



Digital Technologies and the Internet: Their Impact on the Music Industry



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Contents

Introduction	3
1. The Traditional Recording Industry.....	5
1.1. Traditional Value Chain.....	5
1.2. The Players.....	9
1.3. Revenues Distribution of a CD.....	12
2. New Forms of Digital Music.....	13
2.1. Online Music Services	13
2.2. The Mobile Music Market	16
3. Intellectual Property and Piracy.....	19
3.1. Copyright Law	19
3.2. Music Piracy	22
3.3. Regional and Country Analysis	23
4. Transforming the Music Business Model.....	29
4.1. New Digital Value Chain.....	29
4.2. Online Pricing	31
4.3. Online Sales	32
4.4. Concerts and the New Technologies.....	34
4.5. Strategies of the Majors Towards Online Music.....	37
5. Conclusions	39
6. References	41



Introduction

The arrival of digital technologies and the Internet has affected business in dramatic ways. For no other industry has the impact and transformation of these new technologies been greater than in the music business. The music industry is a talent-driven, creative industry and one of the true global industries. During the last three decades, global music sales have increased almost continuously; however, since the late 1990s music sales have been declining: world sales of recorded music in 1999 totalled USD 38.5 billion whereas in 2004 sales of recorded music failed to reach USD 33 billion. The deteriorating state of the music market, mainly between 1997 and 2004, has not occurred equally, either across the major regions worldwide or across the major countries.

In terms of sales, North America is the largest market, representing almost 40 percent of the global music market and the second largest (behind Europe) in unit terms, accounting for one third of the market in 2004. The second largest region in terms of value is Europe, with 37 percent of the global music market; however, in unit terms this region is the largest market, accounting for over one third of sales in 2004. The Asian music market is the third largest for music sales, representing 20 and 25 percent of the global music market in value and unit terms, respectively. The Latin American music market accounted for 3 percent of global music sales in value and 6 percent in unit terms in 2004 and, finally, Australasia, the Middle East and Africa accounted for 4 percent of the global music market.

In this monograph we will attempt to put the effects of the new technology and these claims regarding its detrimental effects on the business in perspective. We believe that explaining and understanding these effects is not so straightforward. The music business has constantly been confronted with changes in both format and technology. Why should this current change be so dramatically different? Different formats have displayed clear lifecycles and perhaps the maturity and decline phases in the lifecycle of the compact disc came towards the late 1990s. Coincidentally, the drop in sales in the music business coincided with



the propagation of broadband Internet access and increased PC ownership. However, many other changes in the environment show a strong correlation with this drop in sales.

In spite of experiencing two periods of contraction between 1969 and 2004, the music industry remains one of the major entertainment markets. Many factors could explain the declining trajectory of music sales, but the most cited explanation by the business itself is “piracy” related to the digitization of the product and the new technologies available for the transfer and exchange of the product.

Furthermore, in the following sections we argue that a clear distinction needs to be made between what is known as “online” piracy and the potentially more problematic effect of “off-line” piracy. While both types of piracy potentially affect sales and growth potential in the music business, the latter is typically exploited in a commercial way and as such constitutes a clear violation of copyright protection laws. “Online” piracy involves the sharing of files between different music end customers, and while it is also a clear violation of copyright protection law in legal terms, the two types of copyright violation should probably not be treated in the same way by the music business.

This monograph is organized as follows. Section 1 explains the structure of the music industry, with a clear focus on the way the industry is organized and a study of the different players that were involved in the music business before the arrival of the new technology. Section 2 describes the new forms of digital music. Section 3 deals with intellectual property and copyright-related issues. Section 4 closes the circle by reverting back to Section 1 and discusses additional changes in business models in the music business value system driven by these technological changes. New online business models have surfaced because of the shifting technology and players in the industry are struggling to decide which model will survive. Meanwhile new players enter the business. Finally, Section 5 sets out the conclusions reached.



1. The Traditional Recording Industry

The music industry is defined as the industry that creates, performs, promotes and preserves music. The history of the recorded music industry dates back to 1877, when Thomas Alva Edison invented a device for recording and reproducing sounds, the so called “phonograph”. Since then, the innovations have been increasingly dynamic and the music industry has grown notably. In 2004 the total global music market was worth USD 33.6 billion, a 1.5 percent fall from the figure of USD 34.1 billion recorded the previous year (IFPI, 2005a). However, growing sales of DVD music videos and of digital music helped to counteract the declining trend.

The global music market belongs to a group of copyright-based industries, which can be split up in two main parts: the *recorded music industry* and *music publishing*. The recorded music industry refers to all sales relating to pre-recorded music, whereas music publishing refers to the business of acquiring and exploiting the rights of musical compositions. The revenues from music publishing come from the collection of royalties paid to the copyright owners. Royalties such as: performance royalties (i.e., royalties paid for broadcasting on TV, radio or any live performance of a song); royalties for the mechanical reproduction of the music (i.e., a royalty on every album sold, which is linked to music recording unit sales); and synchronization royalties (i.e., royalties paid for the synchronisation of music with visual images such as films, adverts or computer games).

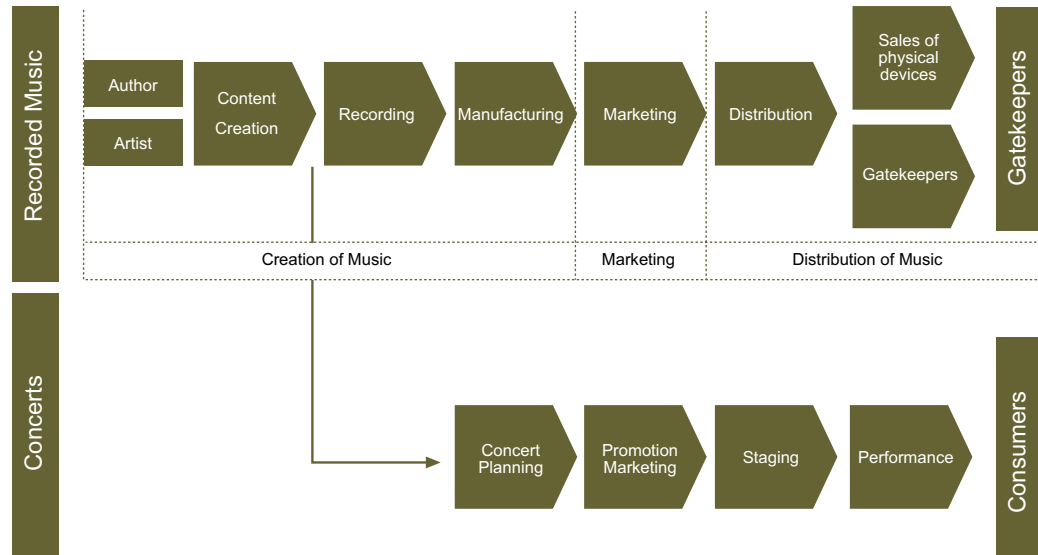
1.1. Traditional Value Chain

Figure 1 shows the traditional music industry value chain, with all its components from the creation of the song to the music’s delivery to the consumer.

According to *Libro Blanco de la Música en España (2005)*, the music industry value chain can be divided into two main parts: (i) recorded music and (ii) live



Figure 1. Traditional Music Industry Value Chain



Source: Adapted from OECD (2004) and Libro Blanco de la Música en España (2005).

concerts. There are three major processes involving the recorded music industry: (a) the “creation of music”, which involves the work of authors and artists as well as the recording and manufacturing of music; (b) the “marketing” and “promotion” of music; and (c) the “distribution” of music. We will first refer to these three major processes as they relate to the business of recorded music, and will then continue with a description of the components involved in live concerts.

1.1.1. Recorded Music

The process followed by a potential song from its production (creation) to its final use (consumption) may be described as the music industry value chain. The first component of the value chain is the creation of the song or piece by the author/artist. Once the music is created the recording process begins, followed by the manufacture of copies from the master device jointly with the marketing and promotion of both the recorded music and the artist and the further distribution of the copies to retailers and final consumers.



