

# **RIGHTS MANAGEMENT**

## **Unit 5**

# INTRODUCTION

- The traditional protections offered by intellectual property law seem powerless to deal with many of the issues raised by digital media.
- Is copyright law hopelessly outdated? We think not. Many of the tried and true principles are still valid. What has changed is that the Internet, and information technology in general, offers new opportunities and challenges in applying these principles.
- The very technological advances that make rights management more difficult—the dramatic reduction in costs of copying and distribution—also offer a fantastic opportunity for owners of intellectual content.



- Just as owners of mineral rights in the nineteenth century welcomed the arrival of the railroad, which allowed them to transport their precious ore to market, so should the owners and creators of intellectual property rights in the twenty-first century view the digital revolution as a great opportunity to broaden their reach and distribution by orders of magnitude.
- Every new reproduction technology, from the printing press to the VCR, has brought forth dire predictions that it would destroy an industry, but somehow this has never happened.
- The owners of intellectual property can overcome the threats raised by digital reproduction just as they have overcome the threats raised by other reproduction technologies in the past.
- In this chapter we will examine how digital technology affects the management of intellectual property.



# RIGHT MANAGEMENT

- Digital rights management (DRM) is a way to protect copyrights for digital media. This approach includes the use of technologies that limit the copying and use of copyrighted works and proprietary software.
- In a way, digital rights management allows publishers or authors to control what paying users can do with their works. For companies, implementing digital rights management systems or processes can help to prevent users from accessing or using certain assets, allowing the organization to avoid legal issues that arise from unauthorized use. Today, DRM is playing a growing role in data security.
- With the rise of peer-to-peer file exchange services such as torrent sites, online piracy has been the bane of copyrighted material. DRM technologies do not catch those who engage in piracy. Instead, they make it impossible to steal or share the content in the first place.



# HOW DIGITAL RIGHTS MANAGEMENT WORKS

- Most of the time, digital rights management includes codes that prohibit copying, or codes that limit the time or number of devices on which a certain product can be accessed.
- There are many ways to protect your content, software, or product. DRM allows you to:
  - Restrict or prevent users from editing or saving your content.
  - Restrict or prevent users from sharing or forwarding your product or content.
  - Restrict or prevent users from printing your content. For some, the document or artwork may only be printed up to a limited number of times.
  - Disallow users from creating screenshots or screen grabs of your content.



- Set an expiry date on your document or media, after which the user will no longer be able to access it. This could also be done by limiting the number of uses that a user has. For instance, a document may be revoked after the user has listened ten times or opened and printed the PDF 20 times.
- Lock access only to certain IP addresses, locations, or devices. This means that if your media is only available to US residents, then it will not be accessible to people in other countries.
- Watermark artworks and documents in order to establish ownership and identity.



# DIGITAL RIGHTS MANAGEMENT USE CASES

- Digital rights management allows authors, musicians, movie professionals, and other creators to prevent unauthorized use of their content. It can also protect their bottom lines and control the distribution of their products.
- Digital rights management can help companies control access to confidential information. They can use these technologies to restrict access to sensitive data, while at the same time allowing it to be shared securely.
- Furthermore, having DRM technologies makes it easier for auditors to investigate and identify leaks. When used in a business setting, digital rights management may be called by a different name, such as information rights management or enterprise rights management.
- Healthcare organizations and financial services companies turn to DRM to meet data protection regulations such as HIPAA(health insurance portability and accountability) or GLBA( Gramm-Leach-Bliley Act ).



# BENEFITS OF DIGITAL RIGHTS MANAGEMENT

- Digital rights management educates users about copyright and intellectual property.
- DRM helps make way for better licensing agreements and technologies.
- Digital rights management helps authors retain ownership of their works.
- Digital rights management helps protect income streams.
- Digital rights management can help secure files and keep them private.





# PRODUCTION AND DISTRIBUTION COSTS

- Digital technology changes two significant costs faced by a publisher of content: (how are they trying to manage their rights?)
- **Reproduction costs:** Digital technology dramatically reduces the cost of making perfect reproductions.
- **Distribution costs:** Digital technology allows these reproductions to be distributed quickly, easily, and cheaply.
- In other technological advances, the cost distinctions were more clear cut: some technologies made copying easier, and others made distribution easier.



