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Abstract
The digital content market-space and, in particular, the varied and rapidly evolving business models which are emerging within it, has continued its rapid growth despite the dot.com crash and has generated a significant body of theoretic literature – although there is not, as yet, an equivalent body of empirical studies in this area. In this paper we report on the final phase of a three-year, EC-funded project which investigated the European online news and online music market sectors, summarising the findings of our face-to-face interviews and contrasting them with our (published) findings from the earlier surveys we undertook of this same area. While there are some notable differences between these two market sectors (primarily the pro-active approach taken by the online news sector, compared with the reluctance demonstrated by the major players in the online music sector) we find that, overall, companies in both these sectors have changed their views of the online market-space over the three years of our study from an initially pessimistic stance to a more positive and optimistic position. This is due, to a large extent, to external factors including the development and acceptance of technology, new end devices and the increasing maturity of the competitive environment.

1. Introduction
The past three years have been a period of rapid growth and innovation for digital content (a term covering the digital creation and provision of music, films, books, news, software, web development, graphic design and computer games). These widely varying sectors of the digital content market have all been affected, to a greater or lesser degree, by the evolution of their supporting technologies, broadband and mobile technologies in particular, and by the rapidly changing business models of the content providers and their
partners, the content distributors. Here we conclude the findings of a three-year project which examined two particularly active sectors of this market-space – the European online news and music markets. We extend previous work reporting the findings of the first two phases of the European Commission SimWeb1 project (Krueger et al. 2004a; Krueger et al. 2004b) with the third and final phase of the project – the face-to-face interviews.

This paper discusses and analyses the evolution of the online news and music sectors in ten European countries between July 2002 – June 2004, using the findings of a three-phase market study. In the three years since we began to investigate the online news and music sectors, companies have moved from a very reluctant or pessimistic view of Internet business to a more positive and optimistic position. The face-to-face (F2F) interviews we undertook with companies in the online news and music sectors from 10 European countries show that even if the segments are developing very slowly and companies are still very cautious about risk-taking in online business, there is a growing acceptance of Internet technology itself and a recognition that it can be used to enable new, more efficient infrastructures; new products and services; and new revenue streams. It is important to note that the constraints imposed by our multi-party project required our data gathering to be completed in mid-2004, before the new music offers driven by the record labels were starting to appear online. Nonetheless, the results presented in this paper clearly illustrate the processes which led to the current situation within these two sectors:

- News has adopted the Internet more willingly, incorporating it deeply and progressively into company business models, but is still waiting for the uptake of paid content;
- The music industry, by contrast, is just beginning to realise that it will gain more from accepting and capitalising on online content than from ignoring it.

2. Literature Review

2.1 Relevant Business Model Descriptions for Online News

Krueger and Swatman (2002) and Riley et al. (1998) discussed a variety of approaches to business models for online news, describing a change in the business of online newspaper sites and identifying a need to transform journalism production practices and business strategy models. These authors were also among the first to point out that news must now be updated 24 hours a day, making it similar to broadcasting.

Bartussek (2001) took the production and intermediary aspects of a news provider into account, stressing the importance of identifying and serving customer wants and the need to discover new income sources. He identified content providers as ‘newsfilters’ and argued that newspapers should use this to create a competitive advantage. Bartussek saw providers as being simultaneously producers of content and intermediaries who add value to content (whether home-grown or purchased).

1 This project was funded by the European Commission’s Fifth Framework to explore the possibility of developing a multiple-agent simulation as a strategic decision-making tool for SMEs in the online content market-space, in the hope that this would provide an effective, but relatively inexpensive, alternative source of expert advice to companies unable to afford consulting services. The complexity of this market necessitated the selection of two market sectors for examination – online news and online music.

