

# **GORILLAS IN OUR MIDST: SEARCHING FOR KING KONG IN THE MUSIC JUNGLE**

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## **1. INTRODUCTION**

To paraphrase Mark Twain, reports of the music industry's portending death are premature. More accurately, the industry is in a Chinese crisis, so characterized by the spontaneous occurrence of danger and opportunity. But the fundamentals of brains, bits, and wires are the same as ever; i.e., people listen, artists perform, businesses learn, and markets punish. There is every reason to be careful, and no reason to despair, in the best and worst of times.

Major labels face the greatest challenge. True venture capitalists, labels historically invested considerable sums to find veritable needles in haystacks -- an elusive group of successes that could sell enough albums to pay for the many other acts that could not. This financing system is now increasingly unsustainable as the high end potential of top selling acts has diminished and market audiences have abandoned traditional promotional venues. Consequently, the major record companies have now come to develop new financing models for distributing, incubating, and monetizing talent. New revenue-sharing contracts, joint venture deals, and coalition arrangements involve independent labels, new technology providers, artists, and agents.

The issue before the industry is now primarily one of transactional and organizational economics – the ability to reshape contracts and institutions to make music production and distribution more profitable. The new market will evolve critically in response to present quandaries:

1. The center of the music industry will move from the sale of the compact disc/digital track to the integrated promotion of the entire recording act.
2. Labels will more equitably share in revenues from concerts, merchandise, and publishing, while artists will receive a greater share of label earnings.
3. Labels will continue to reduce A&R, marketing, and administration costs by picking up successful acts from independent labels and self-promoting artists

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4. Recording artists and labels will tap new revenue streams, such as online advertising and brand sponsorship.

The respective consequences of each phenomenon will be more money, shared risks, and new customer options.

The present loss of power and influence that major labels now experience presents room for new agencies and business models. This will engage the efforts of the more effective innovators at major companies. In addition, a generation of new players – concert promoters, talent managers, merchandise sellers, general advertisers, and social networks -- will capitalize further on opportunities by modifying interfaces with their fan bases. Emerging power players -- News Corporation, Apple, Google, Yahoo, Live Nation, and BitTorrent – will position alongside the media companies that have led the industry to the present date. New hierarchies will emerge that bring order out of increasing complexity, and present opportunities for sharp investments that can capitalize on them.

## **2. LABELS AND POOLED INVESTMENTS**

Owning some forty individual labels, the four major companies now generate 75 to 80 percent of revenues in the U.S. record sales in the U.S. record business. The system of major label finance is a venture capital arrangement where labels invest in new releases, diversify risks, and cross-collateralize profits and losses. The economic basis for their engagements in finding and developing new acts is now under considerable pressure.

At the outset of a record deal, a major label may advance some \$200 – 300,000 to fund production of a new master recording; established acts may command multiples more. Once an album is recorded, the label may additionally spend millions on marketing, product placement, tour support, independent promotion, and video production.

Amounts invested in new albums are recovered from product revenues net of direct costs related to manufacture, distribution, and royalties. Net revenues above direct costs are used to recover overhead and other fixed costs, generate shareholder return, and cover the commercial losses of the many acts that do not succeed. In the latter regard, about 80 percent of all releases never reach a breakeven point to recover direct costs, while only 10 percent are regarded to be financially successful.<sup>12</sup>

A hits-driven industry, the record business has been hurt seriously by the loss of top-selling albums that would expectedly generate the most revenue and the greatest compensation. As Soundscan data confirm, sales of the most popular releases have declined more rapidly in 2000-2006 than lesser releases.

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<sup>1</sup>M. Fink, *INSIDE THE MUSIC INDUSTRY: CREATIVITY, PROCESS, AND BUSINESS*, New York, Schirmer Books, 1996, p. 94.

### PERCENT DROP IN UNIT SALES FROM 2000

	2001	2002	2003	2004	2005	2006
Top 10	33.1%	35.8%	44.5%	42.5%	47.0%	58.4%
Top 100	11.8%	26.4%	29.6%	26.5%	38.6%	43.7%
Top 200	8.8%	25.1%	26.6%	24.2%	34.8%	40.0%
TOTAL	2.8%	13.3%	16.4%	13.2%	21.2%	25.1%

This disparity is consistent with the industry's contended harm from file-sharing, as top songs are the most commonly found content uploaded and traded in file-sharing networks.<sup>3</sup> Indeed, survey powerhouse Big Champagne confirms that the top 10% of all titles on the file-sharing networks now account for 70% of all downloads, while the bottom 65% now account for only a 5% fraction.<sup>4</sup>

The financing relationship between label and artist is now often clouded by complaints about transparency and contract equity. Historically, labels recovered upfront costs of production and development by paying artists somewhere between 10 and 15% of retail revenue, and withholding payments until related production advances and marketing costs were recouped. On the backend, labels did not get to share in the concert dollars, merchandise, and publishing royalties that now compose about 70% of artist incomes.<sup>5</sup>

Artists and labels may now come to understand how the wide disparities in upfront and backend shares has led to conflicting financial interests. The parties can then hopefully devise more balanced arrangements for sharing revenues and risks. Artists may particularly earn a great share of record royalties but labels may also earn a backend draw on concerts, merchandise, and publicity.

An innovating major company, EMI worked out an interesting sharing arrangement with Robbie Williams and Korn.<sup>6</sup> In the latter deal, EMI agreed to provide an estimated \$15

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<sup>4</sup>The larger downturn of top albums is not explicable by the other prevailing trend in retailing and promotion (see Section 3), where "big box" outlets cut out the lesser selling materials from their store shelves in favor of best selling releases.

<sup>4</sup>Personal conversation with Eric Garland, Big Champagne. (October 10, 2007)

<sup>5</sup>at <http://www.justplainfolks.org/ubb/Forum2/HTML/004545.html> (retrieved October 1, 2007)

<sup>6</sup>Id.,

million upfront advance — more than twice what the band might otherwise have received in a traditional recording contract. EMI agreed to provide distribution services for Korn albums and receive 25% of the band's merchandising, touring revenue, and publishing and artist royalties. The band followed up with a similar arrangement with concert promoter Live Nation,<sup>7</sup> which will pay the group some \$3 million in return for 6 percent of the band's future earnings.<sup>8</sup> It is this type of financing arrangement that has the potential of keeping all shares symmetric and balancing the conflicting incentives that now affect labels and their artists.

