

The Economics of DRM in Capitalist Markets

Dr. Meir P. Pugatch

Intellectual Property, Vol. 3, Issue 2 - February 2007

"Why would the big four music companies agree to let Apple and others distribute their music without using DRM (digital rights management) systems to protect it? The simplest answer is because DRM haven't worked, and may never work" said Steve Jobs, Apple's legendary CEO.¹

Undoubtedly, Jobs' thoughts were applauded by IP sceptics such as the Electronic Frontier Foundation (EFF), which argues that "As a first step in putting his music store where his mouth is, we urge him (Jobs) to take immediate steps to remove the DRM on the independent label content in the iTunes Store... Many independent labels and artists already recognise that DRM is a dumb idea for digital music, as demonstrated by the availability of their music on eMusic."²

At the outset it is worth noting that DRM is a concept that broadly refers to different sets of technologies aimed at identifying and protecting digital content belonging to IP rights-holders. At times, DRM is treated as synonymous with technological protection measures (TPMs), which are aimed primarily at preventing the unauthorised copying and downloading of digital content or (though less frequently) to rights management information (RMI), aimed at identifying digital works and managing the provision of material to customers, or both.³ It should also be pointed out that depending on the characteristics of the content provided and the different media on which it is provided, different industries (for example the music, film and game industries) use different DRM systems to serve different purposes.

For example, Apple's music files include DRM to restrict them from being played on Apple hardware. Other music files may be protected from being played on multiple devices or have DRM enabling their usage to be monitored. Most DVDs include DRM that encrypts the signal that is put out (although this technology has been cracked, it cannot be replaced without forcing consumers to buy new DVD players). The DRM also incorporate regional codings to enable geographically specific distribution mechanisms. In some instances DRM on games include software that prevents use without the disk, or machines with particular hardware configurations.

So is DRM a dumb idea? And furthermore, is it perhaps even an illegitimate tool? No and no!

Some thoughts on the economic and legal legitimacy of DRM

Is DRM a legitimate tool? Indeed it is. But in order to understand why, we must first focus on the very nature of products and technologies that are based on knowledge, information and intellectual (KII in short) creations, such as software, music and films.

While economic theory tells us that most resources (such as land, crops, etc) are subject to the problem of scarcity (the more people use it the less of it there is to use), KII products are not. On the contrary, the more people use a KII resource the more of it there is to use. Think of a song. If I sing a song and you like that song, then you can sing it too and then your friend can sing it as well - without any damage to my ability to sing this song. That is what is so wonderful about KII products; potentially everyone can benefit from them.

But this is also their downfall. KII products are easy to copy, especially those that are based on the delivery of content. Compared to the cost of creating a KII product (think of the cost of producing a new record or a new movie for example) the cost of copying this product is negligible. The result is that for some people the incentive to free-ride on KII products (for example, to copy a CD or use the internet for downloading) is stronger than the will to pay for it.

In the absence of any institutional provisions that establish property rights in KII products (i.e. patents, copyrights and other forms of IPRs) the incentives to free-ride will increase. Consequently, the incentive to

create KII products will decrease (after all, the accumulation of capital is based on the notion of being rewarded for one's efforts).

IPRs define the commercial and legal relationship between the seller (owner) and the buyer (user) of certain KII products. These relationships are established on (a) the price of the KII product and (b) on the conditions attached to the use of this product. It is important to note that a commercial transaction between the owner and the user of a KII product is based on the right to use and not on the transfer of ownership. When someone buys an artist's latest album this does not make him the owner of the artist's work (what he owns is the plastic CD but not its content). This is indeed the essence of the market of KII products: that they can be commercialised by the owners, but not by the users.

For entertainment based KII products, such as music and films, the decision to conduct a transaction (or not) should be quite simple. If a consumer thinks it is worth paying the asking price for the right to use a certain KII product, he will pay it. If the consumer, on the other hand, thinks the price is too high, he is certainly entitled to abandon the transaction altogether (in other areas where demand is less elastic other considerations come into place so the transaction becomes more complicated). What the consumer is not allowed to do is to free-ride by copying or downloading the KII product without the permission of the right-owner. In the modern IP system this type of free-riding is simply illegal.