- **Songwriting.** The composition of a song or creation of a piece of music is the first operational step in the music market. The author of a song may or may not also be the artist. In the first case, the author/artist writes and sings the song, whereas in the second case, the author just composes the song without performing it. When these are two different people, the author must find an artist to interpret his or her creation. This task can be performed by the author him/herself or through a publishing house, which represents and manages the authors' repertoire.
- **Recording and Manufacturing.** The recording process is formalized by means of a contract between the record label, via their "Artist & Repertoire" (A&R) managers, and the artist. A recording contract mostly states the number of albums the artist is going to record with this label, the royalty rate the artist will collect based on sales and the agreed advance payments. The recording process is followed by the manufacture of copies from the master, which is in turn followed by the graphic design and printing of the CD cover and booklet.
- **Marketing and Promotion.** Consumers purchase music once they are familiar with it, and this is where marketing and promotion play a fundamental role. Music producers prepare promotional plans for their artists, and the artists themselves play a fundamental role by participating directly in many of these promotional activities (i.e., concerts, interviews and appearances on TV shows, among others).
- **Distribution and Retail Channels.** Once the recorded music has been manufactured, a series of agents is placed in charge of delivering the disc or physical item to the retailer. Music producers usually outsource this activity to logistics networks. Traditionally, the activity of distributing recorded music used to belong to specialized retailers, both large chain stores and independent record stores. However, distribution through non-specialized retailers using methods such as mass-marketing has proliferated notably in recent years.

1.1.2. Live Performances

The first step in a live performance consists of planning the concert. Generally, this activity falls to the artist and his or her manager, jointly with the music's producer.



Studies relating to the potential audience who will attend the concert are necessary at this stage. This helps to define and select the right venue for the performance and the staff required to operate the sound and lights. The concert promoter contacts the musicians and rents the venue. The following step involves the promotion and marketing of the concert, which is also the responsibility of the concert promoter. The artist¹ and/or the artist's manager negotiate the price of the concert with the concert promoter and the venue owner.

The artist or band receives a percentage of ticket revenues in advance, along with money from merchandise sales. Some artists receive almost 100 percent of merchandise sales, though most receive between 70 and 80 percent of merchandise revenues and between 70 and 85 percent of gross ticket revenues. Travel and other artist expenses are paid for out of the artist's own income. Before distributing additional revenues, the concert promoter recovers his expenses (advertising, staff wages, venue rental, etc.) and a minimum profit from the remaining 15-30 percent of the gross ticket revenues.

Once the design, planning and promotion of a concert is complete, the final step is the artist's live performance.

1.1.3. Music Publishing

As we have seen, the composition of a song is the first operational step in the music market, followed by a publishing contract between artist and music publisher lasting for an agreed period of time or number of records. The artist receives a series of advance payments based on the delivery of a set number of songs/albums. The publishing house thereby gains access to the writer's material for the duration of the contract. Once a song is recorded and further released by the record label, the publishing house begins to collect royalties. Music publishing is, therefore, the business of acquiring and exploiting rights in musical compositions (EMI). According to the EMI website, the main rights are as follows:

(1) Artists do not participate in the pricing of recorded music.



1. **Playback rights:** recording a song for future playback and copying.
2. **Public performance rights:** playback of a song in a public gathering.
3. **Right to charge** for copies made for personal use.

Music publishing represents an important revenue stream for the music industry. The music publishing business was worth USD 6.6 billion in 2001, a fall of 3.6 percent over music publishing revenues for the previous year. Music publishing revenues represented 16 percent of the global music market in the same year, which shows the importance of this sector within the music industry².

1.2. The Players

The music industry is made up of many players. The interaction among all participants in the music industry may be described as follows. The musicians (singers or bands) may write their own music and lyrics or may purchase music from another composer; these bands (or musicians) have managers who represent them and make contracts with promoters who in turn advertise events (i.e. live concerts) and make certain other arrangements. Some bands also have contracts with recording companies to produce and market CDs, and if the band composes its own music it may also have a contract with a publisher to copyright the music. Finally, the publisher makes a contract with a performing rights organization, which in turn licenses the music and collects royalties³. The following are brief descriptions of each of these participants.

- **Authors** are people who compose songs without performing them. Sometimes, the author is also the artist. Authors often write a number of songs that can be used by multiple artists who actually perform or sing the composition.
- **Artists** are people who play or compose music and include singers, instrumentalists, composers, songwriters and conductors.

(2) There are no data available for global music publishing for the period 2002-2004. The most recent publishing information is for 2001.

(3) For a more accurate description of the way the music industry operates and the roles performed by the different players, see Connolly and Krueger (2005, p. 6-10).



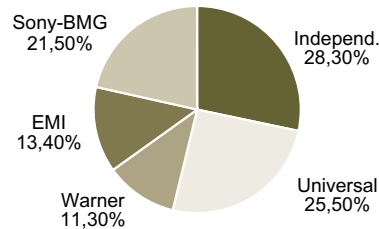
- **Musical ensembles** are groups of musicians that meet to perform music.
- **Music publishers or publishing houses** are the people who manage and administer an author's copyright and promote the work of musicians.
- **Writers' copyright collectives and performance rights organizations** are responsible for collecting royalty payments from various individuals and groups on behalf of copyright holders.
- **Tour promoters** are people who promote live concerts.
- **Music producers** are responsible for finding new talent, through the "Artist & Repertoire" (A&R) department. They manage an artist's repertoire and are also responsible for promoting the artist (marketing department) and managing the production and distribution of musical content. Music producers invest in artists and thus assume financial risk.
- **Recording studios** offer the required facilities and equipment necessary to optimize the quality of the recorded music.
- **Artistic producers** are the people in charge of completing a master recording for release and often orientate the artist in his or her search for a style or sound.
- **Wholesalers** are responsible for delivering the music to the retailers, who in turn deliver the music to the final consumer.

The music industry has always been characterized by a high level of consolidation and the global music market is now dominated by four record labels known as the "Big Four". These are Sony BMG Music Entertainment, Universal Music Group (UMG), EMI Group and Warner Music Group (WMG). In 2004 these four companies controlled over 70 percent of the world music market. The largest record label is Universal, with a 25.5 percent of the global market. Sony BMG is the second in size, accounting for 21.5 percent, followed by EMI with 13.4 percent and finally, Warner, which accounts for 11.3 percent of the world market. Independent labels account for 28.3 percent of the global music market⁴ (see Figure 2).

(4) For more detailed profiles of these companies, the reader should refer to www.hoovers.com



Figure 2. Global Market Share (2004)



Source: IFPI (2005a)

In terms of market share, UMG is currently the leading record company in the music industry, a position it has held since its acquisition of PolyGram in 1998. Other merger attempts (such as EMI and Warner) have not been successful due to competition regulation issues. In 2004, Sony and BMG nevertheless managed to set up a joint venture which has made them, in terms of global market, the second largest record company after Universal. Table 1 shows these companies' 2004 annual sales.

Finally, there are a number of agencies devoted to ensuring that the music industry functions correctly. These agencies promote the legal use of music by fighting music piracy, promoting fair market access and collaborating in the development of adequate copyright laws. Worldwide, the recording industry is represented by the International Federation of the Phonographic Industry (IFPI), whereas the Recording Industry Association of America (RIAA) is the agency that represents the US recording industry.

The IFPI is an international record industry organization that represents over 1,450 members of the recording industry in 75 different countries⁵. Fighting music piracy is a priority for the IFPI. Internationally, this agency coordinates efforts to combat piracy, offering training and educational programs as well as providing technical assistance.

The RIAA represents and works for the US record companies. "Its mission is to foster a business and legal climate that supports and promotes our members' creative and financial vitality" (RIAA)⁶. The RIAA works to protect intellectual property rights worldwide.

