THE UK MUSIC INDUSTRY IN 1999: PREPARATION FOR THE DIGITAL DISTRIBUTION OF MUSIC VIA THE INTERNET

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This research is based on a Masters thesis at Kingston University, by Colin Neal, completed in September 1998. The thesis examined the UK the music industry, and incorporated both interviews with managing directors of record companies and music retailers, and a consumer survey (conducted in record shops and on the Internet). The paper has been updated in October 1999 by Kathy Hammond and Oliver Pawley.
1. Introduction

"Whenever there is a technology that [offers] a competitive advantage to everybody else, that technology brings about a fundamental change to the business climate."
"Companies at that point either adapt to the new construct and move on to bigger heights, better future…or miss that moment and go on to a decline."

Andy Grove (Chairman of Intel) speaking at meeting at the CBI 20 September 1999

The UK music industry faces slowing sales of conventional media as the conversion of consumers from vinyl and cassette to compact disc reaches completion. In addition, the industry is presented with the challenge of the Internet which is emerging as a new way to do business, providing the ability not only to reach new markets but also to distribute music directly to consumers in a digital format.

There is considerable uncertainty about the possible effects that the digital distribution of music online might have, in particular on record companies and traditional retailers. In this paper we examine:

- The opportunities and threats posed by music online to record companies and retailers.
- The extent to which music consumers may adopt digital downloads.
- The preferences of consumers for different music online characteristics (such as sound quality, download time, and the inclusion of multimedia etc.).
- Differences between the views of music buyers who are already using the Internet for music and those who are not.
2. Background

Music is a $39bn business world-wide and worth $2.8bn in the UK alone\(^2\) - providing entertainment by producing new material, re-releasing and re-recording existing music, scoring films, and through live concerts. One of the key functions of a record label is marketing. Discovering and promoting new artists is an inherently risky process involving large up-front investment. Often bands and artists have to be successful world-wide in order for the artist's recording and promotional costs to be recouped. Promoting artists is a complex problem because, for the consumer, music is not just about buying CDs. The importance of the music video and radio play are well known but there are also less tangible 'lifestyle' elements: following the band, reading about them in magazines, going to concerts, listening to music on the move, in the car or at work.

Chart 1. shows the typical revenue breakdown, going to each of the players involved in creating and a $15 compact disc.\(^3\)

![Chart 1. Breakdown of the margins for a typical $15 album](image)

*Artist*  
*Record Company*  
*CD Plant*  
*Promotion / Marketing*  
*Retailer*
Retailing of music in the UK occurs principally through high street locations and to a lesser extent through mail order companies. High street retailing is dominated by a few major players (Virgin Our Price, HMV, Woolworths, WH Smith, MVC (Music and Video Club)) who compete with independent music stores. Woolworths, a member of the Kingfisher group offers chart product at cheaper prices than the specialist music retailers and is the largest retailer of music in the UK. Also owned by the Kingfisher group is MVC, the Music and Video Club which offers, at discount prices, a slightly larger range than Our Price stores but less than HMV and is aimed at the older market. Both Woolworths and MVC are supplied by Entertainment UK, also a Kingfisher subsidiary.

Specialist stores carry a wide range of products and are flexible enough to take advantage of special offers from suppliers. It is the selection of back catalogue recordings that attracts buyers to specialist music shops, and as prices of new releases are lowered by £1 to £2 during the release period then raised subsequently, catalogue sales are more profitable for lower volume stores.

Mail order companies such as Music Direct and Britannica allow consumers to choose from a limited range of chart and best seller stock. HMV Direct and Virgin Megastores Direct also now offer a telephone ordering service for home delivery. These outlets increasingly face competition from other retailers such as supermarkets which are extending their non-food ranges to include poplar music at very competitive prices.
3. The Significance of Format

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<td>66.5</td>
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<td>2.4</td>
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Table 1. Sales by Volume (million units) singles and albums. Source: ifpi

3.1. Physical Formats

Release of the CD format spurred industry growth as consumers’ re-purchased existing back catalogue tracks to replace their vinyl and cassette collections. However, as penetration of the CD player reaches saturation CD sales are no longer growing at such a high rate. Cassette sales, although still in high in developing countries, also continue to decline. In 1998 world-wide cassette sales were 1.2 billion units,\(^4\) a year earlier they were 1.4 billion.\(^5\) In North America and Europe this decline has been intentional - music publishers have inflated cassette prices closer to CD levels (perhaps in order to phase out the medium). Vinyl sales are still strong in small niche markets of the UK, the most significant of which is the dance market where 12" singles are popular. The longevity of this format has been attributed to the rising popularity of DJing (with a pair of record decks you create your own "mixes") and the larger artwork the format allows. The popularity of clubbing and the fact that much of the music played in clubs is initially only available on vinyl (and not CD until much later, if at all) is also a significant factor.

Of the more recent soundcarrier introductions the Minidisc, a recordable digital format using perceptual encoding (a compression technique) to store 74 or 82 minutes of music on a 3" disc, has been the most successful. Hardware penetration for this new format is still low, although now improving due to aggressive marketing and hardware licensing agreements. The quality of playback is not quite up to CD standards although the average consumer may well have difficulty noticing this. Interestingly, prices for new release pre-recorded Minidiscs are higher than those for the chart prices of CD albums. Given that
Minidisks are lower quality than CDs and pre-recorded music makes no use of the format’s writable ability this price premium seems anomalous.

The format with the most chance of igniting consumer interest would appear to be DVD (Digital Versatile Disc). DVD has experienced strong growth for the following reasons:

- backwards compatibility with conventional CDs.
- computers are now being sold with DVD drives ready fitted.
- high capacity (18GB is the theoretical maximum, 4.9GB is normal).
- DVD has been designed from the outset to store video, computer data and audio.\(^6\)
- Compared to CD, DVD gives better sound and video quality and longer playing times.