By definition, right-owners of KII products have the right to restrict the unauthorised use of their products and DRM is an expression of that right. Some people may dislike the purpose and function of DRM (they may also dislike other law enforcement mechanisms), but as long as the IP system is in place DRM should be considered as a legitimate and, of course, legal tool to be used by owners of KII products.

On the "dumbness" of DRM

Coming back to Steve Jobs, the EEF and other critics, one could ask whether DRM is a dumb idea because it simply does not work.

Bearing in mind that this article refers to DRM in broad terms (not only focusing on arguments relating to the music industry), one can identify three major themes that underpin critics' arguments.

The "lower your price" critique

Some critics of DRM argue that they are ineffective since they cannot really mitigate between the asking price of the KII-owner and the price that users are willing to pay. These critics argue that given the high price of KII products the free-ride problem is too significant to be dealt with by DRM. Consequently, critics argue that if KII-owners were to reduce prices, the free-ride problem would decrease and with it the need for DRM.

The problem with this critique is that it is based on the rather naive assumption that free-riding is a function of price. In fact, there is no evidence to suggest that if the price of certain KII products would be reduced by 20% free-riding would decrease at the same rate. This is because when faced with the alternatives of paying something for a KII product or paying nothing for it, freeriders will always choose the latter.

The "your technology doesn't work" critique

This critique is based on the assertion that for every new DRM technology developed or acquired by right-holders, a new anti-DRM (circumvention) technology will be developed. This may be perceived as a zero sum game, and a rather futile one.

While this argument is a more serious one, it still suffers from the "half-empty, half-full glass syndrome". In the half-empty glass approach, those who criticise DRM technology will always examine the flaws of DRM. For them these flaws are proof that DRM does not fulfil its task.

However, one may adopt the half-full glass approach and ask what would happen if DRM was abandoned altogether? If the answer is that in the absence of any kind of DRM mechanisms more free-riding would take place, then the straightforward conclusion is that DRM is a necessary, yet insufficient tool for KII rightsowners to secure at least a portion of their rights.

In other words, one cannot argue that DRM does not work if one fails to consider or suggest alternatives. And, in the absence of any alternatives, DRM may not be described as such an inferior tool.

The "change your business model" critique

This critique is based on the view that the business models of KII-owners such as record, media and even software companies are obsolete. For example, critics of DRM in music argue that the model in which a user must pay for the entire CD just to listen to one song should be completely abandoned in the age of the internet and MP3 players.

This critique carries significant weight. KII-based industries are, of course, aware of this and are trying to examine their own business models on a daily basis. There is no shortage of ideas, including subscription-based services, pay-per-download models, content packaging (i.e. the bundling of multiple KII contents in a single purchase) and more radical ideas such as options (purchasing today the right to buy at low cost a future KII product before it becomes popular - think of a new artist for example).

A change in the way KII products are traded is likely to take place in the future. But such a change cannot take place instantaneously. Nor will it take place in a predictable manner. It can be based on some kind of a 'creative destruction' model that will push the entire industry forward in a single leap or it can take place slowly and progressively until a new cohesion is established.

For now, DRM should not be disregarded completely. Critics should recall that history is filled with brilliant alternatives to existing businesses and economic systems (such as the IP system) that somehow went awry. Marx and Engels' Das Kapital and its subsequent application is one example.

¹ Thoughts on Music; 6 February 2007; <http://www.apple.com/hotnews/thoughtsonmusic/>

² EFF. Steve Jobs: DRM Is Bad for Consumers, Innovators And Artists (6 February 2007), <http://www.eff.org/deeplinks/archives/005115.php>

³ For a discussion of these concepts see the report by the All Party Parliamentary Internet Group (UK. Digital Rights Management - Report of an Inquiry by the All Party Internet Group (June 2006)

Article reprinted with permission from Stockholm Network