(5) www.ifpi.org

(6) www.riaa.com



1.3. Revenues Distribution of a CD

The way that revenue from CD sales is distributed is analyzed in more depth in OECD (2004). This study shows the revenues obtained by each member within the music industry, and it is based on the results of five different studies⁷. Thus, the revenue share obtained by composers and publishers amounts to between 5 and 10 percent while the revenue share obtained by the record labels amounts to between 30 and 40 percent, depending on the functions they perform. Distribution and retail also account for around 30-40 percent of revenues, and finally, artists will receive a maximum of just 10 percent of the sales revenue from a CD⁸. The artist's royalty rate varies according to the type of contract and the seniority of the artist.

No information is gathered regarding the specific costs that result in the final price of a CD, and data on CD prices is not provided by the record industry associations. The major agencies (IFPI and RIAA) and regional associations argue that retail prices have actually been fairly flat over the last decade and that in real terms prices have fallen. The RIAA adds that the average real price of a CD fell about 40 percent between 1983 and 1996. They also argue not only that prices have continued to decline (in spite of increasing production, marketing and distribution costs) but also that many improvements have been introduced in the production and manufacture of CDs. Thus, a larger amount of music is now provided on CD, and various improvements such as increased fidelity, durability and ease of use have also been incorporated. All these require production expenses that increase the cost of a CD. The overall cost of a CD has many components: (i) royalties paid to songwriters and artists for the creation of the composition; (ii) costs associated with the recording of a song, including recording studio fees, studio musicians, sound engineers and producers and (iii) costs associated with marketing and promotional activities.

(7) Laing (1996), IDC (2000), SoundScan (2001), Reuters (2004) and Rolling Stone Magazine (2004).

(8) However, these percentages vary depending on the label, production process and the artist and his/her contract, among other things.



2. New Forms of Digital Music

Online music includes physical CD sales through online retailers, legitimate album and single downloads, subscription/streaming services and illegal downloads of digital music files. All these alternatives allow individual users to access music via one of these channels in either a fixed-line or mobile environment.

In 2004, the digital music market was worth USD 330 million globally, representing 1.5 percent of record company revenues (Jupiter Research 2004). In the EU, online music sales totalled EUR 27 million, while in the US they reached USD 248 million (IFPI 2004a).

The proliferation of Internet connections and broadband access, combined with higher rates of hardware penetration (such as increasing numbers of PCs, CD and DVD players, digital music players and mobile phones) have made it easier for consumers to download music quickly⁹. However, these downloads are not always legal. File-sharing has led to a rapid increase in illegal downloads or “online piracy”¹⁰. Although the negative impact of rising file-sharing on the actual drop in music sales is not clear, the major organizations within the music industry point to this activity as the main causal factor.

2.1. Online Music Services

The rapid diffusion of online music file-sharing coincided with the creation of Napster. Many commentators, mainly from the national record industry associations, blamed Napster¹¹ for allowing the unauthorized sharing of music

(9) The phenomenon of digital music sharing is discussed in Alexander (1994).

(10) File-sharing is based on a peer-to-peer (P2P) model where the files are stored on and served by the users' own PCs.

(11) Napster was created in June 1999.



and other digital content. Napster made the work of many artists available for free. Although its negative impact was not clearly demonstrated¹², the RIAA filed a motion against Napster and it was shut down in February 2001¹³. Since Napster, numerous online services such as KaZaA, Gnutella and BitTorrent, among others, have become widely used, many of them operating without authorization or payment to the rights holder. However, unlike Napster, some of these services do not have a central server directory. In other words, users connect directly with each other to exchange music files and other digital content. Many agencies are taking legal action against individuals who illegally upload files on P2P networks. However, online file-sharing activities have not declined; on the contrary, file-sharing has become one of the most common online activities.

Despite the amazing number of illegally downloaded files since 2001, the online music business changed abruptly in 2004. People had access to more than 230 legitimate online services worldwide and more than 150 European services of which 30 services were in the UK, more than 20 in Germany and 10 in France¹⁴. One million song catalogues were accessible from the biggest services and 2.2 million songs in subscription services (see Table 2). The US remains the global leader in online music sales and subscriptions, though Europe has gained a large number of enthusiasts in recent years. Although most online music services are available in the US, the European Commission has called on Europe's music industry to create EU-wide copyright licences for online music. This would allow companies wanting to sell music online in the EU to obtain a single license to operate in all 25 member states.

Internet and file-sharing has provided a new way of consuming music and has modified the traditional music industry value chain and business model. Firstly, new players have been brought into the music market, all of them with different incentives. Secondly, the Internet has lowered the bar for music distribution, allowing independent labels to distribute their own music. Thirdly, online music

(12) For a complete analysis of the arguments in favor of Napster, see Fader (2000), who was committed to defending Napster's activity on the Web.

(13) See Fine (2000), who was commissioned to study the effects of online file-sharing on retail music sales in the case of A&M Records, Inc. et al. v. Napster, Inc. The results of this study suggest that online file-sharing has resulted in a loss of album sales within the college markets.

(14) In 2005, the number of legitimate online services was over 300 worldwide and more than 200 in Europe.



may also have an impact on the music publishing business. This could bring publishers the opportunity to negotiate the terms of royalty rates¹⁵.

Table 2. Digital Music Sales

Digital Music Sales	2003	2004
Online Services	50	230
Catalogue (number of tracks)	500.000	Over 1 million
Downloaded Tracks (millions)	20	Over 200

Source: IFPI (2005a)

The two most important business models in online digital music are: pay-per-download and subscription services. However, there exist two more possibilities: portable subscription download and streaming radio. Pay-per-download services allow consumers to buy a particular song or album for USD 0.99 and 9.99, respectively in the United States and for EUR 0.99 and 9.99 in Europe¹⁶. Tracks are transferable to the user's hard drive and to portable devices. The song is acquired permanently, although they may include some restrictions such as a limited number of burned copies.

Subscription services offer a larger catalogue of music to which users have access for a USD 9.99 monthly fee. Consumers listen to the music without downloading it to their hard drive. In contrast to the pay-per-download service, users do not acquire the song. However, for an extra USD 0.79 per-track fee, downloads and burns are also available.

Digital music has opened up new venues for listening to music. For example, the mobile music market has brought in important revenues for the record companies in 2004. The rapid evolution of handsets with 3G technology has transformed the mobile market. Today, consumers have access to a wide range

(15) The transformation of the traditional value chain and the new business models in the music industry will be further analyzed in Section 4.

(16) These prices vary depending on the service provider



of interactive content such as full-track and video downloads, and they can personalize their handsets with ringtones and ringback tunes.

In Europe, the advent of 3G technology in 2004 combined with rapid handset penetration and record company initiatives in the mobile sector led to important sales. Some of the major record labels have licensed their entire catalogue to the main mobile operators, allowing them to offer a greater variety of services¹⁷.

Numerous brands have emerged in the last 12 months. Napster has been resurrected as a commercial online music service that competes with other commercial services like iTunes and Rhapsody. Music majors and some independent labels have also developed their own music online services. The biggest companies digitized and licensed a catalogue of over one million songs in 2004, doubling the previous year's catalogue. However, song catalogue sizes and prices for downloading songs or albums vary enormously between different countries and music service providers. One important problem that still remains in the online music market is the lack of interoperability between services and devices.

2.2. The Mobile Music Market

There is no doubt that the use of songs on mobile phones has become completely accepted among consumers. This situation has led many firms (music players, mobile operators, software providers and consumer brands) to adapt to this new picture and offer these services. As a result, the mobile music market is growing exponentially, with the Asian region leading the business. Japan, the second largest music market globally, is driving the development of this segment with a mobile music market valued in USD 1 billion, followed by South Korea. Mobile music sales in these two countries have outsold online downloads. Other regions such as North America and Europe, though still in the early stages, are developing fast. Since the introduction of 3G technology in Europe, many record companies have partnered with the main mobile operators to provide full-track and video downloads and audio and video streams. For example, EMI has partnered with Chaoticom, one of the leading mobile music providers in Europe. As

(17) For example, Warner Music licensed its catalogue to Telefónica.



a result, Chaoticom, has access to EMI Music's available audio catalogue of full length audio tracks for download to mobile handsets. Chaoticom's Mobile Music Solution enables full-length music downloads directly to handset over-the-air on today's mobile networks. EMI has also signed an agreement with Sony BMG to facilitate the introduction of a wide range of digital offerings in North America. Firms like Toshiba have also entered the mobile music market. Toshiba has launched a Vodafone mobile phone that offers a music player using 3G technology. This handset allows users to access music easily while on the move, and is capable of playing music while users surf the net or perform other functions.