# PRODUCTION AND DISTRIBUTION COSTS

- Consider the following two examples:
- A black and white photocopy of an art book may be a cheaper method of distribution, but it is not nearly as valuable to potential users as the original full-color book. In these cases, the distribution costs are reduced, but the quality of the reproduction is much worse than the quality of the original.
- A tape recorder offers a cheap way to copy music, but it is just as expensive to distribute a copy of a cassette as it is to distribute the original cassette. The tape recorder lowers the cost of copying, but not the cost of distribution.



# PRODUCTION AND DISTRIBUTION COSTS

- But in case of information good, both copying and distribution costs are lowered. Each of these new capabilities offers a different set of challenges to rights management and requires a different set of responses.



# LOWER DISTRIBUTION COSTS

- **MAKING LOWER DISTRIBUTION COSTS WORK FOR YOU**
- Don't fight against lower distribution costs; take advantage of them. Reduced distribution costs offer you a significant advantage by allowing you to promote your products more effectively.
- Following are the list of options how you can make lower distribution cost work for you or how can providing of a free sample help you generate more business



## 1. ***Giving Away Your Content***

- *Give away free samples **to sell your content***
- Information good is that it qualifies as an "experience good": consumers don't know what it is worth to them until they experience it.
- Bookstores typically allow their customers to browse through their collection. The book superstores have made it more comfortable to browse because they've discovered that it helps them sell more books. By "giving away" at least part of their content, they end up making a lot more money.
- The Internet is a wonderful way to offer free samples of information content. the Internet is ideal for "infomercials." (a television program that promotes a product in an informative and supposedly objective way) You can tell people about your product, and even give them pieces of it.



- How can they make money if they give away their product? The obvious answer is: you give away only part of your product.
- This is like the old marketing tactic of offering free samples of consumer products, but updated for the digital age. The beauty of information is that it is particularly easy to give free samples of something that has zero marginal cost of distribution.
- The trick is to break your product up into components; some you give away, others you sell. The parts that are given away are the advertisements—the infomercials—for the parts you sell.



- Consider, for example, the case of books. Studies have shown that most Web users will read only about two screens of material before they click off.
- The ergonomic costs associated with on-line reading mean that large amounts of content can be posted without cutting into sales of hardcopy. In fact, in many cases, posting the on-line content can increase the sales of the physical version of the information good.
- The National Academy of Sciences Press put more than a thousand of its books on-line and found that the availability of the electronic versions has boosted sales of hard copies by two or three times.



## 2. *Demand for Repeat Views*

- For some sorts of information—music, for instance—repeated plays are very important. If you hear a song on the radio that you like, you may want to hear it again right away.
- The radio broadcast of a song is an ad for itself—or, more accurately, it's an ad for a more conveniently packaged version of itself. It's a free sample, but presented in an inconvenient form: the sample is provided when the DJ wants to broadcast it, not necessarily when you want to hear it.
- The value added by the CD version of the song is that it can be played when, where, and how you want it to be played. The CD has what economists call *option value*: *you can exercise the option to play it where and when you want, unlike the radio broadcast of the same music.*
- the inconvenient version offered by the DJ is given away for free, while the user must pay for the convenient CD version.





- Example of Barney and Disney
- In our view, it would make a lot of sense for Disney to at least experiment with some marketing campaigns directed at the day care centers and preschools along the same lines that the Barney promoters used. As Barney was able to make more revenue compared to Disney due to its promotional campaign.



### ***3. Similar, but Not Identical, Products***

- A closely related strategy has to do with giving away samples to sell similar, but not identical, products. The images we see in various media—magazines, television, on-line—are a good example: customers don't want repeat viewing of the same images, they want some variation—but not too much.



- McAfee Associates sells computer security tools; its flagship product is Virus- Scan, a program that detects and deletes computer viruses. The company was started by engineer John McAfee, who handled virus problems for Lockheed. In 1989 he posted a virus fix on a computer bulletin board and asked those who downloaded it to send him whatever they thought it was worth. He made \$5 million in his first year.
- McAfee went public in 1992 and had a \$3.2 billion market value by 1997, shipping more than half of the world's antivirus software that year.
- The company continues to offer many of its products for free via the Web, making its revenues on upgrades and customer service.



## **4. *Complementary Products***

- The next strategy we examine is selling complementary products. This has been around as long as razors and blades, but takes a variety of new twists on the Internet.
- One attractive idea is to give away an index or table of contents and to sell access to the main material.
- The Wall Street Journal and the Economist allow free full-text searching of their back issues archives and then charge a couple of dollars to download the retrieved articles. Each of these examples takes the same form: you offer the index or search service for free to increase demand for priced content.