With an artist roster that includes Avril Lavigne, Dido, Sarah McLachlan, Bare Naked Ladies, and Stereophonics, Canada's Nettwerk Productions is a one-stop music management company with an integrated business model.<sup>9</sup> The company owns an independent label that is now responsible for the release of over 400 different albums that have amassed worldwide sales in excess of 100 million albums.<sup>10</sup> Besides selling records and more equitably sharing in generated royalties,<sup>11</sup> Nettwerk also negotiates shares in publishing, merchandising, and tour revenues. Nettwerk then views discs as promotions that can lead to more fan awareness and downstream revenues, and the company actually allows users in 5000 libraries in the U.S. and Canada to digitally borrow 130 albums with their town library cards.<sup>12</sup> The model is made particularly compelling by online communities enabled by legitimate file-sharing and social networking arrangements that Nettwerk now licenses.

### 3. THE RISE OF INCUBATION

Besides owning and self-distributing their own inhouse labels, the four major companies now distribute product for over 900 independent labels,<sup>13</sup> which have become quite creative in their efforts to identify and bring up new talent.<sup>14</sup>

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<sup>7</sup> See Section 6.

<sup>8</sup>J. Zahlaway, *Korn forms partnership with EMI, Live Nation*, January 11, 2006, at [http://www.livedaily.com/news/Korn\\_forms\\_partnership\\_with\\_EMI\\_Live\\_Nation-9436.html?t=98](http://www.livedaily.com/news/Korn_forms_partnership_with_EMI_Live_Nation-9436.html?t=98)

<sup>9</sup>Jeff Howe, *No Suit Required*, September, 2006 at <http://www.wired.com/wired/archive/14.09/nettwerk.html> (retrieved August 28, 2007)

<sup>10</sup> at [http://www.digitalmusicforum.com/mcbride\\_bio.html](http://www.digitalmusicforum.com/mcbride_bio.html). (retrieved October 1, 2007)

<sup>11</sup> An artist at Nettwerk can earn \$5 per album in royalties. *Nettwerk Shows Music Industry Future*, DCIA Newsletter, October 2, 2006, at <http://www.dcia.info>.

<sup>12</sup>*OverDrive & Nettwerk Music Group*, DCIA Newsletter, June 25, 2007, at <http://www.dcia.info>.

<sup>13</sup> The full list appears at <http://www.riaa.com/about/members/default.asp>. (retrieved October 1, 2007)

Without access to public equity, independent labels have a different financing structure than major competitors. Independent labels now spend considerably less upfront to record and break a new album. Consequently, these labels now offer to artists a larger revenue share from CD sales (usually 50 percent, as distinguished from 10-15 percent at a major). Consequently, a band can make \$5-7 per new CD sold, and double if it acts as its own record label. These advantages may presumably improve with digital distribution, where disk manufacture can be avoided entirely. .

Independent labels historically suffered because they lacked the distributor clout to get to prime retail space and broadcast channel. However, each of the major companies in the past ten years has operated a distributor coalition -- Red Distribution (Sony BMG),<sup>15</sup> Fontana (Universal),<sup>16</sup> Caroline (EMI),<sup>17</sup> and the Alternative Distribution Alliance (Warner Music)<sup>18</sup> – that provides to these smaller labels more access to key promotional outlets. Indeed, a knowledgeable authority listed nine contracting arrangements that major distributors and independent labels now implement.<sup>19</sup> Besides joint ventures, cross-licensing, and general risk-sharing arrangements that split collected revenues by a prespecified formula, the major companies often provide to independents incubation funds for finding and developing new acts. In an innovative process called *upstreaming*, major companies retain an option to “pick up” successful recording acts from their independents. As another arrangement, Warner Music Group now picks up entire labels that are successful in developing acts.

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<sup>14</sup>For example, Rounder Records has created a particularly innovative and important catalog of American roots music. at <http://www.rounder.com/>

<sup>15</sup>Red distributes 42 record labels, including Psychopathic Records, Fat Wreck Chords, The Militia Group, and Victory Records, its top-selling label. at <http://biz.yahoo.com/ic/113/113230.html> (retrieved October 1, 2007)

<sup>16</sup>Fontana distributes more than 70 labels including Vagrant Records, VP Records, American Gramophone, Quango, Global Underground, Mad Science Recordings, Angeles Records, Nitro, SMC, Upstairs Records, Warcon, and Dischord Records. at [http://en.wikipedia.org/wiki/Fontana\\_Distribution](http://en.wikipedia.org/wiki/Fontana_Distribution)

<sup>17</sup>See list at <http://www.carolinedist.com/default.asp> (retrieved October 1, 2007)

<sup>18</sup>See list at [http://www.ada-music.com/generic.asp?module\\_map\\_id=1169&view=labeltext](http://www.ada-music.com/generic.asp?module_map_id=1169&view=labeltext) (retrieved October 1, 2007)

<sup>19</sup> C. Knab and B.Day, *How and Why Major Labels and Independent Labels Work Together*, March, 2004, MusicBizAcademy.com, at <http://www.musicbizacademy.com/knab/articles> (retrieved October 1, 2007)

For example, Sony in 2002 signed San Francisco's Future Farmer label to an upstreaming deal. Under the deal, Sony distributed new releases for the independent and has provided manufacturing, lines of credit, accelerated payment, and radio promotion. For its efforts, Sony retains 24 percent of sales revenue as distribution fees. The company has a right of first refusal on any successful artist on Future Farmer who does well and can be promoted to a major label deal.<sup>20</sup>

Alternative arrangements for distribution and incubation are appealing tactics for sharing investment risks. With cash infusions and hefted promotion, independents now test new ways of finding and developing acts. With less upfront investment and greater flexibility, independents can serve as wider nerve endings for discovering new talent. For their part, major companies conserve on cash, diversify portfolios, and focus depleted budgets on acts that have proven their worth in previous markets. .

#### 4. BROKEN BOTTLENECKS

Record labels have depended on three information and marketing platforms – record stores, broadcast radio, and music video (e.g., MTV and VH1) – to break new acts and releases. At least the first two are now increasingly dysfunctional, while the third faces increasing competition from more interactive online venues.

The specialized record store in the 1980s became a local institutions where music fans browsed deep shelves and learned from knowledgeable staff about the latest finds. However, mass retail (or “big box”) stores in the past ten years have dislodged the retailing venues of the specialized record vendor. Indeed, three retail chains -- Wal-Mart, Best Buy and Target -- now sell over 50 percent of all albums retailed in the U.S.<sup>21</sup> As a marketing practice, retail chains sell CDs at discounted prices in order to attract shoppers to other store merchandise such as home appliances, electronics, groceries, photo processing, etc.