2 Countries surveyed and the justification for their selection can be found in SimWeb, Consortium (2001), “Proposal for the 5th Framework EC Project SimWeb.”
Picard, in a variety of books (Picard 2002a; Picard 2002b; Picard and Brody 1997) and academic articles (Picard 2000; Picard 1999), describes the opportunities and threats for newspapers and other content providers dealing with new technology. As far back as 1997 Picard foresaw the chance for newspapers to reduce manufacturing, print and distribution costs and anticipated advertisers’ reluctance to consider the World Wide Web an appropriate channel for their messages.

Mings & White (2000) and Outing (2000), by contrast, focus on the revenue side of a newspaper’s business model online – each from a slightly different perspective. Outing (2000) concentrates on revenue models for newspapers on the Net, while Mings & White (2000) suggest revenue models for newspapers transferring ideas from print to online media. These authors point out that only a mix of the basic revenue models will provide a successful revenue model in practice for online newspapers.

Based on an analysis of the secondary literature, Schiff (2003) developed a set of eight Weberian ‘ideal’ business models for online news production. He identified his models (advertising revenue; online traffic; infant industry profits and stock values – focusing on output measures of success; digital content delivery; continuous breaking news; information retrieval and storage; portal conduit; and interactive networking – which focus on input variables) in terms of three inter-linked characteristics: ‘features that differentiate the online medium from print, broadcast and cable media; (B) key variables or components that affect business operations; and, (C) the maximizing or optimizing behavior that guides management strategy and measures their performance’.

As this brief summary indicates the literature related to business models for online news is relevant and varied – although, interestingly, little of this work is based on empirical testing of the models developed. This lack was one of the major reasons for the project’s emphasis on gathering real-world information on the online news sector.

2.2 Relevant Business Model Descriptions for Online Music

The existing literature concerning Internet music distribution highlights the importance of the business models being developed and used by music distributors and retailers.

Research into the peer-to-peer (P2P) phenomenon itself has a variety of emphases – apart from the obvious discussion of its legality and impact on music sales:

Kwok et al. (2002) believe that business communities will embrace P2P technology for distribution of digital music only if the digital content is explicitly protected. Gehrke & Anding (2003) and Dubosson-Torbay et al. (2004) identify P2P business models which could make peer-to-peer legally and financially viable (although the models being developed in practice by the labels and P2P networks appear to be rather different). Lechner & Hummel (2002) take a sociological approach to P2P architecture, pointing to the community aspect. Although these authors do not propose a profitable business model, their research makes a valuable contribution to our understanding of P2P file swappers – not as criminals, but as individuals searching for relationships and building a ‘community’ with high potential (e.g. purchasing power). Finally, Schoder & Fischbach (2003) have an essentially technology-oriented slant on the issue, discussing the potential of P2P technology for mobile business and ubiquitous computing, especially where the aim is to establish communication in the absence of some form of central coordination.

Fox & Wrenn (2001) suggest the Internet music industry should consider a model analogous to that used by TV and radio broadcasters, where the consumer receives content free. Here the music itself would be a free service, with revenues generated from associated products and services, e.g. selling advertising space to other companies, or mining and selling consumer data. Bhatia et al. (2003) also consider the broadcasting
industry’s relevance to online music, suggesting the music sector should consider the TV business model and endeavour to adopt the concept of ‘windowing’ (the release of films through distinct channels in a set sequence). These authors believe the labels will remain the centre of the recorded music industry, but will increasingly be forced to focus less on physical distribution of albums and more on managing a smaller set of artists, distribution channels and customer information.

Lam & Tan (2001) take a slightly different tack, suggesting that record labels which distribute songs through both traditional and new channels could themselves become online retailers, using the “concept of anytime, anywhere, and anyhow” and focus on their core competency – music creation and the search for talent – as well as strengthening strategic alliances with Internet and media companies (to develop secure standards).

Staehler (2001) defines the online music sector stakeholders. The traditional music business was split between the so-called ‘majors’ (currently 4 large companies holding 85% of the music market) and the independent labels. Staehler now identifies artist sites, online retailers who are well-placed to sell music over the Internet because they already have a brand name, download sites which make file downloading possible are the new intermediaries between artist and consumer, portals which could be used as a selling platform because they have many customer contacts, syndicators such as search engines and peer-to-peer networks which he describes as aggregators of music and information.