The mobile music market is in its early stages in many of the major regions worldwide. The spread of 3G technology to those regions, the continuous advances in music applications and improvements in handsets (i.e., bigger storage capacity and longer battery life) leave sufficient room for companies wanting to deliver digital entertainment.



3. Intellectual Property and Piracy

The music industry has constantly faced up to the challenges and opportunities presented by technological innovation and has been forced to adapt to the new digital era. The industry is working hard to develop a legitimate digital music business with an adequate legal framework. Some measures include the development of Digital Rights Management (DRM) technologies and the creation of legal online services for downloading music. The rapid diffusion of online file-sharing activities since 1999 has threatened the music industry, as digital technology has made the illegal reproduction of music much easier. On the other hand, file-sharing allows users to learn about music they would not otherwise be exposed to.

3.1. Copyright Law

Copyright encompasses literary, artistic and scientific works, and copyright law deals with the rights of intellectual creators¹⁸. It is an exclusive right to reproduce an originally created work, to prepare derivative works based upon the original work, and to perform or display the work in the case of musical, dramatic, choreographic, and sculptural creations.

There are two forms of copyrighted work in the recorded music industry. The first is the copyright in the musical work, the actual lyrics and musical notes written on paper. This copyright is usually owned by the songwriter or the music publisher. The second is the copyright in the sound recording, for example a recording of a performer singing or playing a particular song. This copyright is usually owned by the record company.

(18) For further analysis of copyright and the rights covered by copyright, see WIPO Intellectual Property Handbook: Policy, Law and Use (2004).



Agencies such as RIAA and IFPI also work to ensure the correct functioning of the music industry and to promote the legal use of music by combating music piracy and promoting fair market access. These agencies also work together to develop adequate copyright laws.

With the advent of the Internet, the increasing velocity of connection speeds, rapid improvements in digital storage media¹⁹ and developments in ripping technology, it has become increasingly easy to create individual compilations of audio and other digital content, send music files from one computer to another and download content from Web-servers. The sharing of audio files has also facilitated the free (and illegal) spreading of music over the Internet. This has been possible thanks to P2P software, where users access a common network hub and open up portions of their own computer's hard drive to the public for downloading, thus sharing their files with other users. P2P software facilitates the sharing of many types of digital content, including images and information that are not copyrighted and completely legal to share.

The enormous success of these P2P services has led the music industry not only to sue Napster, as we have seen in previous sections, but also to initiate several lawsuits against both organizations and individuals. However, the industry has also taken some other measures to combat piracy and the illegal proliferation of online services. These measures include the development of DRM technologies and the creation of websites to promote legal downloads such as the site Pro-music.

3.1.1. Digital Rights Management

Almost all content, digital or not, is vulnerable to illegal copying and distribution over the Internet. This is one of the reasons that has led the music industry, among others, to focus on DRM technologies to make content legitimately available on the Internet. DRM makes it easier to control content usage. However, a lot of effort has been directed towards safeguarding legitimate music from unauthorized copying and dissemination, as opposed to creating an appropriate business atmosphere and investing in suitable technologies that will stimulate the consumption of music and other digital content in a legal digital context.

(19) Hard drives, CDs, DVDs, etc.



DRM is the technology that allows content providers to protect and secure digital content files, including music, videos, mechanical records and books, as well as allowing content providers to define the rules of use for that content²⁰. As regards the music industry, DRM technologies allow content providers to decide how they would like music files to be used. For example, the rules for an audio file containing one song may use subscription systems to allow users to listen to the song, download the song once payment is authorized, copy the music file three times, send the file to a friend, etc. In other words, music labels protect their rights by using DRM technology, which allows them to control access to music files using encryption or watermarking.

The term DRM refers to different technologies which were initially designed to enforce restrictions on content and protect the interests of content owners. However, DRM has evolved and now it covers other content-related issues such as the description, identification, trading and exchanging, protection and monitoring/tracking of content.

Many commentators in the music industry claim that DRM technologies are necessary to prevent revenue loss due to illegal duplication of their copyrighted works and the distribution of digital content without any protection. On the other hand, consumers believe that any restriction on use, such as DRM technologies, reduces the content value. It is therefore very important to find a balance between these two contradictory positions.

3.1.2. Other Initiatives

Pro-Music.org was launched in Europe in 2003. This site is the result of an international alliance of musicians, performers, artists, major and independent record companies and retailers across the music industry. Pro-Music.org comprises several paid-for online music services and is intended to fight against the spread of unauthorised music on the Internet.

(20) For an extensive study on DRM technology, see Schmucker (2005), Garrote Fernández-Díez, I. (2003) and Cunard et al. (2003).



3.2. Music Piracy

Piracy in the music industry is not a new phenomenon. It has been practiced since the mid-1980s when copied cassettes became widely available as prices of cassette recorders fell. This involved cassette-based private copying and was one of the reasons for the decline in money terms of music sales in the first half of the 1980s. The industry is currently experiencing another turbulent period that many people within the industry attribute to piracy. However, these two forms of piracy differ in the method of recording. While cassette or tape recording is based on analogue technology, music can now also be copied digitally. With digital audio recordings, copies can be generated more readily without any substantial loss of quality.

The IFPI estimate that the music piracy market was worth USD 4.6 billion in 2004, a figure that represents 14 percent of the legitimate music market (see Table 3). This does not include illegal downloading via the Internet and is calculated at pirate selling prices. As the estimated loss is based on the sale price of the pirate product rather than the legitimate market price, lost revenues for the recording industry could be substantially higher.

Table 3. Global Recorded Music Piracy for all Formats except Internet

	1997	1998	1999	2000	2001	2002	2003	2004
Units (billions)	2.0	2.0	1.9	1.8	1.9	1.8	1.7	1.5
Growth	-	2%	-5%	-5%	6%	-5%	-6%	-12%
US\$ value (billions)	5.0	4.5	4.1	4.2	4.3	4.6	4.5	4.6
Growth	-	-10%	-9%	2%	2%	7%	-2%	2%
Piracy by Format								
Cassette	83%	80%	74%	65%	49%	40%	33%	25%
CD	17%	20%	24%	26%	27%	32%	36%	38%
CD-R	-	-	3%	9%	24%	28%	31%	36%
DVD Music Video	-	-	-	-	-	-	-	1%
Piracy / legitimate music market	13%	12%	11%	11%	13%	14%	14%	14%

Source: IFPI Piracy Reports



In terms of units, piracy reached 1.5 billion in 2004, meaning that one third of all discs sold worldwide was a pirate copy. Pirated units in 2004 decreased by 12 percent on the previous year, but in terms of value piracy rose by 2 percent.

Music piracy is rampant in some countries, outstripping legitimate sales in 31 countries (of the 75 monitored by the IFPI). Among the countries where piracy levels are equivalent to or greater than their legitimate music markets are Bulgaria, the Czech Republic, China, India and most Latin American countries. However, music piracy accounts for less than 10 percent of the total units sold in countries such as Canada, the US, the Scandinavian Countries, Japan and Australia, among others.

3.3. Regional and Country Analysis

We believe it is interesting to distinguish between online and offline (CD/CD-R) piracy. In this section we will therefore carry out an exercise to assess the true impact of Internet and offline piracy on the decline in sales experienced by the music industry during recent years. Our analysis includes countries belonging to the seven regions into which the IFPI divides the world music market²¹. These regions are: North America, Europe, Asia, Latin America, Australasia (Australia and New Zealand), the Middle East and Africa. However, we will not give aggregate regional results as the different countries within each region offer widely varying pictures.