DVD is being pitched as an all purpose replacement for CD, VHS and CD-ROM. However, the format is predominately read-only (although writable DVD-RAM drives are becoming available) which will limit its impact on VHS. A problem the format might face is whether or not consumers will be able to detect DVD’s superiority over CD enough to consider it a worthwhile purchase. For example, music recorded in Dolby Digital Surround Sound at a 24 bit rate (conventional CD is only 16bit) requires expensive hi-fi equipment to be properly appreciated. Technological advantages aside, on a physical level, DVDs look very similar to CDs - this could make encouraging people to buy them difficult. It is important to remember that when the music industry was encouraging people to switch from analogue mediums to CD, they were offering something that was literally shiny and new – the perceived difference between CD and DVD is not so great.

On a more positive note, DVD could have interesting implications for the music video which has been a major promotional tool for the music industry. Rarely available, VHS music videos have never sold at anything like the same level as CDs (although their role in selling those CDs shouldn’t be underestimated). This could change with DVD – the extra capacity allowing multimedia elements to be included with the music. Clues to how this could work come from Sony who have been experimenting with the CDE (CD extra) format. CDE works like a regular CD until combined with a multimedia PC when text, graphics and interactive elements become available.\(^7\)
3.2. Internet Music Formats

There are two types of music format on the Internet:

- **Streaming Audio** - music that is continuously spooled from the Internet as the computer needs it (e.g. real audio). Extensive use of compression technology means quality is noticeably poorer than CD and is dependent on the speed of the Internet connection being used. The format is best employed for giving Net users the chance to hear short previews of music, live broadcasts or to listen to online radio stations such
- **Non-Streaming Audio** – music that is downloaded onto the computer's hard disc or another physical sound carrier before it can be listened to (e.g. the infamous MP3 format). The quality of non-streaming audio is superior to streaming technology (it can be almost at CD levels) but downloads are punitively slow, especially if the user only has a conventional modem. These types of format are for music that the user wants to keep. They offer the potential to distribute music directly, but this also brings piracy concerns. Recently it has become possible to stream MP3 files but a high bandwidth is required for this.

These formats give rise to several hardware concerns: the PC does not interface well with standard hi-fi equipment (and in many homes the family computer and hi-fi may be in different locations). The PC is more expensive and difficult to use than a CD player whilst people's perceptions of the PC may limit its popularity as a music playback device. One solution is a standard mechanism for transferring music downloaded from the Internet onto a portable device or hi-fi system. Solid state or motion free players such (e.g. the Diamond RIO pictured below) store the music information from the Net on microchips (i.e. having no moving parts).

![Diamond Rio solid state mp3 player](Image 1)
Putting this capability into a small convenient box that people carry around with them, and are familiar with, has enormous potential. The next generation of mobile phones will have enough RAM and sufficient transfer rates to download or stream tracks straight from the Net. Samsung have already released a mobile phone with 16MB of memory dedicated to MP3 playback for their domestic Korean market (where they expect to sell 250,000 units within a year) and are looking to launch this in the US by the end of 1999, at a retail price of $400.8

3.3. Solid State Format

Recently Sony have announced a transferable solidstate soundcarrier called the "Memory Stick" which will act as a physical transfer mechanism between electronic devices. Audio files could be downloaded from the Net via a laptop PC, saved onto a Memory Stick and then transferred between players as conveniently as you would a tape or CD. The memory stick will be compatible with the new SDMI standards for copyright protection. Sony's MagicGate hardware ensures that copyright protected data can only be transmitted between compliant devices and soundcarriers.9 Sony intend to licence this technology to third parties (as they have done with Minidisc) - it could therefore become a widely accepted standard that would considerably increase the scope of direct delivery. The largest potential problem with the format is its lack of capacity. The most expensive sticks store 32MB which, although impressive for something the size of a piece of chewing gum, is 20 times smaller than a CD's 640MB. This is the primary reason that in the short-to-medium term optical storage devices will be preferable to solid state ones, for digital download storage.10

Image 2. Sony's Memory Stick
4. Music Retail and the Internet

<table>
<thead>
<tr>
<th>Region</th>
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<th>1998</th>
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Table 2. Past and future estimated Internet music revenues in $million
FT 26 May 1999 source MTI (e=estimate)

Music as a product is well suited to the Internet, online ordering is well complimented by either physical delivery or digital distribution. Traditional music retailers are therefore facing a growing threat both from the online retailing of CDs by new distributors and from downloads of music direct from publishers or artists. Online retailers such as CDNow, Amazon.com and CD-Paradise have emerged in the past few years offering an greater product selection, at a cheaper price, than is available in conventional brick and mortar stores. Personalised web pages offering selections of new music to targeted customers, online magazines and streaming audio previews are good examples of the unique service aspects of the web. However, online retail may complement brick and mortar stores as online sales are predominantly back catalogue with a typically older customer compared with the high street store. In addition the convenience of e-commerce is best realised with the use of a credit or debit card that users under the age of 18 are unlikely to own. As new forms of electronic payment become available, such as e-cash or mondex, younger consumers may find it easier to take to the Net.

Internet business models may require record companies to re-evaluate existing strategies. For example, it is reported that a common practice is to keep the prices of singles low to induce retailers to take extra copies\textsuperscript{11} and so raise chart positions for new releases. The rationale behind this pricing strategy is that profits lost through low single prices are more than recouped by the album sales that follow as a result of the publicity that a high chart position brings. If moves to digital distribution cause industry practices to change - such as unbundling songs from album formats - singles revenues may become more important and therefore current strategies will be unattractive.
A trend which has been compounded by the emergence of US-based Internet retailers is for consumers to import albums from overseas to take advantage of large price differentials between regions. Record companies have been keen to stop personal importing direct from their selling operations. Sony Music Entertainment has put pressure on its subsidiary Creation Records not to sell its records abroad through its mail order store on the Net. However, the independent Internet based retailers such as Amazon.com and CDNow send their products anywhere in the world which may put pressure on the profitable regional pricing strategies of major publishers. There is the possibility that by not allowing international distribution record companies are missing out on potential revenues that could be gained by accessing niche markets which are uneconomic to support using conventional regional distribution methods. Despite this possibility, the future of physical music distribution will probably be subject to regional controls (already DVD players only work with discs bought in the same region) – controlling ephemeral formats like this may well prove impossible.