Clemons et al. (2002) are the only authors so far to apply theory to the online music industry, pointing out that the theory of resource-based advantage, applied within the context of the theory of newly vulnerable markets, suggests the music industry is highly vulnerable. It not only faces the threat of P2P piracy, but is also at risk from artists and musicians wishing to distribute their own music directly via the Internet.

Clearly, if we were to develop a set of detailed, realistic and well-specified models for use in the building of a multi-agent simulation of these two sectors of the European digital content industry, we needed to understand how these sectors were evolving in the face of the contradictory forces they were confronting.

Although Porter (2001) explained the Internet does not mean ‘old rules’ are no longer valid and Saloner and Spence (2002) state that the Internet is widely considered to be an additional channel rather than an entirely new one, our questionnaires and interviews indicate that it is now so significant for the digital content market-space and has such an influence on the business activities of content providers that, to a large extent, the Internet has effectively replaced the other delivery, marketing and information channels of those businesses.

3. Research Approach

The research design for the online music and news markets comprised a three-phase strategy, with each phase informing and extending the next:

1. **Phase One: Expert Talks** (scene-setting). We held detailed, face-to-face discussions with 13 executives from 11 companies. The questions were largely open-ended and provided wide-ranging information on the structure of the two markets; the companies operating within them; and the activities, strengths, weaknesses, opportunities and threats facing the ‘players’ in those markets.

2. **Phase Two: Online Questionnaire** (quantitative data collection). We surveyed as many companies in both industry sectors as possible. Identifying these companies was the most difficult part of this task, requiring us to use a variety of techniques to maximise market access and response rate, since the simulation
developers needed a rich understanding of the online news and music markets. Answers to many of our questions (e.g. type of content offered, payment systems used) were simply not available from existing industry data. We therefore designed a very rich questionnaire, building on the literature, to provide this information – although we realised this would have an adverse impact on total respondent numbers (quality vs. quantity).

3. Phase Three: Face-to-Face Interviews (qualitative data collection). The face-to-face (F2F) interviews were standardised, open-ended interviews with every interviewee asked the same questions – similar to the online survey in structure. As the interviews progressed, however, we added additional questions based on our learning from the analysis of the earlier interviews. We were also able to extend questions when interesting issues arose during the interview (the general interview guide approach).

The acquisition of interviewees for the F2F interviews also required a variety of approaches:

- Respondents from the online survey
- Contacting industry associations
- Searching for suitable conferences and exhibitions
- Web research

The F2F and telephone interviews took between 20-70 minutes depending on the respondents’ time and willingness to answer in detail. We did not create a specific questionnaire for each type of company in the online news and music sectors (as with the online questionnaires) but used three questionnaires adapted for companies active in the online news, music and content industries. We looked for striking responses from the online survey results which we could confirm or explain with the F2F interview findings (triangulation).

The structure of the online questionnaire also enabled us to cluster the sample according to the sector in which respondents placed themselves (since Babbie (2001) points out that clustering is ideal when it is impossible to compose the population). At the start of our study in 2002 it was impossible to identify from outside the sectors under review which companies were most active. The only solution was to ask the respondents themselves to make this decision.

3.1 Responses to the Face-To-Face Interviews

Over a period of 10 months from August 2003 to June 2004 we completed 112 interviews, 50 with respondents in online music companies, 40 in news, and 22 with companies in the online content business (telcos, ISPs, technology providers). We covered the same ten European countries as for the online questionnaire and selected the interview proportions on the basis of Internet penetration in the particular country compared with overall European Internet penetration (see Table 1).
Table 1: Interview numbers vs. share of that country’s Internet users