Countries are classified into four groups according to two main criteria: level of offline piracy and level of online piracy. Thus, group 1 consists of countries with low levels of offline piracy (less than 25 percent of the total units sold) and low levels of Internet penetration (lower than 30 percent); group 2 includes countries with low levels of offline piracy and high levels of Internet penetration (greater than 30 percent); group 3 represents those countries with high levels of offline piracy (more than 25 percent of the total units sold) and low levels of Internet penetration and, finally, group 4 consists of countries with high levels of both offline piracy and Internet penetration. To evaluate the impact of “pure” online piracy we use Internet penetration as the main indicator. For this exercise,

(21) In this study we have looked at 63 of the 75 countries monitored by the IFPI.



we have taken three time periods: 1998, the year before the appearance of Napster and the subsequent proliferation of P2P networks (the pre-file-sharing period); 2002, probably the worst year for the music industry in terms of unit fall (the post-file-sharing period); and 2004, the most recent year for which data is available and the year before a potential turning point for the music industry. We have also incorporated the variations in unit sales for each country over these three periods (see Table 4).

There is no clear evidence of offline or online piracy affecting music sales in at least some of these countries. For example, Canada belonged to the first group (low piracy and low Internet) in the year before the popularization of P2P networks and Canadian music sales rose 3 percent between 1998 and 1997. Then, in 2002, Canada moved into the second group (low piracy and high Internet) and Canadian sales dropped 5 percent between 2001 and 2002. This may suggest that the increase in the number of Internet users may have adversely influenced music sales. However, while still a member of the second group, sales of recorded music in Canada rose 3 percent between 2003 and 2004. This is also the case for countries such as the US and Belgium, among others. These two countries also moved from group 1 to group 2. While music sales dropped by 10 and 8 percent respectively between 2001 and 2002, music sales rose by 3 and 19 percent between 2003 and 2004. The move by these countries from group 1 to group 2 implied a technological change that was not followed, at least in these cases, by the illegal reproduction of music.

Table 4. Country Analysis

Region/country	1998	1998/97		2002	2002/01		2004	2004/03	
	Group	unit change	value change	Group	unit change	value change	Group	unit change	value change
North America									
Canada	group 1	3%	-1%	group 2	-5%	-10%	group 2	3%	3%
USA	group 1	7%	11%	group 2	-10%	-8%	group 2	3%	3%
Europe									
Austria	group 1	-5%	-3%	group 2	-10%	-2%	group 2	-9%	1%
Belgium	group 1	12%	6%	group 2	-8%	-2%	group 2	19%	8%
Bulgaria	group 3	111%	35%	group 3	-10%	3%	group 3	-25%	-13%
Czech Republic	group 1	-14%	-15%	group 3	-26%	-5%	group 3	-7%	-2%
Denmark	group 1	-3%	-2%	group 2	-18%	-11%	group 2	-1%	6%



Region/country	1998	1998/97		2002	2002/01		2004	2004/03	
	Group	unit change	value change	Group	unit change	value change	Group	unit change	value change
Finland	group 1	12%	10%	group 2	-11%	-2%	group 2	-13%	-6%
France	group 1	5%	3%	group 2	3%	9%	group 2	-9%	-7%
Germany	group 1	-2%	-3%	group 2	-3%	-4%	group 2	-1%	4%
Greece	group 1	11%	3%	group 3	4%	12%	group 3	7%	2%
Hungary	group 1	-9%	-10%	group 3	-16%	-9%	group 3	49%	-10%
Ireland	group 1	12%	4%	group 1	-6%	-2%	group 2	6%	12%
Italy	group 1	16%	3%	group 4	9%	6%	group 2	-11%	0%
Netherlands	group 1	-8%	-8%	group 2	-9%	-1%	group 2	-4%	1%
Norway	group 2	14%	6%	group 2	14%	19%	group 2	7%	7%
Poland	group 3	15%	7%	group 3	-44%	-27%	group 3	-2%	1%
Portugal	group 1	36%	3%	group 3	0%	13%	group 4	-9%	-15%
Russia	group 3	-20%	-17%	group 3	1%	15%	group 3	3%	50%
Spain	group 1	10%	13%	group 3	-18%	-11%	group 2	-17%	-5%
Sweden	group 2	5%	-4%	group 2	0%	0%	group 2	-14%	-9%
Switzerland	group 1	1%	1%	group 2	2%	6%	group 2	-2%	1%
UK	group 1	6%	5%	group 2	-1%	2%	group 2	3%	10%
Ukraine	group 3	21%	7%	group 3	163%	152%	group 3	-12%	-1%
Turkey	group 3	0%	-31%	group 1	-7%	-21%	group 1	22%	14%
Asia									
China	group 3	-12%	-19%	group 3	16%	34%	group 3	7%	7%
Hong Kong	group 3	-32%	-32%	group 4	-3%	-9%	group 4	-15%	-12%
India	group 3	2%	-10%	group 3	-14%	-25%	group 3	-15%	6%
Indonesia	group 1	-39%	-58%	group 3	-33%	-11%	group 3	7%	10%
Japan	group 1	1%	-11%	group 2	-10%	-12%	group 2	-2%	5%
Malaysia	group 3	-35%	-50%	group 4	-23%	-20%	group 3	13%	-1%
Pakistan	group 3	-68%	-57%	group 3	37%	44%	group 3	5%	-3%
Philippines	group 1	-3%	-21%	group 3	-25%	-16%	group 3	-9%	-11%
Singapore	group 1	-20%	-30%	group 2	8%	3%	group 2	-13%	-7%
South Korea	group 3	-33%	-49%	group 2	-31%	-17%	group 2	-28%	-18%
Taiwan	group 1	-17%	-26%	group 4	-2%	-11%	group 4	-2%	-1%
Thailand	group 1	-19%	-20%	group 3	10%	17%	group 3	-10%	8%
Latin America									
Argentina	group 1	12%	7%	group 3	-44%	-74%	group 3	18%	33%
Brazil	group 3	-1%	-8%	group 3	3%	-13%	group 3	18%	23%
Chile	group 1	-9%	-15%	group 3	28%	5%	group 3	-11%	3%
Colombia	group 1	-24%	-32%	group 3	-25%	-34%	group 3	-16%	1%
Ecuador	group 3	22%	37%	group 3	-13%	-15%	group 3	-58%	-32%
Mexico	group 3	2%	1%	group 3	-3%	-19%	group 3	-1%	4%
Paraguay	group 3	-14%	-27%	group 3	0%	-57%	group 3	300%	204%



Region/country	1998	1998/97		2002	2002/01		2004	2004/03	
	Group	unit change	value change	Group	unit change	value change	Group	unit change	value change
Peru	group 3	17%	4%	group 3	-60%	-66%	group 3	29%	55%
Uruguay	group 3	22%	1%	group 3	-75%	-78%	group 3	33%	54%
Venezuela	group 3	8%	16%	group 3	-60%	-68%	group 3	286%	189%
Australasia									
Australia	group 1	5%	-16%	group 2	-3%	-1%	group 2	-6%	7%
New Zealand	group 1	1%	-13%	group 2	-1%	8%	group 2	-4%	6%
Middle East									
Bahrain	group 3	20%	9%	group 1	0%	-5%	group 1	-25%	-12%
Egypt	group 3	25%	24%	group 3	-24%	-7%	group 3	-27%	-23%
Israel	group 3	-4%	2%	group 4	-12%	-19%	group 3	-5%	8%
Kuwait	group 3	-13%	-20%	group 3	5%	7%	group 3	-11%	3%
Lebanon	group 3	-3%	23%	group 3	-44%	-28%	group 3	-8%	7%
Oman	group 3	-20%	-10%	group 1	0%	7%	group 1	0%	-1%
Qatar	group 1	17%	16%	group 1	0%	3%	group 1	0%	-1%
Saudi Arabia	group 3	-35%	-45%	group 3	-31%	-39%	group 3	-6%	-4%
UAE	group 1	-2%	7%	group 1	-4%	-6%	group 1	-13%	-1%
Africa									
South Africa	group 3	0%	-12%	group 3	5%	-7%	group 3	22%	48%

Source: IFPI (2005a); World Development Indicators (WDI); OECD Economic Outlook; Eurostat and CEPAL.