## 5. **Illicit** (forbidden by law, rules, or custom) **Copying**

- All these tactics are very clever, you may say, but what about the product that you don't give away for free? What about the stuff that you want to sell? If people can take your content without compensation, where do the revenues come from?
- First, information that is timely, or that people tire of quickly, is less susceptible to illicit copying. Sports scores, financial information, and gossip
- However, there is a danger in providing too much of the "old" content. Giving away a few free samples from the archive is a fine idea; giving away unlimited access, including search capabilities, is quite another matter. This is why the *Wall Street Journal* gives away a couple of weeks of its archive but makes you pay for older material.



# LOWER REPRODUCTION COSTS

## ○ MAKING LOWER REPRODUCTION COSTS WORK FOR YOU

- For digital content production is reproduction.
- Let us turn now to the other significant cost factor charged by digital technology: reproduction. Digital copies are perfect copies of the original. For digital content, production is reproduction. Illicit CDs can be stamped out for well under a dollar a piece, and they're all perfect copies of the master. These illicit perfect copies are perfect substitutes for the original. And if a perfect copy is available at a bargain basement price, who would want to buy the original.



- It is easy to overstate this case "perfection really isn't as important as is sometimes thought ". An analog copy of a heavy metal CD is just about as good as the original digital version-maybe even better.
- In one test, professional record producers could distinguish a second-generation analog copy from a twentieth-generation analog copy only 63 percent of the time-that is, only 13 percent better than they would have done by chance alone.
- And sometimes the experts preferred the twentieth generation ' The fact that a *perfect* digital copy can be made isn't that much scarier than the fact that a *very good* analog copy can be made.
- We've learned to live with analog copies of documents, music, and video-we can learn to live with digital copies as well.



# TRUSTED SYSTEMS

- Trusted Systems permit copyright owners not only to prevent unauthorized copying of their works, but also to regulate the use of such works to even finer degrees.
- The internet is the world's biggest copy machine, but only for certain goods. The most valuable forms of copyrighted goods are unavailable in on the Internet.
- Producers of these goods are rightfully worried that they will fail to receive compensation for their goods if they were to put them on the internet.





- Trusted systems are a complex intermingling of state of the art technologies. The heart of trusted systems is encryption, which keeps the digital information safe during transmission through insecure channels such as the Internet.
- Trusted viewers keep users from exercising unavailable rights when accessing digital works.
- If a digital work should escape the clutches of the copyright management system, digital watermarking provides a method for tracking the source of the information.
- Repository access services will store digital works for purchase and keep transaction and use records.
- Digital signature will ensure that use is restricted a person or a group, not just certain access terminals.



- Considering the importance of guarding our information in the Internet age, we must take some proactive efforts to make the proliferation of trusted systems as ubiquitous as possible. We have seen how trusted systems did have some features to prevent some exploitation before it happened. Some suggestions on how to achieve this are as follows:
  - establish internationally recognized standards for trusted system interfaces
  - quickly produce trusted version of critical server software such as database, web, email, dns, application, middleware and so on
  - extend the concepts of trustedness into the firmware and hardware domains
  - regulate laws to make the use of trusted systems in certain environments as mandatory



# HISTORICAL EXAMPLES

- In the Middle Ages, professors used a primitive form of intellectual property protection: they lectured in darkened rooms so that the students couldn't take notes.
- Today, middle-aged professors still lecture in darkened rooms, but now it's so the students can see the PowerPoint presentation. History may not repeat itself, but it rhymes. Printing presses, xerography, and the Internet have made text reproduction progressively cheaper, and express mail and fax machines have reduced the costs of text distribution immensely. With each new reduction in cost, the amount of information being distributed has increased dramatically. There is more being published today, and more money being made in publishing, than ever before.
- The photocopying machine was supposed to be the death knell for the publishing business. But, in fact, cheap photocopying has probably *increased the demand for printed content*.