Mass retailing has produced lower prices for the consumer. Indeed, a recent survey of store prices for a Christina Aguilera release showed a retail price of \$17.99 at Tower, \$15.39 at Hastings, \$14.99 at F.Y.E., and \$11.88 at Wal-Mart, Target and Virgin Megastores.<sup>22</sup> The big chains offer lower retail prices because they have the buying clout

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<sup>20</sup>D. Strachioia, *Upstreaming Without a Paddle: Take me to the River*, May 22, 2002, at <http://www.sfweekly.com/2002-05-22/music/upstreaming-without-a-paddle/>. (retrieved October 1, 2007)

<sup>21</sup> D. Goodman, *U.S. Record Stores Get no Satisfaction from Stones*, October 6, 2003, [www.tonight.co.za/index.php?fSectionId=346&fArticleId=254879](http://www.tonight.co.za/index.php?fSectionId=346&fArticleId=254879) (retrieved October 1, 2007)

<sup>22</sup>*Did iTunes Kill the Record Store?*, March 2, 2007, at <http://www.roughlydrafted.com/RD/RDM.Tech.Q1.07/1C726ADF-0ED1-42D0-93D9-4FA4E698E94A.html>

to negotiate wholesale prices and reassign floor space from noncompliant sellers. Label profits are then eroded.

In highly restricted retail environments, mass retailers generally grant floor space only to the best-selling albums. Consequently, selection at the “big box” is smaller than at specialized outlets. By one account, the average Wal-Mart store displays 5,000 titles, which contrasts with 60,000 titles displayed at a large specialized record store.<sup>23</sup> The “big box” chains also do not generally have promotional displays, knowledgeable staff, listening stations, or kiosks for burning mixed CDs. By any account, the mass retail store is a more limited venue for breaking new acts.

While mass retailers have expanded, specialized record chains and independent stores have closed in a fiercely competitive environment. The number of music chain stores fell from 9,500 in 1991 to 2,000 in 2003.<sup>24</sup> Indeed, recent data from the Almighty Institute of Music Retail confirm a more detailed history in 2003-2007 that is not about to reverse.<sup>25</sup>

	<b>2003</b>	<b>2007</b>
Independent Record Stores	943	156
Major Chains	994	60
Big Box	71	794
Specialty Retailer	38	160
Digital and Mail Order	48	48

Chain bankruptcies or distressed buyouts since 1994 have included Camelot, Warehouse Entertainment, CD World, HMV, Musicland, National Record Mart, F.Y.E., Sam Goody, Suncoast, and Tower Records.<sup>26</sup> Most of these chains were bought up by a consolidating chain Trans World Entertainment,<sup>27</sup> which now makes a general business practice of buying distressed stores and restocking shelf space with wider entertainment fare that

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<sup>23</sup> Supra note 23.

<sup>24</sup> Id.

<sup>25</sup> at <http://www.almightyretail.com>. (retrieved October 1, 2007)

<sup>26</sup> Supra note 24.

<sup>27</sup> Brands at Trans World include f.y.e. (“For your Entertainment”), Sam Goody, Coconuts, Strawberries, Warehouse, Movies, CD World, Spec’s Music, and Second Spin

includes music, video, software, electronics, and accessories. However, music is a weak link at TWE; the album share of total revenues diminished from 55.0% in 2004 to 44.2% in 2006.<sup>28</sup> At a similar smaller chain, Hasting Entertainment, albums now account for only 25% of store revenues.<sup>29</sup>

The store population in the “bricks and mortars” sector is graying and thus losing the important youth demographic that propels industry growth. Shoppers between the ages of 15 and 19 purchased 17% of all recorded music in 1995; this share diminished to 12% in 2005.<sup>30</sup> The share for adults over 45 rose from 25.5 percent to 45 percent in the same decade.<sup>31</sup> With more technical proficiency, younger shoppers are apparently attracted to file-sharing, online markets, video games, and other forms of digital entertainment.

Contemporary with the transformation of the retail channel is the diminishing importance of radio. Historically, a full 75 percent of the surveyed population in the year 2000 identified radio as a determinant of their last CD purchase, in favorable contrast with recommendations (46 percent), music video (45), store view (42), soundtrack (37), and live performance (29).<sup>32</sup> However, radio stations in the past six years have lost audiences in all age groups, with the worst percentage drops among teenagers (12-17) and young adults (18-24).<sup>33</sup> In 2006, Edison Media Research found that Time Spent Listening (TSL) among 12 to 24 year olds declined 22% since 1993.<sup>34</sup>

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Trans World Entertainment Corporation, , FORM 10-K, ANNUAL REPORT FOR THE FISCAL YEAR ENDED FEBRUARY 2007, 4, [at http://www.sec.gov/Archives/edgar/data/795212/000093041307003622/c48005\\_10-k.htm](http://www.sec.gov/Archives/edgar/data/795212/000093041307003622/c48005_10-k.htm), (retrieved October 1, 2007)

<sup>29</sup>M. Fraser, *The Day the Music Died*, November 27, 2006, [at http://www.thenation.com/doc/20061211/fraser](http://www.thenation.com/doc/20061211/fraser) (retrieved October 1, 2007)

<sup>30</sup>A. Williams, *The Graying of the Record Store*, NEW YORK TIMES, July 16, 2006, [at http://www.nytimes.com/2006/07/16/fashion/sundaystyles/16store.html?ex=1310702400&en=c73cf362b5775a6b&ei=5088&partner=rssnyt&emc=rss](http://www.nytimes.com/2006/07/16/fashion/sundaystyles/16store.html?ex=1310702400&en=c73cf362b5775a6b&ei=5088&partner=rssnyt&emc=rss)

<sup>31</sup> Id.

<sup>32</sup>Edison Media Research, *The National Record Buyers Study 3*; [at http://www.edisonresearch.com/published\\_research.html](http://www.edisonresearch.com/published_research.html) (retrieved October 1, 2007)

<sup>33</sup>Arbitron, *Persons Using Radio Report*, [at at http://wargod.arbitron.com/scripts/ndb/ndbradio2.asp](http://wargod.arbitron.com/scripts/ndb/ndbradio2.asp)

<sup>34</sup>T. Webster, FOLLOW-UP EDISON MEDIA RESEARCH STUDY ON 12-24 RADIO LISTENING SHOWS SHARP DECREASES IN TSL AND USAGE, [at http://www.edisonresearch.com/home/archives/2006/09/followup\\_edison.php](http://www.edisonresearch.com/home/archives/2006/09/followup_edison.php) (retrieved October 1, 2007)



As a practical matter, broadcast radio is convenient for reaching adult audiences during rush and work hours, but is less appealing to teenage and younger buyers who demand more control, interaction, and portability. While radio may attempt to bring back some audiences by reducing advertising<sup>35</sup> and broadening playlists,<sup>36</sup> the loss of youthful audiences for broadcast radio will not reverse.