The top five European markets (the UK, Germany, France, Italy and Spain) were characterized by low levels of both offline and online piracy in 1998 (group 1). Sales in these countries increased between 5 and 16 percent between 1997 and 1998, except in Germany (-2 percent). In 2002, the UK, Germany and France moved into group 2, with sales dropping in the first two countries and rising in France. Italy and Spain moved to groups 4 and 3 respectively, and sales rose in the former and fell in the latter. Finally, in 2004 these five economies were placed in group 2, and sales declined in all of them except the UK.

In some other European countries, levels of offline and online piracy have remained stable throughout the different periods. In Sweden, for example, the level of offline piracy has been low and the number of Internet users high, though sales in the country sales rose between 1997 and 1998 and fell between 2003 and 2004. Another example is Ukraine where, while showing a high level of offline piracy and low level of Internet use (group 3), sales increased in the first two periods and dropped between 2003 and 2004.



As regards the top three Asian markets, Japan moved from group 1 in 1998 to group 2 in the following two periods. Japanese sales fell by 10 percent between 2000 and 2001 and by 2 percent between 2003 and 2004. China and India were placed in group 3 in 1998 and have not moved since then, and while Chinese sales rose during the following two periods, sales in India fell. Finally, in the top three Latin American countries we find also differing results, while Australia and New Zealand behave similarly.

In the following tables (5, 6 and 7) we have grouped the above countries under the two main criteria simultaneously and examined the average change in sales figures for each group of countries (both in unit and value terms).

Table 5. Change in sales (units and value)

1998/97	low Internet		hight Internet	
	units	value	units	value
low piracy	-0,2%	-6,1%	9,3%	0,8%
high piracy	-0,7%	-8,3%	-	-

Source: IFPI (2005a); World Development Indicators (WDI); OECD Economic Outlook; Eurostat and CEPAL.

Table 6. Change in sales (units and value)

2002/01	low Internet		hight Internet	
	units	value	units	value
low piracy	-3,8%	-3,4%	-5,2%	-1,3%
high piracy	-9,7%	-10,2%	-6,0%	-10,5%

Source: IFPI (2005a); World Development Indicators (WDI); OECD Economic Outlook; Eurostat and CEPAL.

Table 7. Change in sales (units and value)

2004/03	low Internet		hight Internet	
	units	value	units	value
low piracy	7,6%	0,0%	-4,5%	0,9%
high piracy	19,2%	20,6%	-8,7%	-9,4%

Source: IFPI (2005a); World Development Indicators (WDI); OECD Economic Outlook; Eurostat and CEPAL.



In 1998, countries with both low and high levels of offline piracy and low Internet use experienced a fall in sales, while music sales rose in countries with low levels of offline piracy and high Internet penetration. Therefore, before the arrival of the first P2P sites, the move from low to high Internet penetration would seem to have stimulated recorded music sales. In 2002, after the first P2P sites surfaced, sales of music dropped in the countries belonging to all four groups. Interestingly, the drop in music sales is more severe for countries with higher levels of offline piracy. The difference in the fall in sales between countries with high and low Internet penetration does not seem to be significant. Finally, in 2004, after the music industry seemed to have recovered, the results are opposite to those seen in 1998. While music sales in countries with low Internet penetration rose, regardless of the level of offline piracy, the move from low to high Internet penetration seems to music market sales to deteriorate in these subsequent years. From the above analysis we conclude that is very difficult to asses the true impact of Internet and offline piracy on the decline in sales experienced by the music industry during recent years. The analysis reveals two important issues that should be taken into account in any future work on the effect of new technology on industry.

First, limiting attention to one specific country considerably reduces the amount of variation in outcome. Several factors seem to explain the fall in sales, including economic conditions and different forms of piracy as a direct consequence of the new technology.

Secondly, in the case of the music business it seems that both online and offline piracy explain part of the reduction in recorded music sales. It would therefore seem counter productive to place excessive emphasis on the effect of online piracy to explain the drop in sales around the turn of the century without studying the level of piracy.

Furthermore, our results suggest that it is not online piracy but in fact offline piracy that might actually be the biggest obstacle to the growth of the global music business. The industry would therefore be better served by improving their joint actions to combat the negative effects of offline piracy, rather than suing potential customers, i.e. music lovers.



4. Transforming the Music Business Model

The music industry is very dynamic and creative and its structure has evolved rapidly since the proliferation and popularization of LPs and subsequent formats. The current music business model is not the same as the one that existed two decades ago. The Internet and rapid improvements in technology have modified the traditional music industry value chain. Although some components of the value chain have remained unchanged, others such as the retail and distribution segments have been considerably affected.

4.1. New Digital Value Chain

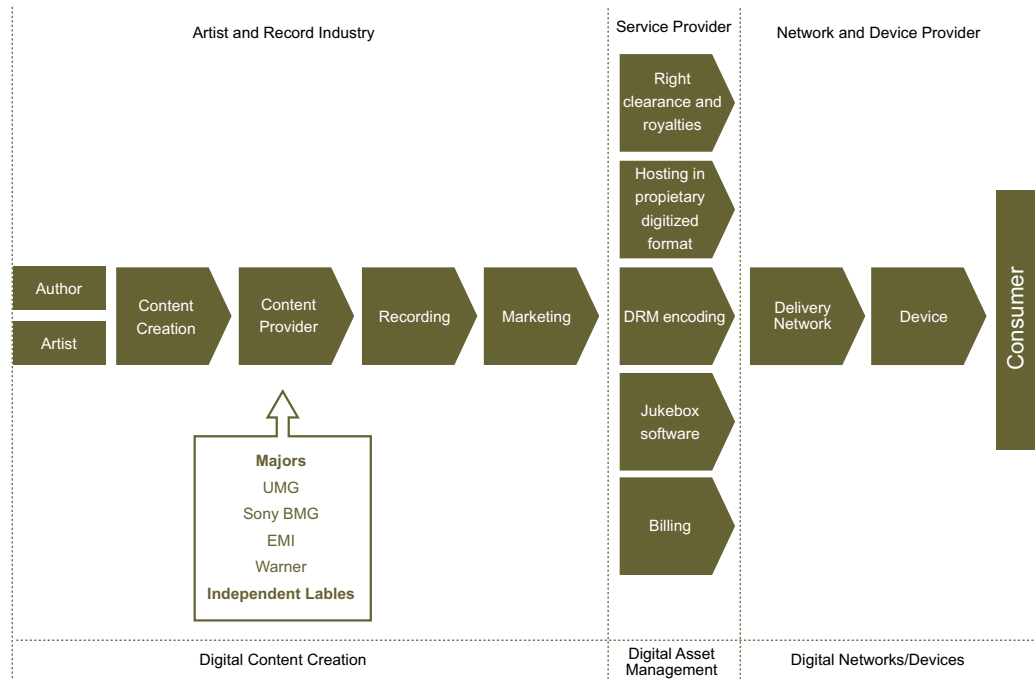
Figure 3 shows the different players involved in the online music market. The creation and marketing of music in the digital environment have remained intact. As a result, the role of artists, authors and the people involved in the recording, marketing and promotion of music is no different from the role they played in the traditional music business. However, in the digital environment the manufacturing process (at plants) no longer forms part of the value chain. Furthermore, the digital music value chain includes a series of activities related to the digitization of content, technological issues, usage rights in the new digital environment, payment for music purchased and delivery networks, among others.

The Internet has mainly affected the retail side of the music industry, reducing transaction costs with improved efficiency in some aspects of music retailing²². Several e-retailers have emerged, selling CDs over the Internet and offering new types of music dissemination (i.e., Internet radios), using streaming audio technologies to send music from a particular website. These new retailers include the online music stores operated both by the majors and by third parties such as

(22) For a broader description of these improvements, see Parikh (1999).



Figure 3. Digital Music Industry Value Chain



Source: Adapted from OECD (2004) and Merrill Lynch (2001).