- ***The Rise of the Library***
- Libraries themselves are a wonderful example of an innovation that first appeared to threaten the publishing industry but ended up vastly expanding it.
- In the eighteenth century only the wealthy could afford to buy books. A single book cost the equivalent of an average worker's weekly wage. *And because books were expensive,*
- The big breakthrough came in 1741 with the publication of *Pamela. Instead of the usual dull theological treatise, the public was offered a racy and entertaining tale of a young girl's life.*



- People couldn't get enough of these lurid tales. English bookstores were unable to keep up with the demand for novels and romances, so they started renting them out.
- the publishers and booksellers were afraid that the circulating libraries would cut into their business:
- In the long-run, however, there is no doubt that the circulating libraries were much to the benefit of the publishing industry. The availability of low-cost entertainment motivated many to learn to read
- As the market grew, people started to buy rather than rent their books.



- Note carefully the causality: it was the presence of the circulating libraries that killed the old publishing model, but at the same time it created a new business model of mass-market books.
- The for-profit circulating libraries continued to survive well into the 1950s. What killed them off was not a lack of interest in reading but rather the paperback book—an even cheaper way of providing literature to the masses.



- ***The Rise of the Video***

- The same industry dynamics occurred in the market for prerecorded videos in the 1980s. In the early 1980s VCRs cost more than a thousand dollars and videotapes sold for \$90. Videos were a medium for the rich—just as books had been in 1800.
- Video rental stores changed all that. Like the circulating libraries. 300 years earlier, they brought this new form of entertainment to the masses. The stores made it possible for an ordinary family to rent both the video machine and the cartridge. By the mid-1980s, the average middle-class family could afford a VCR and video rental stores were thriving.
- Hollywood didn't like the rental business. Studios tried to control the stores through various licensing arrangements, in the end, of course, despite its objections to video rentals, Hollywood made a lot of money off them. The availability of inexpensive content meant that people watched many more movies.



- In the last fifteen years, video purchase prices have dropped by more than 90 percent. And Hollywood is making money like never before.
- Just as in the case of books, the rental market for videos created a huge new opportunity for both renting *and buying the product*. *The companies that recognized the implications of the new technology succeeded beyond their wildest dreams,*





- ***Growing the Market***

- Producers of digital content are in much the same position now that the producers of books were in 1800 or producers of film were in 1975. It's easy to see the threats inherent in the new media; it's hard to see the promise. The key issue is how to exploit economies of scale
- The book producers in 1800 and the video producers in 1980 didn't appreciate how dramatically the market could grow. Publishers used to dealing with a wealthy elite didn't fore- see that literacy would dramatically increase if there was something interesting to read.
- Hollywood producers didn't recognize that VCRs would become a mass-market item if popular content was available for them. The publishers and movie producers understood their own industries, but they didn't understand their complementers' industries.



- We think that the natural tendency is for producers to worry too much about protecting their intellectual property. **The important thing is to maximize the value of your intellectual property, not to protect it for the sake of protection. If you lose a little of your property when you sell it or rent it, that's just a cost of doing business,** along with depreciation, inventory losses, and obsolescence.



# CHOOSING TERMS AND CONDITIONS

- But enough of the past; what about the present? Let us suppose that you are the owner of some intellectual property and have the legal right to market it as you will. How should you think about the terms and conditions under which you will make your product available?
- The first thing to do is to recognize the fundamental trade-off between control and customer value. The more liberal you make the terms under which customers can have access to your product, the more valuable it is to them. A product that can be shared with friends, loaned out, rented, repeatedly accessed, or sold in a resale market is obviously more valuable to a potential user than one that can be accessed only once, under controlled conditions, by only a single party.



# CHOOSING TERMS AND CONDITIONS

- The fact that liberal terms and conditions increase the value of the product has two effects. First, you can charge a higher price, and second, more consumers will want to buy it. But there is a mitigating factor. More liberal terms and conditions also create competition for your product: rental markets and resale markets cut into the sales of the originals, which reduces revenues. And consumers are willing to pay less for your product if there are close substitutes available, such as used copies.
- The challenge of intellectual property management lies in trading off these two effects: in choosing the terms and conditions that maximize the value of your property.