## 5. A FEW BITS ABOUT DIGITAL

Faced with difficulties in retail and broadcast radio, label and independent marketers of music now look to new retail platforms and information channels to get the word out to a diverse and empowered fan. A wide variety of new commercial instruments will come now to provide opportunities for promoters and financiers to introduce new bands and profit from successful acts. Three channels – digital services, concerts, and advertising - - are key.

In the past five years, new digital services -- Apple, Sony, Napster, RealNetworks, Wal-Mart, Microsoft, Virgin, and MusicMatch -- have begun to sell downloads or streaming subscriptions to online buyers. Although digital retailing will surely grow, it will present confounding problems to major labels that have historically depended on the sale of bundled tracks through a CD price of \$10 to 18. Now selling individual tracks at a smaller amount (usually 99 cents), the digital services will have a mixed effect upon label finances and present interfaces that new players may exploit.

As a matter of economics, the online market is vigorously price-competitive. In search of new listeners, all services now allow users to sample songs, purchase downloads, transfer tracks to portable devices, and exchange personal recommendations with friends. The general market price of 99 cents per download is roughly equal to the related cost of licensing, bandwidth, credit card services, and administration that music services must pay to content owners, transport providers, and administrators. Subscription services at Rhapsody and Napster are competitively priced at \$9.99 per month, while Yahoo aggressively undercuts its subscription rivals in hope of selling additional advertising to the expanded audience.

Besides enabling price experiments, the new music services test the market appeal of new business models. In the largest market niche, Apple sells its iTunes downloads at no

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<sup>35</sup>In the consolidation years of 1995-2000 in which major chains bought up local radio stations, corporate managers improved figures by increasing the share of advertising minutes in each broadcast hour. at [http://www.radiomarketingnexus.com/2004/07/clear\\_channel\\_c.html](http://www.radiomarketingnexus.com/2004/07/clear_channel_c.html) Aware that it may have saturated the market with advertising, Clear Channel in 2004 adopted a “Less is More” campaign to reduce advertising minutes. [att http://www.clearchannel.com/Radio/PressReleases/2004/20040719\\_CCR.pdf](http://www.clearchannel.com/Radio/PressReleases/2004/20040719_CCR.pdf) .

<sup>36</sup>In the past ten years, program managers at the radio chains have increasingly designated online playlists based on telephone research of audiences in national and local markets. The scientific approach to audience tastes might have reduced station manager input and reduced regional diversity.

profit in order to sell its market leading iPod playing device, which is capable also of playing unprotected MP3s. AOL Music and Yahoo! Music merged their popular search engines with webcasting and music services to promote more effectively the sale of viewers to online advertisers. The subscription services at Rhapsody and Napster now off “all you can eat” streaming service that compete with downloads from Apple

Three issues now complicate label strategies. As mentioned, Apple’s iPod player now accommodates all unprotected mp3 tracks, as well as DRM-protected iTunes songs. The DRM protection is provided by the company’s Fairplay technology Apple’s iPod device does not now accommodate DRM-protected songs from other online music stores, such as Napster, Rhapsody, and Wal-Mart. Nor can iTunes tracks be used on any other device. Consequently, each potential purchaser buyer of an online download from any service faces the future possibility that tracks purchased for use with one player will become useless on another, thus exacerbating difficulties that some consumers apparently have with DRM.<sup>37</sup> This may be termed digital “lock-in”, which is a critical example of an noncooperative market (or Nash) equilibrium where the “invisible hand” does not bring unalloyed private interests to the most efficient point.

There is now no indication that Apple will relax its present incompatibility with other forms of DRM; the company rather suggests that labels abandon DRM entirely,<sup>38</sup> In this regard, both EMI and Universal Music have recently come to offer DRM-free tracks made available in certain distribution channels. With some concern about the potential of DRM to lock down the system, EMI now offers through Apple’s iTunes unprotected tracks (\$1.29 per unit) encoded in higher resolution AAC.<sup>39</sup> The Universal Music Group more aggressively experiments by offering unprotected MP3 tracks at 99 cents at Amazon, Wal-Mart, Rhapsody, Google,, Best Buy, Trans World Entertainment,

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<sup>37</sup>Jupiter Research recently found again that listeners would buy more music without DRM. David Card | Universal Music's DRM-free Experiment Won't Solve Industry Woes, August 13, 2007, at <http://weblogs.jupiterresearch.com/analysts/card>. A study from Jupiter Research also shows that the average iPod owner has about 20 tracks (i.e., 5% of total) purchased from iTunes; the rest are from previously owned CDs or file-sharing networks. iPod fans 'shunning iTunes store', September, 16, 2006, at <http://news.bbc.co.uk/2/hi/technology/5350258.stm>. Moreover, a full 83% of owners do not purchase digital music regularly. Jupiter also found in February, 2007 that 58% of large label executives and 73% of non-label executives felt that dropping DRM would boost record sales. BBC News, *Music execs criticise DRM systems*, February 15, 2007, at <http://news.bbc.co.uk/1/hi/technology/6362069.stm> Finally, Forrester Research found that monthly revenue per iTunes customer fell 65% in 2006. iTunes sales collapsing, at [http://www.theregister.co.uk/2006/12/11/digital\\_downloads\\_flatline/](http://www.theregister.co.uk/2006/12/11/digital_downloads_flatline/)

<sup>38</sup> Steve Jobs, *Thoughts on Music*, February 6, 2007, at <http://www.apple.com/hotnews/thoughtsonmusic/> (retrieved August 28, 2007) See also *What Steve Jobs's DRM announcement means*, February 22, 2007, at [http://www.boingboing.net/2007/02/22/what\\_steve\\_jobss\\_drm.html](http://www.boingboing.net/2007/02/22/what_steve_jobss_drm.html) (retrieved August 28, 2007) .