<table>
<thead>
<tr>
<th>Country</th>
<th>Internet Users share</th>
<th>Interviews in total</th>
<th>Percentage of total interviews</th>
<th>Interviews in online music sector</th>
<th>Interviews in online news sector</th>
<th>Interviews in online content sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>28,31 %</td>
<td>24</td>
<td>21,4%</td>
<td>8</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>UK</td>
<td>20,96 %</td>
<td>16</td>
<td>14,3%</td>
<td>8</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>France</td>
<td>13,97 %</td>
<td>10</td>
<td>8,9%</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Italy</td>
<td>17,16 %</td>
<td>11</td>
<td>9,8%</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Spain</td>
<td>8,58 %</td>
<td>12</td>
<td>10,7%</td>
<td>7</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Finland</td>
<td>1,59 %</td>
<td>12</td>
<td>10,7%</td>
<td>6</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>Poland</td>
<td>5,39 %</td>
<td>8</td>
<td>7,1%</td>
<td>4</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Slovenia</td>
<td>0,49 %</td>
<td>4</td>
<td>3,6%</td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Portugal</td>
<td>1,23 %</td>
<td>7</td>
<td>6,3%</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Belgium</td>
<td>2,33 %</td>
<td>8</td>
<td>7,1%</td>
<td>2</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

The interviews were recorded on tape and then transcribed to provide the basis for a detailed analysis. Taking notes during the interviews was necessary in case of loss or malfunction of the tape recording, even though it was a minor distraction during the interview (Miller 1995).

4. Findings

4.1 The News Sector on the Internet

The interviews revealed that the Internet news business is mostly seen as ‘Internet publishing’, the sale of news, or the online version of the newspaper (often called ‘e-paper’) – or is focused on the Internet services supporting delivery of the news item. It seems the industry thinks in terms of the news its produces, or the Internet technology supporting that news. Key success factors are still the brand and the content quality.

Our F2F interviews supported the findings of our previous online survey and also revealed that independent specialised online job, real-estate and automotive portals were taking increasing amounts of respondents’ traditional print advertising volume, leaving newspapers – both on- and offline – with significantly diminished advertising numbers and revenue levels.

The interviews showed us that the strategy of online news sector companies varies:

- News agencies are mainly active in the B2B environment. Internet technology has enabled them to evolve technological integration with their suppliers (journalists and other news agencies) and business customers online (e.g. newspapers or news portals) and in-house integration of a piece of news, but has not changed the traditional ways of acquiring new customers and contracting (generally) long-term contracts. Nonetheless, news agencies are still the most willing of the online news providers to

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3 Based on InternetWorldStats 2004
modify their business models to suit the Internet environment (they were active long before the music providers);

- **Online media companies** recognise that technology influences their strategic decision-making processes, but the interviews made clear they see technology as an enabler rather than a driver. Newspapers, in particular, revealed that the Internet had changed production and licensing processes, but integration was not yet complete. Traditional structures appear to be impeding full integration and are seen as a major weakness, with companies still focused on the print, rather than the online, business.

- A number of **news portals** have been Internet-based from the start, whereas the interviews showed that media companies evolve from traditional businesses such as newspaper, TV or radio. Many long-established intermediaries are being replaced by their Internet equivalents.

Companies have not yet fully grasped that their new competitive environment involves TV competing with radio and the Internet for customers’ attention, as well as for their limited time and money. And the offers from all these market players are becoming ever more similar, making competition still harder. Convergence in the online news sector is obvious, with former media companies, as well as those previously offering telecommunications or technology support, moving into the online content business.

Disintermediation is apparent in both the online news and online music market-spaces. National newspapers (dailies) have up to now faced competition only from other dailies, but must now also compete against news portals like Yahoo! (which began life as a search engine) or T-Online and Tiscali (telecommunications companies offering news on their Web sites to attract more users and increase the stickiness of their homepages). When headlines and even full articles are available everywhere, it becomes harder for an online news provider to depend on headlines alone – some other way of gaining and keeping subscribers is needed. Somewhat disturbingly, however, the interviews suggested that industry participants still consider other media companies their principal competitors, ignoring the potential competition from Internet service and technology providers. The interviews also showed that journalists and news agencies (as a source of content) and Internet providers, payment system providers and customers are still seen as more important cooperation partners than telcos and other media companies.