# CHOOSING TERMS AND CONDITIONS

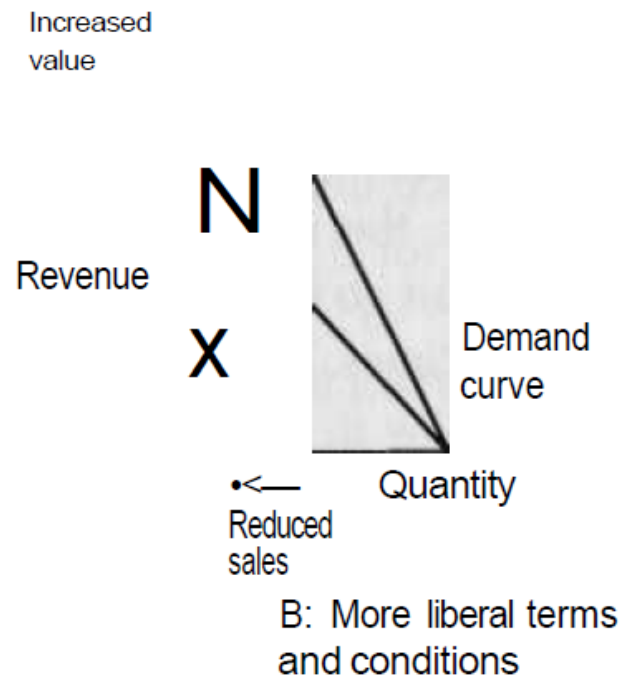
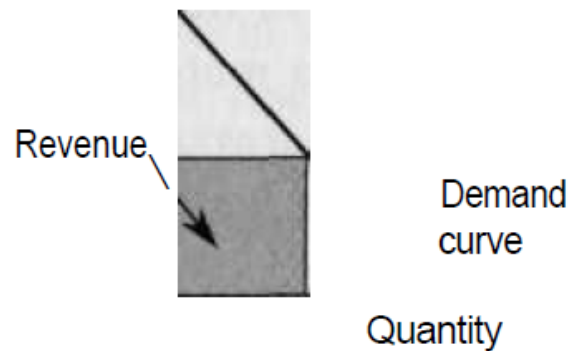
- ***The Analytics of Rights Management***
- Since unit costs are very low for most information goods, and negligible for purely digital goods, we will ignore production costs in what follows.
- Your goal is to set a price that maximizes your revenue. The demand curve in Figure 4.1 illustrates the standard trade-off: a high price leads to low volume. With the help of a good marketing study, you should be able to choose the price that maximizes revenues, which are represented by the area of the revenue box, as shown in panel A, the baseline case.



# CHOOSING TERMS AND CONDITIONS

- Offering more liberal terms and conditions increases the value of the product to the consumers, which shifts the demand curve up. However, the more liberal the terms and conditions, the more copying and sharing, and the less the producer sells. In Figure 4.1, the demand curve in panel B is twice as steep as it is in panel A. This means that every consumer is willing to pay twice as much for the intellectual property offered under more liberal terms and conditions. **(steep demand curve means it is inelastic demand curve, means that a change in quantity demanded will not change with the change in the price )**
- the more liberal terms, the producer sells less; in this diagram, we've assumed that sales fall by 50 percent. This means that the new revenue box has twice the height and half the width, leaving revenue unchanged.





# CHOOSING TERMS AND CONDITIONS

- Making terms more liberal increases profit if the increased value to the consumers, which can be captured by the producer through higher prices, is larger than the decrease in sales.





# CHOOSING TERMS AND CONDITIONS

- ***Transaction Costs***

- One important influence on consumer value is transaction costs. **These are the costs that the consumer or the producer pays to make the transaction happen.** For example, to rent the latest video you must go to the store; if the video is very popular you may have to go many times. When you finally get the video, you have to take it home and view it, then return it the next day. The cost of travel and delay can be significant. For many consumers, buying a video at \$12.95 is preferable to renting at \$3 because they avoid the hassle of returning the video.



# CHOOSING TERMS AND CONDITIONS

- A new technology known as Digital Video Express, or Divx, offers pay-per-view DVDs. You purchase a movie on disk for \$5, and when you're done you can simply throw away the disk. By selling Divx disks at \$5 the producers are guessing that consumers are willing to pay at least \$2 to avoid the hassle of returning a video that rents for \$3.
- Both sides of the transaction are potentially better off: the producers get the extra \$2, and the users avoid a late night trip to the video store.



# CHOOSING TERMS AND CONDITIONS

- As an owner of an information good, you should ask yourself: "Is it cheaper for me to distribute my product directly to the end-user, or is it cheaper for the organization to distribute my product to the end-user?"
- If the distribution cost advantage lies with the organization, then you should be able to reach a bargain where both you and the organization share the gains from the more efficient distribution system.