<sup>39</sup>Caroline McCarthy, *EMI, Apple partner on DRM-free premium music*, CNET News.com, April 2, 2007 1 at [http://news.com.com/EMI,+Apple+partner+on+DRM-free+premium+music/2100-1027\\_3-6172398.html](http://news.com.com/EMI,+Apple+partner+on+DRM-free+premium+music/2100-1027_3-6172398.html). (retrieved August 31, 2007)

PassAlong Networks, and Puretracks, but not iTunes. MP3 tracks are playable on any playing device on the market.<sup>40</sup>

As a second problem in the online market, streaming services do not have rights to use certain musical compositions because publishers and labels control rights that must be independently negotiated. The limited catalog for streaming now contrasts with download services (e.g., iTunes), which were in 1995 guaranteed access to the same prerecorded compositions for reproduction in the permanent download.<sup>41</sup> By the count of the Digital Media Association, subscription services are unable to stream some 50 percent of the compositions that its members now seek.<sup>42</sup> Indeed, senior executives of three online music services – RealNetworks, Napster and Sony Connect – agreed that licensing difficulties – not piracy – represented their single biggest business problem.<sup>43</sup>

Third, while the purchase of single downloads is attractive to audiences, it will become increasingly difficult to support the production of complete album releases if fans are free to “cherry pick” their favorite songs. Indeed, album downloads in the most recent full year (2006) accounted for only 14.9 percent of the \$1,856.8 million earned in digital sales.<sup>44</sup> The remainder constituted material – ringtones, singles, subscriptions, and music video -- derived from a preexisting catalog of record albums. These market shares entirely reverse the components of physical retail, where albums now account for 95.2 percent of retail sales and thus push the market.<sup>45</sup> Digital markets are expected by one

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<sup>40</sup>Jeff Leeds, *Universal Music Will Sell Songs Without Copy Protection*, New York Times, August 10, 2007, *at* <http://www.nytimes.com/2007/08/10/business/10music.html?ex=1188878400&en=3e85a94edcee43c3&ei=5070> (retrieved August 31, 2007)

<sup>41</sup>DIGITAL PERFORMANCE RIGHT IN SOUND RECORDINGS ACT OF 1995, 109 STAT. 336]] Public Law 104-39, encoded at 17 U.S.C. ¶115, at <http://www.copyright.gov/legislation/pl104-39.html> (retrieved October 1, 2007)

<sup>42</sup>J. Potter, Testimony, Oversight Hearing on Digital Music Licensing and Section 115 of the Copyright Act." United States House of Representatives Subcommittee on Courts, the Internet and Intellectual Property, Committee on the Judiciary, March 8, 2005, at <http://judiciary.house.gov/OversightTestimony.aspx?ID=300> (retrieved October 1, 2007)

<sup>43</sup>Id.

<sup>44</sup>In millions, Ringtones and other Mobile, \$ 774.5; Download Single, \$ 580.6; Download Albums, \$ 275.9; Subscription, \$ 206.2; Music Video, \$ 19.7. RIAA, 2006 YEAR END SHIPMENT STATISTICS, at <http://www.riaa.com/news/newsletter/pdf/2006yrEndShipments.pdf> (retrieved October 1, 2007)

<sup>45</sup>In millions, CD's, \$9,162.9; Music Video, \$ 451.0 ; Other Albums, \$ 22.1; Singles, \$15.4. Id.

source to account for 25% of all music sales by 2010; thus diminishing the appeal of the album.<sup>46</sup>

On the upside, the flexible and interactive capabilities of web technology provide to new acts a communication platform that can be ramped up with a few tracks carefully distributed in the network. Interpersonal recommendation – i.e., email, blogging, playlisting, sampling, social networking, band websites, online local newspapers, expert recommendations, seeding, superdistribution – have the potential to build word of mouth in order to break new acts. Information agents can observe grassroots tastes and extract otherwise useful data on existing market trends.

A new sector of professionals in the industry will develop and revise hierarchies and techniques for analyzing recorded music, plumbing consumer tastes, and presenting new information to cut through the fog created by an abundance of releases. These hierarchies and techniques will be based on comparisons of the expressed tastes of music fans and/or observable characteristics of musical works. For example, researchers at Upto11.net identified listener patterns in the contents of over 250,000 music folders on different file-sharing networks. After entering the name of a band that she knows, a user can read related material on similar bands in seconds.<sup>47</sup> Based on compositional analysis, Pandora by contrast offers a recommendation service based on the Music Genome Project, where musicologists spend 20 to 30 minutes analyzing songs for conformance to over 400 related attributes.<sup>48</sup> As a third option, labels and artists can buy “ad words” from Google and other search engines, and thus link web surfers with their own websites or online merchandising venues. Finally, superdistribution technologies, such as PassAlong, Peer Impact, and Weedshare, may actually use cash or credit to compensate users who upload or recommend tracks to others in legitimate file-sharing arrangements.<sup>49</sup>

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<sup>46</sup> International Federation of Phonographic Industries, 2006 GLOBAL RECORDING INDUSTRY IN NUMBERS, at 6

<sup>47</sup> at <http://www.upto11.net> (retrieved Oct. 6, 2005).

<sup>48</sup> at [http://en.wikipedia.org/wiki/Music\\_Genome\\_Project](http://en.wikipedia.org/wiki/Music_Genome_Project)

<sup>49</sup> For example, Wurld Media’s Peer Impact (now a part of the ROO Group) is a legitimate peer-to-peer distribution system similar to BitTorrent that distributes audio licensed by the four major record companies and video from NBC/Universal, 20th Century Fox, and Warner Bros. Pictures Peer Impact offers cash-credit rewards to users for uploading tracks to the network and recommending purchases to others. The network then provides incentives for users to expand the catalog and trade information with one another. [http://en.wikipedia.org/wiki/Peer\\_Impact](http://en.wikipedia.org/wiki/Peer_Impact), retrieved November 13, 2007

## 6. CONCERTS AND PROMOTIONS

Live Concerts have a critical role in the music business as a means to support new releases, and established acts such as Bruce Springsteen and the Rolling Stones may also tour from time to time on remembrance tours. However, smaller labels and independent bands that cannot buy into broadcast radio have always relied more directly on live promotion, with CDs often sold directly to audiences at the event.<sup>50</sup>

Fan-sponsored breakthrough concert material has come to appeal to new acts in the digital space. For example, fans of the unsigned “jam band” Phish broke a national act by developing a web-based news system for promoting the group; the digital venue facilitated the exchange of free tracks recorded at live concerts, which the band permitted. The Phish network grew from a single electronic mailing list in 1991 to a web of mailing lists, a high-traffic usenet newsgroup, several IRC and web-based chat forums, and hundreds of Phish-related web sites interconnected with one another. Several other fan communities have formed in support of their favorite bands (such as Widespread Panic, Moe, Steve Kimock and The Slip, Soulive, Merl Saunders, Widespread Panic, The String Cheese Incident, Gov't Mule, Umphrey's McGee, and The Disco Biscuit<sup>51</sup>)

The online world provides the stage for promotion of unsigned acts in a composite venue. For example, a file-sharing network, BitTorrent, annually supports the nation's leading promotion venue for independent bands -- the South by Southwest (SXSW) Music and Media Conference. The digital platform provides to its listeners free authorized downloads of musical acts that appeared at the event, with legitimate options for later upload and exchange.<sup>52</sup> Full delivery of the substantial bandwidth is made possible in a peer-to-peer network by the efficiency of BitTorrent's swarming technology that economizes on storage and transport needs.<sup>53</sup>

Recommendation services will be critically important in promoting word-of-mouth in the local concert scene. For example, in a localizing service Cornerband.com, users may find new regional talent by entering certain key words; e.g., a user who enters “Black Sabbath” and “Chicago” will learn of websites, downloadable content, and possible

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<sup>50</sup>For example, American gospel artists become known to their audiences primarily through performances in live religious venues. Gospel artists supplemented concert income by selling albums at the back of the hall. The Gospel model contrasts with the mainstream Christian Rock model, where acts are more likely to break out with radio play and big arena concerts.