The companies add value to news by: association with the off-line brand (21.2%), offering hyperlinks to further information and interactivity (both 19.5%), and through news-tickers (14.2%). The news is mainly distributed through Web sites (32.2%) and via the print version of the brand (20.8%). 57.6 % of participants agreed that personalisation can successfully sell news, although the interviews showed that personalisation is not yet frequently used. News is normally distributed through Web sites (32.2%) and via the print version of the brand (20.8%), with mobile phones and PDA distribution becoming increasingly important.

Interview respondents generally said they needed additional revenue streams – both in the existing areas of content, classifieds and segmented news, and in mobile services. Advertising (especially employment, real estate and automotive classifieds), content sales (ad hoc or primarily by subscription) and Internet service provision (access, homepages, payment systems, etc.) are all seen as important revenue streams.

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4 The Internet is causing disintermediation within the marketing or delivery channels, as wholesale or retail partners are bypassed and the impact of these changes in terms of the resulting channel conflicts must be carefully assessed. The Internet can, of course, also enable re-intermediation, as new intermediaries with a different purpose are formed to help bring buyers and sellers together in a virtual marketplace or market-space (Chaffey 2000)
e-mail addresses) are the principal revenue sources. Added value was still primarily additional input for print news published online, e.g. faster access to breaking news, interactivity, special online services like newsletters, easy search facilities and archive material. Technical improvements are planned, especially in navigation and search, to make it more convenient for users to read online. Other online services or products identified included e-shops (tickets, hardware, DVDs, CDs, books), Internet services, games and crosswords, with local, regional and national focus also identified as a major strength by most interviewees.

As the Internet continues to develop, media companies can purchase technological infrastructure, find a technology partner or become a technology provider themselves – and simultaneously offer the appropriate technological infrastructure + content to their own customers. They can even go a step further, as the New York Times has, and offer their technology to other newspapers and magazines worldwide. The NYT’s NewsStand platform is a wholly-owned subsidiary providing value-added benefits from the use of the parent company’s existing technology base. NewsStand is not merely a Web platform for NYT but a promising new business for the former publisher of a single (if well-known) newspaper.

A restrictive technical platform is already used in other sectors (such as music), where it has long been realised that maximum benefits are gained by companies which understand their subscribers’ tastes and values (vide the iPod/iTunes phenomenon). And this bundling of software + product offers further benefits. With the help of reader (access) software, online companies obtain an efficient tool to acquire customer data, analyse customer behaviour, and promote their new offerings (Preissner 2001).

In the survey we asked online news suppliers which payment system(s) they used. Most companies offered several payment systems. There are a number of micro-payment solutions (Ketterer and Stroborn 2002), some of which are still under test (Phoenix 2002): Payment through the Internet Service Provider(s), Payment System Providers, Prepaid Cards. The interviews, however, showed that with the exception of credit cards (still the most popular approach), SMS-based mobile phone systems and prepaid cards are the only major new payment approaches integrated into online news offers, in the hope of reducing customers’ reluctance to make payments over the Internet.

But news providers depend not only on payment system technology, but also on bandwidth and the end-devices used to consume their content. The increasing numbers of broadband Internet connections (OECD 2003) and the forthcoming introduction of UMTS allow our interviewees to prepare new service offers. One development in particular is of interest – the construction of e-Ink, a plastic film as fine as a sheet of paper. With the roll-out of 3rd generation mobile networks, it will be possible to send and receive information such as news text, still pictures and videos to a user’s device to be displayed as though on paper, but paper which can be endlessly refreshed – finally, the implementation of Alan Kay’s seemingly unachievable ‘Dynabook’ concept (Every 1999).