The big record companies set up their own web sites, first, to carry out consumer research, second, to promote, and thirdly to sell direct\(^\text{12}\). Total music-related revenue comes not just from CD sales but also to merchandising and ticket sales. Increasingly music-related business will be conducted on the Internet. Concert tickets are already available online from Aloud.com, NME.com and Ticketaster.co.uk. Other links include biographies of artists, discographies, release information and tour dates, news and webcasts of concerts or snippets of new tracks. But record companies are also being careful not to damage relationships with the retailers which are still their largest distribution channel.

Island records (part of Polygram/Universal) was the first record company to start selling its CDs direct via the Internet in 1997. Later that year Sony Music Entertainment created "The Store" to take their artists works directly to US consumers via the Internet.
Now, in 1999 almost all publisher sites sell CDs - although in some cases this is via a link to a third-party site like Amazon.com or iMVS (now known as Yalplay.com). Piracy concerns have generally prevented true direct delivery (i.e. audio data sent down the Net) except in the case of Cerberus (see below).
4.1. Direct delivery

The *Cerberus* site (www.Cerberus.co.uk) is based in the UK and allows the user to download tracks straight onto their hard disk for a small fee (plus there are short 20 second demos are available for free). One problem with the site is that major artists signed to major labels are not available, so the choice of music is limited to U.K. independent labels. However, this situation could be used to *Cerberus'* advantage. The dance market has revitalised vinyl at least in part because so many tracks are exclusively available on that medium. *Cerberus* could offer these tracks to those consumers for whom the vinyl format is non-essential (i.e. those who are not DJs) but are not able to buy the tracks they want on or MC. For independent labels direct delivery represents an extremely cost effective method of distribution - the sunk costs in particular are very low.

![Cerberus Audio Player](image4.jpg)

**Image 4.** *.cbr player, ATM like interface.*

Another similar, but better known, scheme is Liquid Audio Networks. Liquid audio use streaming and non-streaming compression technology to allow users to preview tracks by independent artists and then download higher quality versions at a price or sometimes for free. There is also the possibility of buying a CD to be delivered conventionally, but the independent nature of the artists involved means that these do not always exist.
4.2. A Third Way

Music could be distributed using the flexibility of digital delivery but from conventional physical retail space. The latest development from Cerberus is the Virtual Record Store (or VRS) which allows users to create their own compilation album from the tracks stored on the Cerberus website or a local DVD based server. The system works by placing a compact piece of Gateway manufactured hardware (which takes up just one square foot of floor space) in retail outlets. Customers choose their unique selection from Cerberus's music which is then burnt onto a CD in around 6 minutes. Cerberus are aiming to put their hardware in shops that attract young customers who may admire their independent catalogue. They have started with installations in Levi Strauss shops and by the end of 2000 they plan to install another 1000 systems throughout Europe, most likely in stores with a similar target customer to Levis.13
5. New Promotion Tools on the Net

The Web offers new ways to promote artists; first, the flexibility of Internet radio offers users the option to listen to their favourite artists, but also have direct links to online retailers; second, gimmicks like audio e-postcards let friends exchange snippets of their favourite music; third, a new category of site (typified by firstlook.com) that promotes artists, without being tied to any one label, has appeared.

5.1. Net Radio

One of the most interesting uses for streaming audio is Net radio. Spinner.com has over 120 channels that cater for virtually every type of music genre allowing customisation and promotion of specialist music directly to interested listeners (see image 5). Many of the channels are e-commerce enabled - if you hear a song that you would like to own you can click on an icon which links you to a CD retailer on the Net. In future, direct digital downloads will make this process even more dynamic.

Image 6. The Spinner Player V.2
The highly customisable nature of Net radio stations enables customer targeting. Some, (e.g. imagine.com), can be set up to play only songs by certain artists. Although this seems attractive, if every time consumers listened to the radio they hear only their favourite artists, the benefits of owning those tracks on a permanent basis is perhaps diminished. Another potential problem is that consumers may lock themselves into certain listening habits making it harder to 'break' new material.

The opportunity to move away from physical soundcarriers is now becoming a reality. This introduces new opportunities such as ‘pay per listen’ or ‘pay to download and keep’. If, a consumer buys on a pay-per-listen basis over the Internet, (or digital TV, or digital radio), they might decide they do want to own the track after all, and buy it on a permanent basis. This has the potential to increase convenience and decrease risk for the consumer, whilst also decreasing industry costs and increasing music sales.
5.2. Multimedia Postcards

*Earl.com* (the web site of *Time Warner Music*) has a new marketing tool called *tunemail* which allows users to send each other messages with photos and realaudio sound clips. This scheme takes the form of a sort of personal recommendation from a friend – a potentially stronger influence than other marketing efforts (see image 7).

![Image 7. Tunemail homepage.](image)
5.3. Chart Sites

*MusicNow* have recently introduced a new way of promoting music on the Net that collects revenue through selling "chart placement" at *Firstlook.com*. The site works by charging retailers, artists and labels for their chart position. The artists at the top of the chart are paying the most money per click they receive on the site (as much as $0.50 a time for the highest placed acts). The site is not totally monetarily defined, users join, then rate the real audio snippets that are available for every listed song – these ratings which can then be used to rank the tracks in a different order. If a track is selected a new window opens showing more information and a purchase link to *Amazon.com* (see image 9). The site also carries previews of tracks that are not yet released.