Apple, mobile content providers, Internet service providers and kiosks. Thus, artists/authors, majors and music publishers have retained their role. However, pre-recorded CDs are no longer delivered to the end consumer via physical retailers. Now, music is distributed in digital format to the consumer and comes in the form of digital downloads and streaming. Traditional physical wholesale and retail structures are no longer used in this online sales environment, as music is distributed directly to portable devices and handsets.

These changes have led record companies and the four major record labels to establish new online business models to protect the copyright of authors, artists and music producers. As we have seen, one way to protect digital content from being misused is the implementation of DRM technologies. However, apart from establishing the conditions for an adequate development of the online business model, music companies should also continue to focus on the traditional CD-based distribution models. Many music fans still prefer the traditional physical



CD, as it comes with lyrics, pictures and information about the artist, thus offering a higher added value.

4.2. Online Pricing

As regards online pricing, a wide range of prices is charged for downloading a particular track. The price for a particular download varies among the different online music stores and also varies within and between countries. Although prices are not globally unified, there is a tendency to set them at around 1 dollar and 1 euro in the US and Europe respectively. In most US online music stores it is possible to download individual tracks for USD 0.99 and albums from USD 9.99, while in Europe prices are respectively set at around EUR 0.99 and EUR 9.99. However, some online music stores offer single downloads from USD 0.49²³.

A price comparison between different online retailers can be found in OECD (2004)²⁴. The results of this study point to a moderate cost saving for the consumer if they order over the Internet and the product is delivered online as compared with online downloading, except in the case of single tracks. It also finds that prices for individual tracks and albums vary markedly between online music providers. However, this study indicates that the diversity of usage rights associated with the different prices offered by online music stores may benefit consumers as they have a wider range of usage options in contrast to the single usage option associated with a single price in the physical format.

Finally, turning to revenue distribution for digital downloads, the OECD (2004) study breaks down the cost of a single download among the different agents involved in the creation and subsequent delivery of digital music. Thus, as with the revenue distribution in a CD sale, record labels receive the largest proportion (between 50 and 65 percent) of the digital download revenues, even greater than their traditional revenues from CD sales. Artists also receive a greater percentage in royalties, between 12 and 18, compared to the 10 percent they receive from the revenue distribution in a CD sale. The money artists receive under their contracts does not differ as regards the way the

(23) Real Player Music Store and BuyMusic offer single downloads for USD 0.49 and 0.79, respectively.

(24) See OECD (2004), table 8, p. 52.



music is distributed. Thus, they will receive 10 percent in both the offline and online environment.

4.3. Online Sales

Online music comprises digital downloads and subscription/streaming services in a fixed-line or mobile environment. There are two other models that relate to online music: portable subscription downloads and streaming radio. In the context of new online business, digital downloads and subscription/streaming services constitute the most important models. The following sections contain studies of each of these online business models.

4.3.1. Digital Downloads

Digital download or “pay-per-download” is the most common way of purchasing music online. These downloads can take the form of single tracks or albums. Under this model, consumers pay for a particular song/album, which may then be copied to the hard disk of the user, burned onto disk and transferred to portable devices, allowing the user to listen to it at a later point without being connected to the Internet. The user acquires the music permanently, but some downloaded tracks come with some restrictions on usage. For example, there is a restriction on the number of PCs on which the listener can play the downloaded music, a restriction on the number of times it can be copied to portable devices and a restriction on the number of times it can be burned onto a CD.

The most popular online music stores selling digital singles and albums include Apple’s iTunes and Napster. However, the number of online music services offering digital downloads has risen markedly in the last couple of years. In 2003 there were 50 online music stores worldwide, while in 2004 over 180 digital music services were launched globally.



4.3.2. Subscription/Streaming Services

Under streaming subscription models, users sign up for a subscription service and are billed a monthly fee for access to digital music. Consumers can listen, in real time, to specific tracks, much like radio, by clicking on a track they want to hear. They then have the option to purchase the selected tracks, but without owning the song. In other words, consumers rent the music. Streaming audio technologies allow people to listen to music, without storing the music on computer hard disks. Access to music is limitless until the subscription ends.

In contrast to the model described above, users must be connected to the Internet if they want to access the service and streamed music can be downloaded and burned to CDs for an extra per-track fee, though it may not be transferred to portable devices.

Subscription services are growing steadily. The leading subscription service was RealNetworks' Rhapsody. However, in the US services such as Napster, MusicNet, MusicMatch and eMusic have doubled the number of subscribers. European services such as Napster (UK) and Vitaminic, among others, are also growing fast. Subscription services captured over 880,000 users in 2004.

4.3.3. Portable Subscription Downloads

Portable subscription downloads allow consumers to transfer downloaded tracks to portable devices, for which they also pay a monthly subscription. This model is also a form of music rental. The portable subscription model was launched to overcome the lack of portability of subscription services. Some subscription services now allow "tethered downloads" which are transferable to portable players for as long as the consumer remains a subscriber.

Services such as Napster, Apple iPod and Creative Zen have been pioneers in this field, giving consumers greater control and portability in respect of their music collections. The growing popularity of digital players and the arrival of competitors such as Rio and Sony have boosted online music downloads. The most successful portable digital player to date is the Apple iPod, which sold over 10 million units between 2001 and 2004.



4.3.4. Streaming Radio

Streaming radio consists of listening to music online in real time. Instead of downloading the entire file prior to listening to the music (like in the subscription/steaming services), a streaming music file is heard while the computer is receiving the data. Under this model, users are allowed to access a wide range of streaming radios for a monthly subscription fee.

Services like Napster, Rhapsody and Virgin Digital, among others, offer streaming radio services for a monthly fee.

4.4. Concerts and the New Technologies

As we mentioned in Section 1, live concerts constitute one of the main sources of income for some artists and even represent a larger proportion than the revenues derived from CD sales. However, the Internet and new technologies have undermined the music industry, offering new ways of distributing digital content to consumers. These new channels, i.e. downloading a song from the Internet, may be considered as substitutes for the legal purchase of music, whereas they may only be treated as complementary to live performances.

Although new technologies have not modified the underlying structure for concerts, they have introduced some changes into the live performance business. On the one hand, these technologies have led some artists to revisit the trade-off between recording CDs and increasing live performances in order to capture a greater proportion of revenues and have also led more artists to go on tour. In addition, some record companies are working to obtain a larger proportion of concert revenues by introducing some amendments in their contracts. Traditionally, record labels have not been very involved in the concert business, an activity that has been used as a form of promoting artists and albums and offered low or negligible profits.

A recent study of the developments and changes that have occurred in the live performance business during recent years was carried out by Connolly and Krueger (2005). Table 8 has been adapted from LaFranco (2003) and Connolly and Krueger (2005). It shows the top 20 artists who toured in 2002 and the income they received from their concerts, CD recordings and publishing. For most of these artists, revenues from performance constituted the largest part, representing more than 70 percent of their income in 2002.