<sup>51</sup>See [a at http://EN.wikipedia.org/wiki/Jam\\_band](http://EN.wikipedia.org/wiki/Jam_band) for a description of the phenomenon and a comprehensive list of websites related to this musical genre. (retrieved October 1, 2007)

<sup>52</sup>*BitTorrent Launches Free, Downloadable Music and Film Trailers From South by Southwest 2006, Business Wire, Feb 21, 2006*

<sup>53</sup>see Section 9.

appearances of any similar performing act in the city's metropolitan area.<sup>54</sup> As advertising-based services for content distribution, Intent Media and the Jun Group directly seed DRM-protected and ad-supported concert and recorded material in file-sharing networks and in strategic pockets of users on the Internet.<sup>55</sup>

A great candidate for concert synergy is Live Nation, which was spun off in 2005 from Clear Channel and is now the largest promoter of live concerts in the world;<sup>56</sup> Live Nation has produced tours for The Rolling Stones, Barbra Streisand, Madonna, U2 and Coldplay, among others.<sup>57</sup> The company is also the second-largest entertainment and management company in the world<sup>58</sup> with booking and/or equity interests in more than 160 venues, including Hyundai Pavilion (65,000 seats), Alpine Valley Music Theater (35,000), Tweeter Center (28,000) Nissan Paviliion (25,000), and Shoreline Ampitheater (25,000). It also sells tickets to concert audiences through a collection of websites that are the second most popular venue for entertainment events in the United States.<sup>59</sup> All told, Live Nation in 2006 connected nearly 60 million fans and 1300 artists at approximately 26,000 events around the world.

Live Nation made three important acquisitions in 2006 that are clearly related to a new domain of digital buildout:

1. *House of Blues* -- a national collection of ten smaller clubs, one larger club, and eight amphitheaters. The new venues at House of Blues are suitable for the development of smaller-sized music acts. They can be predictably combined with innovations in

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<sup>54</sup> at <http://www.cornerband.com/html/about/about.asp> (retrieved Oct. 5, 2005).

<sup>55</sup>S. Zeidler, *Entertainment Firms Quietly Using Piracy Networks*, November 3, 2003, at [http://www.boston.com/business/technology/articles/2003/11/03/entertainment\\_firms\\_quietly\\_using\\_piracy\\_networks?mode=PF](http://www.boston.com/business/technology/articles/2003/11/03/entertainment_firms_quietly_using_piracy_networks?mode=PF) (retrieved October 5, 2005).

<sup>56</sup> According to *Pollstar*, North American gross concert revenues increased from \$2.8 billion in 2004 to \$3.6 billion in 2006. The respective share for Live Nation (or its predecessor Clear Channel Entertainment) grew from \$1.9 billion to \$2.7 billion. With theatrical performances and specialized motor sports events, Live Nation's events business generated \$2.9 billion, or 79%, of total revenues in 2006. p. 5, Live Nation, Form 10-K, ANNUAL REPORT, at <http://www.sec.gov/Archives/edgar/data/1335258/000095012907001097/h44068e10vk.htm>. (retrieved October 1, 2007)

<sup>57</sup>Id., ANNUAL REPORT, Id.

<sup>58</sup>Venues and Sponsorship involves the management and operation of event venues and the sale of sponsorships and advertising. The business generated \$635.8 million, or 17%, of total revenues in 2006. Id., at 5.

<sup>59</sup>The Digital Distribution business at Live Nation involves the management of in-house ticketing, third-party relationships, and online and wireless distribution. The Digital Distribution business in 2006 generated approximately \$99.0 million, or 3%, of total revenues. Id., at 5

financing, incubation, and backend revenue sharing, and thus generate wide interest in independent acts. .

2. *Musictoday* -- a leading digital service for connecting artists directly to fans through online fan clubs, artist e-commerce, and fulfillment and artist websites.

3. *Trunk*-- a specialty company that sells artist merchandise through retail and online channels

Integrating advertising and music; Live Nation in 2006 struck sponsoring arrangements at concerts with over 375 major sponsors, including Verizon, American Express, Ford, Nokia, and Anheuser Busch. The company is publicly held, free of stranded investments in unrecovered studio acts, and includes a Board of Directors with three members of the Mays family from Clear Channel.

## 7. ADVERTISING AND BROADBAND

Advertising now has great potential for monetizing investments in new musical releases and existing acts. As advertising applications widen, the industry may come to devise—much like predecessors in network and cable television -- a number of alternative models that involve ad-inserts, customer subscriptions, and item-based pay-per-use.

As seen by the recent fortunes of Google, equity markets now place a premium on the online advertising dollar. Google now derives some 99% of its annual revenues from the sale of advertising to online sponsors.<sup>60</sup> In its most recent annual report (March, 2007), Google states that its total revenues at Google grew from \$3.2 in 2004 to \$10.6 billion in 2006; this increase was largely due to increases in the total number of paid clicks and displayed online ads rather than changes in average fees paid.<sup>61</sup> Per basic share, imputed net earnings at Google grew from \$0.86 in 2002 to \$10.21 in 2006.<sup>62</sup> Since the IPO in 2004, the related equity price has moved from \$100 to \$700 per share. With the inside track in the search engine sector, Google is now worth more than Disney, News Corporation, and Viacom combined.<sup>63</sup>

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<sup>60</sup>Google, FORM 10-K ANNUAL REPORT FOR THE FOR THE FISCAL YEAR ENDED DECEMBER 31, 2006, at [http://www.sec.gov/Archives/edgar/data/1288776/000119312507044494/d10k.htm#toc70021\\_2](http://www.sec.gov/Archives/edgar/data/1288776/000119312507044494/d10k.htm#toc70021_2), 42-43. (retrieved October 1, 2007)

<sup>61</sup> Id

<sup>62</sup> Id., at. 36

<sup>63</sup> Id.