![Firstlook homepage](www.firstlook.com)
This type of site has great potential, as different charts can exploit different tastes. In a similar way to Warner's *tunemail*, the owners of such sites benefit from consumers' input.
6. Artists on line

Artists are cautious about selling their work online and mostly restrict their Internet work to promotion. However there are a few exceptions

- Supergrass were the first band to place samples of their new album on the Internet in 1996\(^{14}\)
- David Bowie is well known for setting up his own web site and ISP. He also offered his fans the chance to compose lyrics with him on line. His latest album was available on the Net two weeks before its physical release.
- The French composer Jean Michel Jarre allowed his fans access to a Midi file so that they could remix one of his pieces themselves for inclusion on a CD single.\(^{15}\)

Image 9. Robbie Williams home page

The Internet can bring artists closer to their fan base and allow experimentation and creativity helping to bring out the ‘lifestyle’ elements of music. The majority of artist’s sites contain general information, pictures and audio snippets – a chance to sell merchandise is rarely missed (particularly with large stars such as Robbie Williams, see images 9 and 10).
It is possible that some artists might want to cut out the record companies and sell direct digital downloads of their music via the web. This may be attractive to successful and well established artists and there will be an opportunity for geographically diverse audiences to enjoy niche markets of their music. Public Enemy (an established rap group), have started selling their music directly over the Internet using the mpeg format\textsuperscript{16}(see image 11). They see this as a way of bypassing their record company to realise greater creativity and control. Given the nature of the group (famously political and anti-establishment) this radical step fits in well with their image, and no doubt impresses their target audience. Less radical and less well-known artists may not find it so easy to go direct to their fans in this way.
Words, in the words of Keith Murray, are a beautifullist thang. Swindlers come in all shapes, sizes and colors, don't they?

The majority of fans and artists are heaped upon each other, pile swept in a horrorcost.... A lotta folk been had by the execs and legal lust of the industry....

So this is anti-corporatism, and watch the reaction to this lyrical swirl....

Ready... aim... MP4!

DOWNLOAD NOW!

Swindlers Lust mp4 (2702k) [win 9x/nt]
6.1. Independents On Line

At the other end of the scale there are unknown artists for whom the web is the only, or best, channel to their audience. *Mp3.com* provides these artists with a forum. Its news and feedback pages have examples of artists who were discovered as a result of *mp3.com*. Independent Artists who have made CDs of their music are able to sell it via the *mp3.com* site, with lower quality real audio streaming clips rather than mp3s available for free. In August of 1999 *mp3.com* sold 15,600 discs and had 26,700 artists signed up on the site – small but the figure is growing\(^{17}\) (see image 13).

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**Image 12.** *Mp3.com homepage*

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Recently, *Amazon.com* have followed *mp3.com* and introduced 'New Music Spotlight' (see image14). This section of their main site allows users to download mp3 files by unestablished acts and then buy the CD at a discount price. The move is partly motivated by *Amazon*’s general policy to ‘leave no stone unturned’.\(^{18}\) However, the realisation that certain segments of consumers enjoy searching for new and novel of music may be a factor too. Could this be some kind of reaction against the search engines of music websites that have made finding music too easy? Part of the pleasure of buying music could be a notion...
of 'discovery'. If websites can accommodate this feeling they are getting closer to replicating some of the lifestyle elements of conventional physical shopping.

Another important aim of independent sites is promotion. As mentioned in section 5, one of the problems with Net-radio is that its customisable nature may lessen a user's exposure to new music. *Mp3.com*, *Firstlook.com* and *Amazon's New Music Spotlight* all have potential to 'break' new artists, as does *Cerberus* whose catalogue mainly consists of independent labels' material.

The problem with sites like *mp3.com* and *New Music Spotlight* is the difficulty in locating the music you want. The type of search engine employed by these sites is most effective when the user knows the name of the band or track they are searching for. Most of the artists on download sites are relatively unknown so users are going to have to trawl through 'genre' lists unless search engines become more 'intelligent'. The Recently launched *Peoplesounds* website indicates that customisation could be achieved through the use of consumer profiles. At the moment users are required to fill in an online form...
detailing what music they like in different situations (see images 15 and 16). In the future clever and comprehensive use of online tracking could allow profiles to be created more discreetly.

Image 14. Peoplesound’s ‘Music Navigator’

Image 15. Enter you three favourite bands so navigator can gauge your tastes.
7. Industry Research

Twelve UK experts (from 3 record companies, 5 retailers, 1 distributor and 3 other firms within the record industry) were interviewed for their views regarding music online and how it might affect their business. The objective was to explore the following:

- Perceived threats/opportunities posed by music online to their business.
- The effect online music might have for musicians, consumers, competition, record companies, and music retailers.
- Online payment schemes, time-scales for change, new technologies, opportunities for niche markets.

In order to achieve these objectives, respondents were asked:

- Which consumers would be most likely to want music online?
- The current and future role of record companies for artists and consumers.
- Issues of copyright and piracy in relation to music online.
- What they thought consumer's preferred payment method would be for music.
- What role they thought music retailers would play in the future.

7.1. Perceived threats and opportunities to record companies

The record companies we interviewed generally felt that digital distribution was a major opportunity since, as copyright owners, they can promote, publish and distribute it in any way they see fit. Overcoming the problems of piracy, security of payment and transmission speed are seen as major barriers but they expected them to be overcome in time.

A summary of the views given:

“Music is not just data. Record companies create a tactile experience for people.”

“Record companies filter out bands that are not good enough to be mass market, so consumers don’t have to.”

“Record companies are gatekeepers, they present music to consumers either through search engines, Internet service providers or music magazine editors.”
“Bands do not know how to: promote themselves, set up website, set up charging schemes, calculate tax etc. Record companies provide that service for them.”

“The music industry used to be rights-based and then moved to being-rights and manufacture based. It is possible to return to being solely rights-based should the need arise.”

“Music on line will require vigorous policing of copyright laws. Record companies have the organisation and finances to do this, individual artists seldom do.”

“Promoting music will always be necessary no matter what form it exists in.”

7.2. Perceived threats and opportunities for music retailers

Retailers generally perceived the digital distribution of music as a threat to their business. However, retailers did not believe the prediction "there will be no music retailers in 10 years time" to be valid. They generally believed that music retailers would play their current role for the next 10-15 years and still have a large role to play after that.