The major challenge for online news providers is convincing customers used to accessing Internet news for nothing to pay for it. In addition to technical performance, consumers now also expect high-quality content (Klein 2001) and, as increasing numbers of households move to broadband access (DSL or cable modem), these more sophisticated consumers are making ever-increasing demands on Internet content. Dettki et al. (2001) noted that consumer Internet acceptance is higher in households with broadband Internet access, 60% higher than in households with dial-up access. Surprisingly, news providers in the interviews considered themselves customer-oriented (one told us: ‘the customer is king’) and wanted their offers to meet customers’ needs, expecting them to spend more money online in the future.
News companies have not yet segmented their market very effectively – most interviewees differentiated between B2B or B2C in the types of news they offered, but some had no segmentation and very few were offering personalised news (although 48.1% of the online survey respondents claimed to be doing this). Overall, however, companies in the news sector were aware of the need to make money online and were looking at every available possibility.

4.2 The Music Sector on the Internet

The online survey reflected two major foci for the music industry: how to stop illegal P2P networks; and the avoidance of a legal alternative to this ‘illegal’ music exchange. Internet technology was generally seen as an enabler of new distribution channels, formats, production and cost savings (wholesale). Yet the interviews, undertaken 12-18 months later, showed that the sector was now starting to think seriously about e-business – described as content provision, sales distribution, or retail.

Digital music can be sold without manufacturers and wholesalers. But new components are needed for Web marketing and distribution, including: ISPs and telcos, appropriate formats for packaging music; and online payment systems. These three components are crucial to the online music business and new stakeholders are appearing in the market.

This modified value chain and the new online music stakeholders offer a whole range of fresh possibilities for distribution, marketing, cooperation and competing music activities and marketing/distribution channels. We were therefore rather surprised to find that half the artists and two-thirds of the labels participating in our online survey believed the artist needs the record company more than ever! The interviews supported this finding, indicating that the link between artists and record companies is the most important cooperation in the music market, followed by cooperation with ISPs, telcos and customers. The greatest competition is that between record companies and labels. P2P networks were never mentioned as competitors, but they provide the consumer with an alternative offer and it is difficult to believe they are not competing with the labels.

The advent of digital access to music has created some major challenges for companies producing and distributing music. Before the coming of the World Wide Web, the labels searched for new talent, produced particular artists’ music and then promoted this music via music videos, concerts, advertising and other events (interviewees believed this comprises the complete value chain). The record companies also acted as distributors of music CDs right through to the major retail outlets (although small retailers purchase from wholesalers). It is clear that some of these intermediaries, rather than the labels, are the real distributors of the music (e.g. OD2 (www.od2.com), which provides the technological infrastructure for music web sites offering digital music for download).

The record companies are beginning to worry they may eventually lose their current market dominance and be restricted to the considerably more limited roles of talent finder, producer and promoter of music. The music associations such as GEMA are now negotiating with (music) portals for licensing contracts, rather than with the record companies and have come to realise that for online music it is the portals, telcos and ISPs which hold these data.

A digital music offer – whether from labels or record companies, ISPs or telcos – is the same bundle of software and music product(s), and can be further extended. The music industry is now taking a leaf out of the Internet Access Providers’ book and pre-loading its software onto new PCs – the music subscription service Pressplay, for example, bundles its software with new Gateway computers (Spiegel-online 2002).
The move to the Internet has caused some changes in the production and licensing processes – mostly to reduce costs (databases, format combinations, easy transfer of sales & licensing fees, and ease of customer reach). At the time we undertook the interviews, record companies had just begun to think in terms of how to make money from digital music online. Apple had shown them that it worked. Asked how they added value online, most of them saw the quality of music as added value, in addition to the creation of a community, the selection mechanisms used (search engine, pre-listening), fast access to content and the background information on the artist available from the Web site. Three respondents were still convinced that ‘the music is the value’.

Nearly every Web site offered merchandising product for sale (t-shirts, stickers and posters, tickets, CDs and DVDs). A smaller number of interviewed companies completed their offers with Internet service provision, but there was little change in revenue generation between the online survey and the case studies – content sales, advertising and Internet services were still the major income sources. But many of the interviewees told us they planned to launch their own download offer in the next 6-18 months, incorporating not only online but also mobile applications.