While Google capitalized on advertising, AOL — once the bellwether stock of the Internet — abandoned in 2006 its subscription model and freely opened its search engine and accompanying software to all broadband users. Subsequent to the change (and the resulting gain in viewers), advertising revenues in the fourth quarter of 2006 grew 49% above the previous year.<sup>64</sup> AOL now continues to expect that lost subscription fees will be compensated by the gain in advertising dollars earned from reaching a larger viewing audience. To bolster its share of the advertising market, AOL launched its new video portal, which brings together free brand content, user-created video, pay-per-download studio films, and classic Warner television programs.<sup>65</sup>

The potential connection of online advertising and music is considerable, as Yahoo came first to understand. With 25 million monthly visitors,<sup>66</sup> Yahoo!Music now includes a network of over 200 online radio stations that serve nineteen different genres of music.<sup>67</sup> Audiences for Internet radio increased 50% in the year 2006 alone, as the listener share moved from 8 to 12 percent of the total population for both youth and the population at large.<sup>68</sup> Yahoo has recently established a sponsored social network, Nissan Live Sets, that allows users to incorporate original artist performances with social networking elements; fans here may submit photos, blog on, and interact with their favorite music acts.<sup>69</sup> Yahoo! Music also promotes user generated content through programs such as *Get Your Freak On*, where fans can submit their own videos of their favorite artists and Yahoo! Music edits together the best clips.<sup>70</sup>

Nor was the connection between advertising and music missed by News Corporation. In 2005, Rupert Murdoch's company acquired InterMix, owner of the social networking web site, MySpace.com, which is now the fifth most popular web domain (behind Google, Yahoo, MSN, and AOL) in total number of individual page views on the Web. As a trafficker in advertising audiences, MySpace now serves an estimated 8% of all ads on the Internet.<sup>71</sup>

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<sup>64</sup> at <http://www.timewarner.com/corp/businesses/detail/aol/index.html> (retrieved October 1, 2007)

<sup>65</sup> Id.

<sup>66</sup>S. Hansell, *It's Not for TV, It's Yahoo: An Ex-ABC Impresario Aims to Build the Studio of the Future*, N.Y. TIMES, Sept. 24, 2005, at C1.

<sup>67</sup> at <http://launch.yahoo.com/launchcast/stations> (retrieved Mar. 30, 2006).

<sup>68</sup>T. Webster, *Internet & Multimedia 2006: On-Demand Media Explodes*, at [http://www.edisonresearch.com/home/archives/2006/06/internet\\_multim\\_4.php](http://www.edisonresearch.com/home/archives/2006/06/internet_multim_4.php) (retrieved October 1, 2007)

<sup>69</sup>Yahoo! Inc., FORM 10-K, ANNUAL REPORT FOR THE FISCAL YEAR ENDING DECEMBER 31, 2006, p. 10, at <http://www.sec.gov/Archives/edgar/data/1011006/000089161807000108/f27089e10vk.htm>

<sup>70</sup> Id.

<sup>71</sup> J. Kirk, *MySpace Enters Crowded Music Download Market*, PLAYLIST, at <http://playlistmag.com/news/2006/09/04/myspace/index.php> (retrieved Oct. 26, 2006).



In order to widen its audience appeal, MySpace announced in September, 2006 that it would allow over three million bands to use its social network platform to sell music directly to network members.<sup>72</sup> Startup bands like MyChemicalRomance, have now launched careers exclusively through MySpace, collecting more than 100,000 fans through the service.<sup>73</sup> Depending on how it levers successful acts, labels and promoters, Murdoch's News Corporation -- a media concern that owns no labels, radio stations, music rights or performance venues -- may come to emerge as a key player in the market for new music.

A major record company, the Warner Music Group seems to have understood the potential for an advertising play. While Universal Music now sues YouTube for copyright infringement, Warner agreed to license online rights to YouTube for videos that its users may splice into their own online creations.<sup>74</sup> The label will be able to approve or reject any created video. YouTube and Warner will share ad revenues based on an automated system that would digitally identify the uses of the label's property.<sup>75</sup>

Online advertising will continue to grow in the next ten years as broadband subscriptions widen and as content producer deliver more feature-rich material to a widening user base. As broadband widens, the music video will increasingly appeal to online fans and may then serve as a powerful instrument for bundled advertisements. In this regard, the leading search engine for music and advertising, Yahoo! claimed to have served about 350 million free videos a month in 2005<sup>76</sup> -- a key harbinger of things to come. New technologies and online service providers will emerge to bundle advertisements and place clips strategically into the Internet

The potential marriage of advertising and content may be greater yet at Massive, which developed technology for developers to create within distributed content designated spaces for advertising that can be remotely reconfigured every few days or number of impressions.<sup>77</sup> Messages received by a downstream viewer may then vary by geographic

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<sup>72</sup>Id.

<sup>73</sup>D. Cohn, *Bands Embrace Social Networking*, at <http://www.wired.com/culture/lifestyle/news/2005/05/67545> (retrieved October 1, 2007)

<sup>74</sup>R. Ali, *Warner Music, YouTube In Ad Share Agreement; Template For Future Deals*, September 17, 2006, at <http://www.paidcontent.org/entry/warner-music-youtube-in-ad-share-agreement-template-for-future-deals>

<sup>75</sup> Id.

<sup>76</sup> Music Videos Changing Places, [fullcoverage.yahoo.com/s/..en\\_usatoday/musicvideoschangingplaces](http://fullcoverage.yahoo.com/s/..en_usatoday/musicvideoschangingplaces) (retrieved October 6, 2005).

<sup>77</sup>at <http://www.massive.com> (retrieved October 5, 2005).

region, season of year, etc. the technology is particularly popular among providers of casual video games and virtual reality; major advertisers at Massive now include Coca-Cola, Comcast, Dunkin' Donuts, Honda, Intel, Paramount Pictures, T-Mobile, Universal Music Group and Verizon. It is then conceivable that similar companies may work out means to dynamically reconfigure online material and insert new music background and advertisement from time to time.

## 8. DELIVERY AND DATA SWARMING

The potential for legitimate “data swarming” technologies (e.g. from Bit Torrent) to facilitate delivery of high bandwidth content, such as movies and music videos, is considerable. Fact is, “data swarming” allows content providers to locate parts of files on donated capacity based in networked user computers that are nearer to each eventual viewer. This minimizes the need for investments in streaming servers, data centers, local caching, and dedicated bandwidth, and potentially enables cell phones, handheld devices, and ordinary computers to have the same delivery power as massive Web servers.