The extent to which shopping/downloading online replaces the physical shopping experience will depend on how likely the average consumer is to change their shopping habits. If we take a historical comparison, cassettes did not remove vinyl, nor was the music industry destroyed through consumers taping music from the radio. Sound quality, artwork and not wanting DJ chatter all contributed to this. New technologies have tended to find a place amongst the existing ones, rather than totally supplanting them. So long as there is a customer demand for the physical product, retailers believe the music industry will continue to press CDs (as well as distribute digitally).

The record companies believe that the Internet is just one of many new competitors to high street record stores. For example, supermarkets and petrol stations now sell a good range of chart / front-end albums at competitive prices. Initially Internet sales provide the biggest threat to retailers' back catalogue sales. Retailers emphasised their strengths, pointing out that consumers often like to engage in conversation with staff, gain personal recommendations, and be exposed to music they would not normally have bought.

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1 For example, e-mails haven’t made the telephone or letter redundant.
Retailers also have an important promotional role and are seeking to improve their service standards in order to differentiate themselves from their Net based competition.

One distributor pointed out that independent record shops sell 50-70% of their stock from the Top 40 chart whereas high street retailers sell 80%+. Independents may therefore be more likely to survive major upheavals in the industry because of their focus on range and collectability. Additionally, the physical cost of distributing singles is higher per unit value than for albums. For cost reasons consumers may prefer to buy singles online and albums in-store.

7.3. Do consumers want a physical product?

A general consensus was that it will be today's children, brought up with the idea of the Internet, and who do not have entrenched shopping habits, who are more likely to accept the digital distribution of music and options such as pay-per-listen. Music from the Net is generally good quality (depending on the technology) and there are fewer DJ interruptions, so artwork may be the only significant advantage of physical media. But this is to forget about the important 'lifestyle' element of music buying mentioned earlier. The desire for a physical product may be motivated by wanting to display one’s tastes publicly - particularly amongst the young, for whom music is often a social identity tag.

Another area were physical products are important is gifting (a record shop can do a quarter of its annual business in the three weeks leading up to Christmas). Can a digitally distributed product be a gift? Surely opening a Christmas card with a list of filenames inside would detract from the traditional aspects of the giving? Tactility is similarly important - when people spend money, they generally like to have something in their hand to show for it.

7.4. Will there be emergent online niche markets?

Generally, retailers believe that specialist genres will adopt music online fastest since online catalogues offer a broad range that is not easily accessible in record shops or even by mail order. It is difficult to know whether on-line retail will increase overall sales or
whether it will just take market share from traditional mail order. It is possible that some niche markets may become mass market, in terms of volume, as music online can be delivered globally.

7.5. Will music piracy continue to be a problem on the Internet?

Record companies acknowledge that piracy is not something that can be easily overcome. Internet users are going to distribute music to each other illegally just as they do with tapes. Encryption was identified as a major factor in preventing not just Internet piracy but all forms of music piracy. One issue is that current generations of CD players do not have de-encryption hardware built into them (although the new DVD audio standard includes this). Selling encrypted music digitally online could be a successful the only response to the high levels (one in five phonograms) of music piracy throughout the world.

7.6. How will music online affect musicians?

Independent musicians can simply put tracks onto the Internet (this already happens at mp3.com). However most artists want to record an album which is a continuous selection of tracks / songs all conveying a similar theme (in order that maximum publicity and sales can be gained in one large impact rather than from one track). This could just be seen as an arbitrary convention resulting from years of reliance on physical media.

The issue of consumers creating their own compilation albums (see mycd.com or cductive.com) was an area of little consensus. To the retailers it was a good idea (because the customer would want to do it) but record companies viewed it as impacting negatively on the artist's vision. They argued that the world be a much poorer place if all that was available was singles that were "what Radio 1 wanted to hear", i.e. artists would have less incentive to experiment. Well-known artists could choose to go direct to the consumer via the Internet, but relatively unknown cannot do this effectively. Putting thousands of bands on line would create a barrage of unfiltered 'white noise' - music that consumers would not have the time or inclination to search through themselves.
7.7. What technology would be required for music online to become mass-market?

A transportable playback format would be one option once it was small enough to be carried on the person (e.g. the *Diamond RIO* or memory stick). However, many believe that the reason DVD has not taken off as fast as expected in the United States is because the format is not recordable - something consumers expect after experiencing VHS video and cassette.

However, a recording option cannot be the key variable influencing adoption, if it was, surely Sony’s minidisc and Philips’ DCC (Digital Compact Cassette - backwardly compatible with normal cassettes) would have been more successful. More important is the consumer expectation that any new music format should be perceived as improving upon as many as possible, if not all, the attributes offered by the existing technologies if it is to become mainstream.

The record industry believes that a fast mass-market infrastructure for music online technology (not ISDN as it is too slow) will become available soon (BT's recently announced ADSL technology, or a cable modem might be what is required). Less tangible barriers were also mentioned, e.g. keeping music on a computer hard disc, booting up the PC, downloading/uploading and so on, are no readily associated with listening to music (after all, for many people the computer is something they associate mainly with work). Almost everyone reiterated the gifting and collectability aspects of buying music as barriers to new direct delivery technology.

7.8. What forms of payment could be used for music delivered digitally?

The record companies saw three main ways for consumer payment of music online:

- Pay per listen.
- Pay to own a single.
- Pay to own an album.

But the Net enables combinations of these options too. Having an account with a retailer or distributor, being able to download a certain number of tracks a year and receiving them instantly, then later receiving the physical goods - was another possible model.
7.9. Who are the real winners and losers in the music online world?

“*If lawyers can control copyright issues then record companies will be the main beneficiaries.*”

“*Retailers will survive as the Internet will serve to open up the music market to more retailers, both physical and virtual.*”

“*Internet Service Providers or the owners of the eventual form of infrastructure probably stand to gain the most financially, not just from music online but e-commerce in general.*”
8. Consumer Research

To complement the industry research, consumer research was carried out in two record shops in the UK and on the Internet. The total sample was 367 people.

