
- FYE
- Tower Records
- Best Buy
- pressplay

Incumbent Labels

Infrastructure

Incumbent Labels

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Disruptive Technologies and the Music Industry
Analysis
Structure Dynamics

Disruptive Technologies and the Music Industry

FREE

P2P Universe

CONTENT

TECHNOLOGY

GLOBAL NETWORKS

Incumbent Retailers

Incumbent Labels

Rights Enforced

Incumbent

Content and Community

Infrastructure

People-sound

MP3.com

Vitaminic

Listen (Lycos)

eMusic

Launch (Yahoo)

ACID planet

IUMA

WinMX

KaZaa

Napster

Microsoft

Sonique

Microsoft

Real Networks

RioPort

MusicNet

MP3.com

FYE

Tower

Best Buy

pressplay

incumbent
direct

Adopta-band.com

Artist

Adopta-band.com

own

CONTROLLED

Change

Owes

Partners

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## Analysis

### Case Companies

<table>
<thead>
<tr>
<th>Company</th>
<th>Overview</th>
<th>Selection (March 2003)</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressplay</td>
<td>Subscription service by Universal, Sony and EMI</td>
<td>5 major labels</td>
<td>50 000 subscribers, requires a client software</td>
</tr>
<tr>
<td></td>
<td></td>
<td>250 000 tracks</td>
<td></td>
</tr>
<tr>
<td>Vitaminic</td>
<td>Promotes music by independent artist, sells MP3s, WMA, CDs, distribution</td>
<td>1,500 record labels</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>services &amp; consulting</td>
<td>100 000 artists</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>500,000 tracks</td>
<td></td>
</tr>
<tr>
<td>Sharman Networks (KaZaa)</td>
<td>P2P software, adware &amp; spyware</td>
<td>708,000,000 files</td>
<td>200,000,000 official downloaded copies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5,700,000 GB</td>
<td>Over 3,000,000 users usually online</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Includes a player, but any MP3 player does the job</td>
</tr>
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</tr>
<tr>
<td>Liquid Audio</td>
<td>Provides both content and platforms; music sales hosting</td>
<td>5 major labels and many independents</td>
<td>N/A, Liquid Player needed for decryption</td>
</tr>
</tbody>
</table>
Analysis

Vitaminic

• The only publicly listed digital music operator in Europe, est. 1999
• Several different business models
• Teams up with small labels and individual artists
• Networked economy strategies, examples
  • Free info, radio, etc. for affiliation
  • Customer tracking to identify which customized lock-in strategies are most effective
  • Locks-in artists by allowing them to manage personalized itineraries and "backstages"
• Result: 35 MEUR loss with 7 MEUR revenue, 2002
• Cumulative losses 1999-2002: 76 MEUR
Analysis
Liquid Audio

- Incorporated in 1996, Nasdaq 1999
- Digital distribution and music sales
  - Encoding, hosting and delivering secure music files, managing secure promotion, transfer and sales
  - Selection includes the offerings of major labels and many more
- E.g. Best Buy, Musicland, Tower Records and TWE sites built, hosted and DRMd by Liquid Audio
- Liquid player required to play Liquid Audio files
- Plug-ins to AOL Winamp player
- Palm uses Liquid’s technology for Palm Music Connection
- Result: 37 MUSD loss with 5 MUSD revenue in 2001
- In late 2002, in a liquidity crisis, sold its DRM patents to Microsoft
Sharman Networks (KaZaA)

- Incorporated in Vanuatu
- Headquarters in Sydney
- No employees, workers contracted through an Australian company, LEF Interactive
- Software developed in Estonia
- Main servers in Denmark
- Key executives from Sweden and the Netherlands
- Ownership and financials unknown, under the strict secrecy code of the republic of Vanuatu
- Has 60 million users, label controlled services 600 000 all together
- Over 200 million copies downloaded
- 3 million users simultaneously sharing 700 million files, a total 5 Petabytes of data
- Revenues sources advertising, data mining
Analysis
Pressplay

Disruptive Technologies and the Music Industry

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Network
- MSN Music, Yahoo, MP3.com, Roxio, Sony Music

Product and Pricing
- WMA-format
- Subscription $9.95
- Portable tracks
- $9.95/10-pack

Target Market
- Mainstream music fans enjoying good quality and convenience

Selection
- 250,000 tracks

Content Partners
- Universal
- Sony
- EMI
- Warner
- BMG

Infrastructure Partners
- Microsoft

Attention

Affiliation
Conclusions and Discussion

Economics of Information
- Online Sales
- Digital Distribution

Online Wave

Economics of Networks
- MP3
- P2P

Wave of Freedom
Disruption
New types of actors

Re-intermediation

Disintermediation

Free Content
P2P
Infrastructure
Convergence

Economics of Networks
Conclusions and Discussion
Online wave

• **Music industry incumbents have mastered the online wave fairly well**
  • Strong initial vertical integration
  • Successful implementation of the three counter-disruption strategies
• **Deconstruction and disintermediation have caused the value system to take a new shape**
• **Few new entrants have managed to remain independent**
• **Sales for digitally distributed music is still minor business in terms of revenue**
Conclusions and Discussion
The Wave of Freedom

The future of music depends on the consequences of the wave of freedom

Many significant participants brought in by the wave of freedom are no businesses at all in conventional terms

In a way, it seems that incumbents overshot the mainstream customer’s needs with the CD format

The industry is still under great turbulence and the ultimate outcome remains unclear

One thing is for sure, free copies of copyrighted music will be abundant and ubiquitous, forever
Conclusions and Discussion
Future Dark

• By counting on copyright, copy protection and conventional business models industry incumbents will lose
• If no sustainable cure is found, it might turn out that artists would distribute their own content, making money from up-to-date subscriptions, live performances and T-shirts, while paying music labels for marketing and promotion (Varian)
Conclusions and Discussion
A Better Tomorrow

• Trust, immediacy and personalization are still of great value (Kelly)
  • If you want to ascertain the quality, receive immediately the music of your favorite artist as the track is released, or have the music automatically customized for the audio parameters of your car, you are probably ready to pay for it

• In the world of million and more music titles a consumer will never have time to search and listen to but a tiny fraction of the global supply
  • They will simply pay for having someone to recommend and assemble music matching their musical appetite
Conclusions and Discussion
A Better Tomorrow II

• Digital distribution has a potential to add value and increase overall demand and consumption of music
  • Find music and acquire it more easily
    – By lyrics, moods, genre or maybe by humming a few notes of the desired song
    – Immediate acquisitions
    – More flexible assortments
      – Single track, album, personalized compilation, or packed with value added extras
      – New payment models
  • Better access to own music collection
    – From home, work, car, abroad
  • Wideband mobile music presents unbeaten immediacy, ubiquity, convenience and personalization potential that is yet to be explored
Case Companies Now

• Three out of four have ceased to exist as independent actors
  • Vitaminic merged with Buongiorno Group
  • Pressplay was acquired by CNET
  • Liquid Audio never made profit, never will

• Sharman Networks’ Kazaa still is one of the most popular software ever