The gaming and software industries first proved the economics of data swarming and bandwidth use for legitimate content distribution. A software publisher hired provider Red Swoosh (now owned by Akamai) to deliver a 200 MB software package to 500,000 viewers. After pricing the costs of traditional technology at \$150,000, Red Swoosh offered combined storage and transport service at \$15,000.<sup>78</sup> When the publisher later added a five-minute video to the campaign, the estimated cost for traditional networks rose to \$225,000. Red Swoosh still charged \$15,000. With compelling savings in P2P networking, 100 top game producers now distribute over 200 million copies of legitimate video games over Trymedia Systems, a P2P network that economizes on capacity.<sup>79</sup>

The bellweather event for the music industry here occurred in November, 2006, when MTV and five American movie studios<sup>80</sup> signed distribution deals with Bit Torrent Inc, the recognized leader in data swarming.<sup>81</sup> The studio signatories to the new deal now enable the torrent distribution of 5,000 major studio titles – legitimate and DRM-protected -- at speeds of up to 1 gigabit per second.<sup>82</sup> Content owners will now save

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<sup>78</sup> *Reinventing the Boob Tube, excerpted from CNN/Money Report, DCINFO WKLY. NEWS., Mar. 6, 2006, at [http://www.dcia.info/News/newsletter\\_2006-03-06.htm](http://www.dcia.info/News/newsletter_2006-03-06.htm).*

<sup>79</sup> Distributed Computing Industry Association, *Trymedia Tops 200 Million Game Downloads*, February 21, 2005, at <http://www.dcia.info/>, (retrieved February 21, 2005).

<sup>80</sup> 20th Century Fox, Lions Gate, Paramount Pictures, Warner Bros., and Metro-Goldwyn-Mayer

<sup>81</sup> *Quick-start, Long-play Internet Television Arrives with Zattoo P2P IPTV*, at <http://sev.prnewswire.com/computer-electronics/20060524/SFW03724052006-1.html> (retrieved Oct. 26, 2006).

millions in transport costs by using the transport system of a technology that has at other times enabled illegitimate file “trading”.

Scott Wilcox, Chief Technology Officer of the independent festival South by Southwest, makes the point about storage and transport efficiencies and music production. "With the amount of bandwidth it takes to make such massive digital files available over the Internet to SXSW fans worldwide, we would simply not be able to do it effectively without BitTorrent."<sup>83</sup> Fritz Attaway of the MPAA would apparently concur on the synergies, having characterized the relationship between movie distribution and data swarming to be a “marriage made in heaven.”<sup>84</sup> Within some foreseeable time, music video and live concerts will be recorded and presented for worldwide viewers, made possible by the efficiencies of an open source protocol that had otherwise been used to accommodate the unauthorized transfer of 650,000 movie files per day

## 10. CONCLUSION

With the full power of data networking in its corner, the digital music sector will continue to develop user synergies and transport efficiencies and thus cobble together a system of interlocking parts that will empower and engage the next generation of record labels, concert promoters, advertisers artists, merchandisers, and online networkers. As ultimate beneficiaries of the process, music fans will have more choices and capabilities; their enjoyment will improve greatly and the entertainment industry will enter a new growth period.

The hallmarks of the next Velvet Revolution will be limited online domains that are modular and flexible. Players will engage one another to test tactics that may or may not be successful in the long run. Time-honored methods for breaking new acts will continue to lose traction . Everyone will be forced to learn by doing, and the tensions of radical innovation will create market maelstroms. .

An economist understands the potential of experimentalism, feedback, and market response. With no central direction in a market, limited hierarchies come to emerge in localized spaces, and thus resolve the inherent complexity of any evolving market

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<sup>82</sup>at <http://blogs.zdnet.com/ip-telephony/?p=1458> (retrieved October 1, 2007)

<sup>83</sup> *BitTorrent Launches Free, Downloadable Music and Film Trailers From South by Southwest 2006*, Business Wire, February 21, 2006; at [http://findarticles.com/p/articles/mi\\_m0EIN/is\\_2006\\_Feb\\_21/ai\\_n16073490](http://findarticles.com/p/articles/mi_m0EIN/is_2006_Feb_21/ai_n16073490) (retrieved November 13, 2007)

<sup>84</sup>*Confusion from 'Grokster,' Other Suits Slows Legitimate P2P Deals, Players Say*, WARREN'S WASH. INTERNET DAILY, June 23, 2006, <http://diariaa.com/article-warrens-legal-confusion.htm>. (retrieved October 1, 2007)

system. The openness of the market may then frustrate any attempts for dominance, but nonetheless present clear opportunities for the most astute players to profit handsomely.

## ABOUT THE AUTHOR

**Michael A. Einhorn** ([mae@mediatechcopy.com](mailto:mae@mediatechcopy.com), <http://www.mediatechcopy.com>) is an economic consultant and expert witness active in the areas of intellectual property, media, [entertainment](#), damage valuation, licensing, antitrust, personal injury, and commercial losses. He received a Ph. D. in economics from Yale University. He is the author of the book *Media, Technology, and Copyright: Integrating Law and Economics* ([Edward Elgar Publishers](#)), a Senior Research Fellow at the [Columbia Institute for Tele-Information](#), and a former professor of economics and law at Rutgers University. He has published over seventy professional and academic articles and lectured in Great Britain, France, Holland, Germany, Italy, Sri Lanka, China, and Japan.

In the [technology](#) sector, Dr. Einhorn worked at Bell Laboratories and the U.S. Department of Justice (Antitrust Division) and consulted to General Electric, AT&T, Argonne Labs, Telcordia, Pacific Gas and Electric, and the Federal Energy Regulatory Commission. He has advised parties and supported litigation in matters involving [patent damages](#) and related valuations in semiconductors, medical technologies, search engines, e-commerce, wireless systems, and proprietary and open source [software](#).

Litigation support involving media economics and [copyright damages](#) has involved [music](#), movies, television, advertising, branding, apparel, architecture, fine arts, video games, and photography. Matters have involved Universal Music, BMG, Sony Music Holdings, Disney Music, NBCUniversal, Paramount Pictures, DreamWorks, Burnett Productions, Rascal Flatts, P. Diddy, Nelly Furtado, Usher, 50 Cent, Madonna, and U2.

Matters involving trademark damages have included the Kardashians/BOLDFACE Licensing, Oprah Winfrey/Harpo Productions, Madonna/Material Girl, CompUSA, Steve Madden Shoes, Kohl's Department Stores, *The New York Observer*, and Avon Cosmetics. Matters in publicity right damages have involved Zooey Deschanel, Arnold Schwarzenegger, Rosa Parks, Diane Keaton, Michelle Pfeiffer, Yogi Berra, Melina Kanakaredes, Woody Allen, and Sandra Bullock.

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## NOTES