The objectives of the research were to:

- Contrast characteristics of Internet-based respondents with those of high street record store respondents
- Discover music buyers preferences in terms of ownership of physical soundcarriers (physical products containing pre-recorded music) versus music transmitted digitally to their hi-fi equipment either on an own or pay per listen basis,
- Identify ideal characteristics for music online (for consumers, e.g. sound quality, payment schemes etc.)

Table 3 shows the breakdown of respondents by Internet usage.

<table>
<thead>
<tr>
<th>Internet Usage</th>
<th>Every/most days</th>
<th>1-3 Days per week</th>
<th>Never</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Store Respondents</td>
<td>22</td>
<td>27</td>
<td>35</td>
<td>84</td>
</tr>
<tr>
<td>Web Respondents</td>
<td>234</td>
<td>38</td>
<td>0</td>
<td>272</td>
</tr>
<tr>
<td>Total</td>
<td>256</td>
<td>65</td>
<td>35</td>
<td>356</td>
</tr>
</tbody>
</table>

Table 3. Internet Usage (n=356, Missing=11)
8.1. Music purchasing behaviour

36% of web respondents bought one or two albums per month via the Internet (to be delivered to their home). Only 8% of store respondents purchased more than one album over the Internet compared to 36% of Internet respondents. Chart 2. shows the responses for the Internet:

![Chart 2. Number of albums bought per month from the Internet and delivered physically](image)

Chart 2. Number of albums bought per month from the Internet and delivered physically

We find that, in our sample, it is generally not young people who are generally buying CDs online, but the older age group. Chart 3 shows that for the web site sample only, 68% of respondents aged 35+ were buying CDs online as opposed to 31% of under 24s. Although the number of respondents for the 35+ age group is limited to 22, it backs up the contention put forward in the industry interviews that the majority of people purchasing music online were adults.

![Chart 3. Web site respondents buying CDs online (using Internet retailers segmented by age)](image)
8.2. Important factors for listening to music online

We now break down findings by whether respondents were Internet users or not (see chart 4). For all respondents, the most important factor for downloading and streaming audio was the security of payment. Internet users were more concerned about security of payment than the store sample. It may be that people are not as concerned about transmission of payment details online until they are confronted with it.

![Chart 4. Critically important factors for music online](image)

Sound quality was even more important for those who never used the Internet. This could be that Internet users have heard supposedly lower quality formats like MP3, but noticed little difference compared to CD.

The ability to store the track on a CD, disk etc. was twice as important to the people who did not use the Internet compared to those who did. A large range of titles was deemed critically important by 41% of the non Internet users, but only 18% of Internet respondents. It is unclear whether these views are in line with those of the industry respondents who thought about music online would be adopted faster in niche markets. The online respondents were a specialist audience (Jean Michelle Jarre fans). However, those responding in store who had not used the Internet were shopping in a specialist music store. It is also possible that the existing Internet users already knew that there was a large range of music on the Internet so didn't see that as an important issue.
Ease of use was another important issue that Internet users and non users disagreed on. For those already on the Internet only 9% thought that the system has to be as "easy to use as a hi-fi system" but 30% of non Internet users thought that this was critically important.

8.3. Usage of the Internet for music online

There were no significant differences in the perceived value of online music between those who use the Internet and those who never use the Internetii (see chart 4). Interesting, the main reason for accessing online music sites, by all respondents, was to try out the work of new artists. This is an important finding - people seem to want to sample new music but there are barriers in conventional shopping channels such as not being able to listen to anything you want in a shop, or difficulties in returning products. Consumers are suggesting that online music is a way for them to reduce their risk by sampling new music before paying for it.

![Chart 5. Consumers "very likely" to perform these activities on the Internet broken down according to Internet users and non users](chart.png)

ii n=27 for non users, it would have been nicer to have a larger sample of people who did not use the Internet
8.4. Preferred method of payment for listening to music from the Internet

Overall, the most popular form of payment for listening to music from the Internet is to pay a reasonably small amount to be able to keep the track. Only 6% of total respondents thought that pay per listen was a viable option (see chart 6).

![Chart 6](chart6.png)

**Chart 6. Preferred payment plan for listening to music online for all respondents**

The preferred payment plan depends on the customer reason for going online music sites. Paying to download and keep a single track might make more sense to those accessing the back catalogue, while access to a catalogue for a yearly fee could be appropriate to those who might want to listen to the top forty singles every week. The preferred method of payment for just the Internet users was again a small amount to download the track and keep it. Listening to a small amount each time was even less popular.

![Chart 6](chart6.png)
The Non Internet users were less sure what they wanted. Although 29% favoured a reasonably small amount to download and keep a track, an equal amount favoured access to a yearly catalogue. It might be safe to assume that the non-Internet users show no clear preference for one form of payment than another.

8.5. Buying downloads of albums versus singles

Participants were asked whether they would prefer to buy digital downloads of albums and singles (respondents were given a 5 point rating scale of with ‘1’ as 'very likely' and ‘5’ as 'totally unlikely'). The results indicate that people are less likely to want to download albums than they are singles. This could be for a variety of reasons, such as the amount of time it takes to download tracks or because people would be prefer to own albums on a physical medium.

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iii The mean for albums was 2.84, and for singles it was 2.62 (significantly different at the 0.05 level)
Respondents who indicated that they used CDs with their PC’s CDROM drives or CD Based games consoles were no more likely to want to download albums or singles digitally. For albums the mean score was 2.84 for those that do use their computers and 2.85 for those who do not. It is surprising that those who already listen to music on their computer hardware are not more disposed towards downloading music from the Net.

Less surprising was the discovery that respondents who already purchased CDs online are slightly more likely to want to download albums and singles. This can be most easily explained by their familiarity with the technology - having used it they realise the benefits.