As artists receive most of their income from live performances and little from recording companies, it is not surprising that the number of concerts performed has increased notably in recent years and more sharply in 2001 and 2002, most likely to the detriment of album recordings. These and other figures, such as the number of tickets sold, concert revenues, and average ticket prices are presented in Krueger (2004). As regards concert pricing, different customers may be charged different prices. Price discrimination is possible because, as we have

Table 8. Estimated pre-tax gross income by source for 20 top artists who toured in 2002

1998/97	Live Concerts		Recordings		Publishing		Total Income
	Million USD	% of income	Million USD	% of income	Million USD	% of income	
Paul McCartney	64.9	90%	2.2	3%	2.2	3%	72.1
The Rolling Stones	39.6	90%	0.9	2%	2.2	5%	44
Dave Matthews Band	27.9	89%	0	0%	2.5	8%	31.3
Celine Dion	22.4	72%	3.1	10%	0.9	3%	31.1
Eminem	5.5	19%	10.4	36%	3.8	13%	28.9
Cher	26.2	98%	0.5	2%	0	0%	26.7
Bruce Springsteen	17.9	72%	2.2	9%	4.5	18%	24.8
Jay-Z	0.7	3%	12.7	56%	0.7	3%	22.7
Ozzy Osbourne/the Osbournes	3.8	17%	0.2	1%	0.5	2%	22.5
Elton John	20.2	90%	0.9	4%	1.3	6%	22.4
The Eagles	15.1	86%	0.7	4%	1.4	8%	17.6
Jimmy Buffett	13.7	78%	0.2	1%	0.5	3%	17.6
Billy Joel	16	94%	0	0%	1	6%	17
Neil Diamond	16.5	98%	0	0%	0.3	2%	16.8
Aerosmith	11.6	70%	1	6%	0.8	5%	16.5
Crosby, Stills, Nash & Young	15.7	98%	0	0%	0.3	2%	16
Creed	10.9	81%	1.1	8%	1.6	12%	13.4
Rush	13.4	100%	0	0%	0	0%	13.4
Linkin Park	1.7	13%	4.7	36%	6.3	48%	13.1
The Who	12.6	100%	0	0%	0	0%	12.6

Source: LaFranco, 2003.

Note: Figures are estimates of pre-tax gross income in 2002. The total income may exceed the sum of the first three columns as the result of TV work, movies, merchandising and other potential sources of income.



seen above, concerts are characterized by high fixed costs, and customers can therefore be sorted by seat location²⁵.

Krueger (2004) concludes that ticket prices and concert revenues rose notably between 1996 and 2003. However, if the dataset is restricted to artists listed in The Rolling Stone Encyclopedia of Rock and Roll, the number of concerts declined between 1996 and 2003 and the number of tickets sold remained relatively stable in the late 1990s, falling from 2000 onwards.

According to IFPI (2005a) and Pollstar's 2004 Year-End Business Analysis, the total value of recording sales (including singles, LPs, MCs, CDs, DVDs and VHS) and overall concert ticket sales in the US amounted respectively to USD 12.1 billion and 2.8 billion in 2004. The Top 100 Tours generated USD 1.97 billion in the US in 2004, remaining relatively stable with respect to 2003. These Top 100 Tours sold 37.6 million tickets, which represents a fall of almost 3 percent compared with 38.7 million in 2003. The average ticket price was around USD 52.39, a 4 percent increase over 2003 (see Table 9).

The aggregate importance of concert revenues is increasing over time. Live performances have become a relatively more profitable business for artists compared to selling CDs, which has led more artists to go on tour and increase the number of live performances. Internet and the new technologies have boosted the demand for concerts while at the same time reducing revenues for record labels, which make money mainly from recorded music. As a result, the Big Four

Table 9. Top 100 Tours in the US

Item	2003	2004	Growth
Value of Concert Ticket Sales (USD billion)	1.95	1.97	1.0%
Tickets Sold (million)	38.7	37.6	-2.8%
Average Ticket Price (USD)	50.35	52.39	4.1%

Source: Pollstar

(25) Rosen and Rosenfield (1997) study price discrimination as it applies to live concerts. Courty (2000) discusses theoretical issues regarding ticket pricing, Courty (2003) deals with the resale of tickets in different industries and Mortimer (2004) examines price discrimination and copyright law-related issues.



and other record labels are modifying their contracts in order to capture a larger proportion of concert revenues. However, the effects of this new environment as well as ticket pricing in the concert business remain the industry's two biggest challenges.

4.5. Strategies of the Majors towards Online Music

Record labels are facing big challenges in their effort to create value and increase consumer willingness to pay. Record labels are battling to remain profitable in the context of plummeting revenues due to what they consider the threat of piracy in the form of digital format downloads. The entrance of the music industry into the online era was put off until recently. The music industry's initial reaction was one of rejection. The battle against Napster is a good example. Instead of focusing on developing legal file-sharing services, the industry spent time and money fighting against unauthorized online file-sharing that did not make any payment to the right holder. However, in recent years the industry has recognized the opportunities offered by the online business and is now working to promote a legal online business.

The Big Four record labels have invested a great amount in legitimate services and started their own websites and downloading services. We have already mentioned that these companies have digitized their catalogues. Moreover, UMG and Sony BMG have launched their own digital labels, while EMI and Warner have signed numerous licensing agreements. It is not only the majors that are working for a legal online music framework however. Independent labels and many third parties (mobile operators, brand names, etc.) have also entered the music market.

The Big Four record labels, the major agencies and everyone working in the music industry have helped to create the appropriate conditions for the rapid development of a legitimate online music market. As we have mentioned, the majors were initially reluctant to license their music to other online music services, but they have changed their strategy. Today, music from the majors is distributed via an increasing number of services, reaching more people with different buying habits than ever before.



Digital Technologies and the Internet:
Their Impact on the Music Industry

There are still some restrictions however. As well as needing the appropriate hardware (multimedia PCs with an Internet connection), consumers who want to access the market for digital music purchases need a credit card to pay the downloaded tracks. Credit cards charge a percentage per download that both increases the price of songs for the consumer and at the same time reduces the margin for the online music provider. Content providers must therefore work on this issue in order to avoid falls in online sales. Another important problem facing the music industry is the lack of interoperability between services and devices, which may generate some confusion among consumers. The different players in the online market need to work together in this area in order to benefit from the wide acceptance of portable devices.

Record labels should not, however, forget that their primary source of income remains the sale of CDs, which is where they can increase the customer's willingness to pay for the physical product. They can, for example, package CDs in new ways, thus making consumers feel that they are purchasing an exclusive product and increasing their desire to pay.



5. Conclusions

In this monograph we have documented the changes affecting the music business through the digitization of the product itself and the different ways in which music is traded. While the music industry has experienced tough times with falling sales revenues over the past few years, the worst period seems to be over. By 2004 world music sales had begun to increase again through an increasing number of legal online music stores, and it is expected that the online music market will grow substantially in the coming years. The biggest barrier faced by labels, retailers and individuals wanting to enter the digital download music business (i.e. limited hardware storage capacity, poor Internet connections and inadequate compression techniques, among others) seems to have been reduced in recent months. On the other hand, consumers' attitudes towards downloading music from P2P services are changing. There is an increasing awareness of legal download sites and copyright-related issues.

New business models for trading and protecting the digitized product have been discovered and are being implemented. The online music market is gaining numerous enthusiasts and the proliferation of online music services during recent years reflects a desire within the music industry to boost online music sales while at the same time protecting their copyright. However, there are still some remaining issues relating to online music. Firstly, there is a lack of consistency in prices and song catalogue sizes among the different online service providers, which may confuse users. Secondly, while content providers are calling for the extended implementation of technologies to protect and secure digital content files (DRM), the majority of consumers are looking for an easy and reasonably priced way of gaining access to the music they want. Thirdly, P2P services remain a threat as the adoption of broadband connectivity increases and makes downloading faster, and record companies must work hard to differentiate their product or to create a demand for the legitimate product. Finally, record companies need to align their cost structure to compete



in the new and challenging environment of online music downloads, which means reducing fixed costs.

The main conclusion to be drawn from this work is that the music business differs widely from country and regions. We cannot give aggregate regional results because of many disparities among the different countries within a particular region. However we can assert that in North America, Europe and Australasia there has been an increase in the level of Internet penetration between 1998 and 2004, whereas offline piracy has remained at the 1998's levels. In contrast, Latin America and Asia has shown an increase in the level of offline piracy in those years. Blaming the important fall in sales solely on the introduction of new technologies – in essence online piracy – would seem to be a mistake, specifically as both online and offline piracy can have an important effect on sales. Where offline piracy is mainly used for commercial gain, online piracy acts as a link between individual music lovers. The response of the industry should therefore be tailored to each type of piracy. While online users can be converted to legal users through clever and creative business models such as Apple's iTunes store, offline pirates should be legally persecuted. It is clear that the growth potential for the music business lies in countries where offline piracy is most active. Nevertheless, it would be a good idea for the music industry to reflect carefully on the willingness to pay for their product.



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Digital Technologies and the Internet:
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