It became also clear, especially from Apple’s experience (reported at MidemNet 2004), that it was not only fast-selling songs which sold online catalogues, but also those selling more slowly (but steadily), because they attracted customers interested in specific (specialised) music. This concept of ‘the long tail’ (Anderson 2004) has allowed online stores to prosper because it gives them a real advantage over physical retailers who cannot afford to hold their full catalogue in-store. Music providers on the Internet face different challenges: correct pricing formulae, digital music formats, piracy/copyright issues, and the attitude of music consumers online.

Setting the price of a song to be bought online was a major, and in mid-2004 still unsolved, problem for the music industry. The record labels try to maintain their revenues at equal (or higher) levels to previous years, fighting any attack on their profits and trying to dictate pricing models for online music. But online and offline selling are very different. Web consumers can look for songs wherever they want – the next offer is just a click away – and while the majors were deciding whether to offer music over the Internet, the P2P networks built up a substantial body of support among young consumers.

Another difference between online and offline music purchasing is the online switch from album- to track-based purchasing (interviews). Consumers online are willing to pay only for the specific song(s) they want. The practice of album production and promotion, and the calculation of cost and revenue cannot be transferred to the Internet. Apple’s iTunes Musicstore charges €0.99 per downloaded song and may show the direction in which pricing should go.

The music industry is also dependant on the end devices through which music is delivered to and used by customers. Apple’s iPod, designed to sell with the iTunes Musicstore, is a good example of how intelligent marketing can push sales of a fashionable end device. The iPod is not very revolutionary from a technological viewpoint because it is based on a hard disk rather than solid state memory, but the combination of an end-user device + a music source was unique – and highly successful. After we had ceased collecting data for this study, other end device producers had finally begun copying this successful business model, e.g. Sony’s Network Walkman Digital Music Player + Sony Connect music store.

Technologies in this area are emerging very quickly. Mobile phones, digital cameras and MP3 players will soon be offered as one device; and the emergent UMTS technology will allow music (as well as news) providers to sell their content to mobile devices at an acceptable time, and (hopefully) an acceptable price. There is enormous potential for
further revenue, because the telephone bill solves the (acceptable) payment system problem.

The World Wide Web and the opportunities it offers for music file sharing led to a number of important copyright issues – primarily related to the unauthorised use of content. DRM (Digital Rights Management) describes a number of technologies which protect electronic content from unauthorised use and regulates how the person obtaining the content can use it to print, download, burn, or share. The music industry has tried to solve ‘illegal’ file sharing through a variety of DRM technologies, but as soon as a new protection technology is developed hackers try to manipulate it.

From the music industry’s viewpoint DRM technology is essential for selling music on the Internet, because it allows the owner of the music copyright to track the digital music file through the Net and also offers several methods of marketing the product itself. For example, it is possible to sell different versions of the music track (streaming only, stream + download, burning, or even a version which is deleted from the user’s hard drive after a period of time). Another way of defending the music market is the Rights Protection System (RPS), which could be implemented by an ISP to control which kind(s) of web sites the user requests and, consequently, whether s/he is asking for a web site offering illegal content (Lieckweg 2002). Our interviewees are convinced that it is still necessary to improve digital rights management because users are still infringing copyright.

5. Discussion – Emerging Trends in the Online News and Music Markets

Internet and mobile technology push

Newspapers increasingly offer an electronic version of their print edition on their Web site more or less successfully. Content is still offered for free – we did not find a single newspaper which subsequently closed its free content. A major issue is increased competition on the Net from magazines, radio, TV stations, ISPs, telcos and technology providers offering similar content. Besides the impossibility of charging for every piece of content online, the real-estate, job and automotive business seems lost to specialized sites, creating a big gap in the on- and offline newspapers’ advertising and sale of content revenues – traditionally the two main pillars of income. Alternative revenue streams are still critical to the survival of newspapers online (e.g. Internet application services, online community creation, exclusive content, integration of e-shops).