Younger people were more likely to want to download singles than older people. Two factors may be working here: young people are keener to keep up with the latest releases whereas the tendency among older people is to buy from back catalogues - dominated by albums.

<table>
<thead>
<tr>
<th></th>
<th>Albums (mean score)</th>
<th>Singles (mean score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Internet Users</td>
<td>2.92</td>
<td>2.62</td>
</tr>
<tr>
<td>Light Internet Users</td>
<td>2.65</td>
<td>2.55</td>
</tr>
<tr>
<td>Average</td>
<td>2.84</td>
<td>2.62</td>
</tr>
</tbody>
</table>

Table 4.    Album/single preference, broken down for light and heavy users.
9. **Summary**

9.1. **Retailers**

The major retailers are already experimenting with music online. They believe that consumer demand for digital downloads will be small without an adequate infrastructure and it will not become a mass-market activity for some years. They also believe that there will always be a demand for physical products.

Traditional record stores will be hardest hit by Internet retailers (along with pressure from the other more conventional competitors such as supermarkets). High street retailers will be hit hard if they do not act now to create innovative brands on the Internet, reflecting not only their high street values but also those new features required by online shoppers.

Pricing will be a difficult problem for these retailers; should they match their on-line competition or be consistent their own bricks and mortar operations? If they choose the latter will their brand be enough to tempt customers to part with more money for the same product? In the short term it might, but in the long term consumers are likely to become increasingly web savvy and the influence of brands that gained their reputation on the high street will diminish. The advent of web surfing software agents may hasten this. As a recent MTI report points out:

"The music industry's high margins, regional price differentials and apparent complacency after decades of growth make it a classic target for online discounting".20

However, retailers can use other new technologies developed by the music industry. Not only can they set up their own websites, but developments such as CD burning Kiosks (e.g. Cerberus’s digital duke box) mean that some floor space currently dominated by back catalogue stock could be given over to multimedia displays and promotional activities. However, kiosk technology could also represent a threat to retailers by making it possible to sell a large range of music from almost anywhere. CD burning kiosks do not have to be confined to shops they could be positioned at concerts, festivals, night clubs, etc.
9.2. Record Companies

Record companies do not feel particularly threatened by music online. Their business is, and always will be, about owning copyright, promoting it and selling it for their artists - the law is currently on their side, as are the current business logistics. Record companies promote through a variety of different media as people respond to music in a physical, tactile way – part of the challenge of music online will be to try to replicate some of these physical aspects on the web. As for direct delivery, Sony have agreed a deal with DOD (Digital on Demand) and EMI have an agreement with Liquid Audio - this will put pressure on others to follow.

9.3. Changing Artist - Record Company Relationships?

Musicians generally have not been able to survive without record companies to promote them, protect their assets, press the CDs, design their web sites etc. It is likely that, in the future, record companies will need to reposition themselves nearer to the model of just being publishers. There is a possibility that some large artists could go direct and sell either CDs or digital downloads via the web, particularly if it suits their desired image. Smaller artists could also put their unsigned work on the Internet for people to listen to, but a mechanism for filtering the vast quantity of music available on the Internet is needed. Sites like mp3.com and firstlook.com indicate how this might be done. Perhaps forthcoming software 'agents' (which experts believe will remove much of the drudgery from web surfing) will have a role to play here. As well as searching for music by genre or artist they could seek out what was popular or had received favourable reviews.
9.4. Formats

Desirable features of new music formats include:

- Inbuilt encryption technology to reduce piracy.
- Recordable.
- Sound quality at least as good as CD (otherwise there will be no customer drive to replace existing back catalogue material).
- Longer running time than CD.
- Portable and easy to use.
- Collectable and incorporate a gifting element.

As far as physical formats go DVD is the most promising. At the moment its biggest hindrance is a lack of recordabilty but this will change with DVD-RAM (this exists already but the hardware and media - $30 a disc - are too expensive at the moment). Playback only hardware penetration has been given a significant boost from the console market. The recently announced second generation *Playstation* specifications include support for DVD - making it something of a ‘Trojan Horse’ for the new technology.\(^{23}\)

Internet formats do not require specific hardware and so can be adopted or be updated much more rapidly than physical ones (Mp4 version 2 is to be finalised in December 1999, Mp7 is scheduled for release in July 2001)\(^{24}\). This is aided by the fact that decoders for these standards are free to download and can exist simultaneously on one platform - which considerably lessens barriers to adoption. MP3 and real/liquid audio are dominant (in late 1999) but MP4 may supersedes these as it has encoded copyright protection features. Nevertheless, publishers may wish to develop their own secure formats (e.g. *Cerberus' *.cbr). The *Secure Digital Music Initiative* (SDMI) may also provide a solution, with the support of 120 major companies and organisations they have developed a 3bit digital watermarking technology that will be compatible with a number of different streaming and non-streaming digital formats.\(^{25}\)

The development of Internet formats is linked to that of physical ones. If writable DVD drives or solid state devices gain a sizable share of the domestic market the issue of the ephemeral nature of Net music formats will be lessened; downloaded music that
consumers want to keep can simply be digitally transferred to a physical medium with solid state storage devices providing convenient portability. There are problems with this, such as the lack of art work but even this could be solved if consumers printed their artwork at home, were sent it via mail or collected it from a centralised source. Consumers could also rent a device similar to the *Cerberus* VRS kiosk (which contains CD burning and album cover printing hardware) that could interface with their PC/digital TV/phone. Depending on technological developments, Net based and physical formats could be mutually reinforcing.

9.5. **New technologies, new business models**

Consumers tend to be in favour of paying to keep tracks. However several business models will undoubtedly emerge. The payment schemes adopted by mobile telecommunications, cable TV and Internet Service Providers could provide an insight into this. Consumers were generally more likely to want to download singles than albums. The singles market is likely to be hit first by music online (because of the low margins associated with singles and the high cost of distributing them). The album market has become increasingly detached from the singles one. But this could change if direct delivery renders singles more affordable. The immediacy of Internet formats could have a rejuvenating effect on the singles market. If this were to happen it could possibly reduce album sales. It will be interesting to see if there is divergence between ephemeral and physical formats related to album and single sales. The possibility of independents selling more music because of the Internet offering them more exposure should also be considered.

9.6. **Piracy (see Appendix)**

If the prevention of piracy is to be achieved it will not be by a single development: legal action, better encryption technology (e.g. SDMI initiative), tracking and destruction of new mp3 sites will all have to combine to provide sufficient barriers to pirating activities – especially among casual users. This, combined with the difficulty of making piracy profitable without a physical medium to exchange (who would give credit card information to pirates? How long could a pirate web site last on the web before being shut down?), should reduce the threat that the industry faces.
9.7. Free digital music?

There is the possibility that the Internet could force a situation where music is essentially 'free'. Revenues could then come via advertising, live performances and physical music sales. But this scenario relies on the Internet becoming such an important marketing channel for music that the penalty of not allowing your tracks to be downloaded free is obscurity. This would require a large and risky shift in music industry business models that would surely be resisted vigorously by the incumbents.

9.8. Brands on the Net

How important is brand development on the web? One view is that by providing added value (e.g. personalisation, online magazines, order tracking, music communities etc.) retailers could reinforce the perceived worth of their brand. Gaining a reputation for low cost and reliability/security is also highly desirable. Making your website the first port of call for the consumer is very important; research has shown that, over time, users spend less and less time searching as they quickly find sites that satisfy their requirements. Of course, a contrary view would be that brands’ importance will be reduced as agents and, increasingly rational, consumers can access a global range of sites.
10. Appendix: Piracy

<table>
<thead>
<tr>
<th>Country</th>
<th>Piracy IS$ (m)</th>
<th>Piracy level Units (m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Russia</td>
<td>310</td>
<td>70%</td>
</tr>
<tr>
<td>Brazil</td>
<td>240</td>
<td>45%</td>
</tr>
<tr>
<td>China</td>
<td>240</td>
<td>60%</td>
</tr>
<tr>
<td>Italy</td>
<td>110</td>
<td>25%</td>
</tr>
<tr>
<td>India</td>
<td>100</td>
<td>30%</td>
</tr>
<tr>
<td>Mexico</td>
<td>80</td>
<td>45%</td>
</tr>
<tr>
<td>Argentina</td>
<td>65</td>
<td>30%</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>35</td>
<td>30%</td>
</tr>
<tr>
<td>Greece</td>
<td>20</td>
<td>25%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>18</td>
<td>20%</td>
</tr>
</tbody>
</table>

Table 5. Some of the worst conventional offenders in 1998

Table 5 demonstrates the high level of conventional piracy at the moment. Just as the Internet offers new channels for distribution it also opens up new avenues for pirates. Fear of piracy, justified or not, is a considerable drag on the development of music on-line. Horror stories include pirates getting hold of promotional discs that are meant for radio stations, digitising the tracks and placing them online. Mike Oldfield's *Tubular Bells 3* album was available in its entirety on MP3 format weeks before its release on 31st of August 1998.

WIPO (World Intellectual Property Organisation) has two global treaties in place and the European Union is seeking legislation to take account of new digital technologies (which make it easier to transmit perfect copies of copyrighted information). The proposed legislation states that authors and performers should have the exclusive right in the digital era to decide who can make copies of their work. The IFPI (international federation of the phonographic industry) have instigated a zero tolerance policy in their fight against piracy. This cause has been strengthened by the SDMI which has developed seemingly effective encryption technology.

Reported Music Piracy decreased each year from 1993 to 1997 but it is now rising again. The latest IFPI figures show piracy rising in Europe during 1998/9 largely as a result of the
tumbling cost of CD-R (CD recordable) hardware. In 1997 piracy levels for the region were only 25% but by 1998 they have reached 40%. Despite their publicity mp3 files do not seem to have made much impact on piracy (IFPI do not mention them). When IFPI do mention the mp3 threat they suggest that the legal might of the music publishers is able to neutralise the problem. Not only are mp3 websites continually shut down, but legal action is also being taken against the search engines that help people find mp3s. The most well known of these engines is FAST (licensed to Lycos) which hourly scans the Net for new mp3s. Without search engines such as this locating the mp3s that users want (typing 'mp3 into a regular engine yields about 30 000 hits!), the format is less of a threat. On a more general level, if it is possible to create a search engine to find Mp3s on the web it is possible to 'hunt down' the sites that make them available in the same way.

Further measures to reduce the piracy problem of mp3 files on the Net seem to be coming from possible alliances between music publishers and the manufacturers of specific mp3 listening hardware. In addition to SDMI the Universal Music Group is developing software to make its catalogue of music files compatible with the next generation of mp3 hardware (that will refuse to play pirated music). Like DVD players Sony's Playstation has chips inside the console only allowing official games, from the same region as the console was bought in, to be played on the machine. To use pirated or foreign games on their Playstation, gamers must have their consoles modified (or “chipped”). A similar solution might be offered for those with mp3 hardware who want to play pirated mp3 music. Solid state storage media will also hold the encryption chips making the system doubly difficult to crack.

Encryption does not necessarily have to be related to hardware to be effective. "Digital Watermarking" (which is a vital part of all encryption technologies) involves placing an undetectable, non-removable, imperceptible signal into the audio recording to identify the originator and which customer copied it. In hardware assisted systems unless this watermark is correct the data cannot be accessed, but if the right information is encoded specialist hardware may not be needed. Cerberus's *.cbr files are encrypted with the purchaser's id and banking information (e.g. credit/debit card number expiry date etc.). Thus, anyone who buys a Cerberus track, and then passes it on, is actually distributing their credit card details around the Internet. This acts as a dual disincentive to the pirate;
not only can they be caught and traced, but they are risking severe financial penalties at the hands of others like them. The only problem with this system is the potential consumer distrust of any digital technology which utilises credit card information.
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