MidemNet 2004 in Cannes was a turning point in the music industry’s attitude towards the distribution and sales of digital music on the Internet. Apple had shown the demand and profit potential in that segment. In terms of digital mobile music the attitude towards ring-tone downloads emerged six months earlier, identifying the successful business model the combination of online download + mobile consumption had created for music sales (the newly-emerging ringback-tones phenomenon provides further evidence of this trend). Technology and successful competitors from other sectors are the main driving factors for record companies (especially the majors) to finally give music fans an alternative to illegal P2P file-sharing.

The increasing uptake of broadband and mobile access is affecting the offer online news and music companies can provide to end-consumers and, even more importantly, charge for those offers. Mobile delivery, of course, also eliminates the problem of an adequate payment system and may well come to replace the current dependence on online credit card payments.
### End device development push

Interviewed companies made clear they were preparing for a surge in mobile business. They associate optimism for digital business opportunities with the possibility of addressing a segmented market of mobile end-device users and hope this will be the end of free content allowing them to finally create a respectable income source.

### Dependence on financial resources and traditional business activities

Publishing companies attempted right from the start of the WWW to embrace the new technology, differentiating themselves from the music companies which tried hard to avoid having anything to do with the Internet. The problem for the newspaper industry was that most of the newly-founded online subsidiaries could not grow from cost to profit centres and were ultimately re-integrated into the parent company (many being demoted to online marketing departments). This made it difficult to build up an independent business model – the online departments are still used to support the traditional business.

The music industry took another approach, trying to skim the CD market for as long as possible and encouraging the developing, potentially high-profit DVD segment. Following pressure from other Internet players such as Apple and Rhapsody, however, they have been quite successful in a higher-quality and price Internet segment. The differentiation of CDs (e.g. sale with or without a booklet) appears to be the last attempt to push CD sales and is probably the maturity phase of the product life cycle. It will be interesting to see how these companies handle the launch of the two new competing physical formats (HD-DVD and Blue Ray), which have significantly higher volume capacity and may lead to the development of entirely new consumer offers.

### Dependence on customers’ attitude towards digital content

Mobile service consumers readily accept paying for a product or service – in complete contrast to Internet users. Young mobile phone users, in particular, are easily targeted by content companies, as the astonishing sales of ring-tones have shown. This attitude offers new hope to news and music providers desperate to make money from their online ventures.

Broadband Internet access is still relatively expensive, although prices have declined significantly in the past few years. Broadband Internet users, therefore, usually fall into higher income brackets and allow companies to offer new products and services which need a certain bandwidth like music, e-books, video clips, films, games – as well as making consumption more convenient for those customers who care more about quality and service than cost.

Online news providers are thus influenced by the same market forces as online music providers:

- Internet and mobile technology push
- End device development push
- Dependence on financial resources and traditional business activities
- Dependence on customers’ attitude towards digital content

### 6. Conclusion

Not all news and music companies appear to be aware of the newly-competitive Internet environment. New entrants such as telcos or technology providers, in particular, are not yet recognised as the potential or actual rivals they really are. The question is how long newspapers and record labels online will remain unaware of these new competitors before
realising that they are no longer the centre of the value chain as they were in their traditional businesses. This is a necessary awakening, because the consequences of these value chain transformations can affect the traditional value chain too (in the online music sector technology providers already sign contracts directly with artists). Cooperation or the creation of value webs won’t protect the traditional content providers from losing their core position.

It is obvious that the trends identified during our interviews (and, to a large extent, during the entire project) drive not only the Internet, but the overall business model of the companies in the online news and music sectors, resulting in a combination of adequate business models (print/CD, Internet, mobile or broadband and narrow band or content provision, Internet service provision and e-shop). The content industry, like others, has gone through a difficult time since the dot.com crash. Our market survey reflects the way(s) in which companies have tried to cope with a changing business environment. The only certain success in the face of such challenges, however, is to accept and adapt to the innovations which will arrive with ever-increasing speed over the next few years.

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