The Problem of Excludability for Media and Entertainment Products in New Electronic Market Channels

TERJE GAUSTAD

INTRODUCTION

The success or failure of digital online-distribution of media and entertainment products through different forms of e-commerce is inevitably linked to the economic characteristics such products take on in these new electronic market channels. Some of the characteristics are intrinsic to the product, not related to the distribution form and therefore given. However, some are not intrinsic and these may change depending on adjustments in technology and institutional settings related to the specific channel. To create an environment in which e-commerce with media and entertainment products can prosper, these non-intrinsic characteristics need be set in line with content owners’ motivation for offering their products in the new channels.

That there is a substantial potential for media and entertainment products in new electronic market channels is obvious. The intangible nature of, for example, films and music makes such products a perfect fit for digital distribution and e-commerce. Unlike tangible goods like jeans and jewellery, they can be delivered online in digital forms instantly without hardly any distribution costs. Furthermore, the potentially vast reach of the electronic networks through which these products may be sold and distributed should intrigue their producers and owners since scale economies always have been a key to success in the markets for media and entertainment products.

This bright outlook is seriously darkened by the content owners’ fear of losing control of their products in new electronic market channels. The US film-industry interest group Motion Picture Association of America says about broadband, which has the capacity needed to transmit films as electronic packages directly to the consumer and is one of the key technological forces opening up for e-commerce (Zhu 2001), that “[i]t entices and allows piracy of films and TV programs on a massive, unprecedented scale” (MPAA 2002a). The music industry also remains sceptical to the new electronic market channels, and its interest group IFPI claims that “the Internet remains a “wild west” for piracy” (IFPI 2002).

For a clearer understanding of this hurdle to e-commerce with media and entertainment products and the need to overcome it, this paper will analyse how this problem is tied to specific economic characteristics of these products. Furthermore, it will argue that the problem cannot be easily circumvented, but that it may be resolved if institutional settings and technology are adjusted in line with content owners’ motivation for offering their products in these channels. While recorded media and entertainment

Abstract

While there may be a substantial potential for media and entertainment products in new electronic market channels, content producers and owners remain sceptical and are cautious to utilize these new market opportunities. Piracy and the fear of losing control over their property in the new channels constitute the basis for their scepticism. Applying a public good approach to the economic analysis of this problem reveals that there is no easy way of circumventing the problem, but that it may be most successfully solved by increasing the degree of excludability for media and entertainment content also in these new channels. Excludability is a non-intrinsic economic product characteristic, which may be adjusted through a combination of property rights and technology. Further institutional and technological efforts towards establishing excludability will thus encourage e-commerce with media and entertainment products. While alternative solutions such as first release strategies and claiming payments from related markets may exist for certain content categories, the excludability solution will enable the new electronic market channels to tap into vast libraries of recorded media and entertainment products and thus utilize the channels’ full potential.

Author

Terje Gaustad (terje.gaustad@bi.no) is a doctoral fellow at the Center for Media Economics at the Norwegian School of Management BI. His main research interests are interfirm relations, investments and economic aspects of property rights in the entertainment industries.
products such as film and music is the empirical focus for this paper, many non-recorded products such as live transmissions from sporting events may be treated similarly with only minor analytical adjustments (Gaustad 2000).

ECONOMIES OF SCALE AND PUBLIC GOOD ELEMENTS

Traditionally economists have categorized products as either public goods or private goods. A public good is usually defined as a product or service for which consumption by one individual does not reduce the amount available for consumption by other individuals. National defence and lighthouses are common textbook examples. Such goods are non-rival in consumption and non-excludable for non-payers. In contrast, one individual’s consumption of a private good, such as a ham sandwich, precludes consumption by others. Media products in general are distinguished by the relative importance of their public good elements (Wildman and Siwek 1987).

These public good elements constitute the basis for the substantial scale economies found in most markets for media and entertainment products. Such products can be consumed by a potentially infinite number of people in different forms without significant increases in production and distribution costs. As long as the distribution costs are nil more consumers means lower per-person costs without reducing the per-person benefits, so the optimal number of consumers maximizing owner’s profits is infinite.

The concepts of rivalry in consumption and excludability of non-payers are central to understanding public goods (Adams and McCormick 1993). The degree of rivalry of a good is an intrinsic characteristic of the good itself; it depends on the degree to which a good can be shared. Most media and entertainment products, defined as content products, are truly non-rival goods since they can be shared endlessly without reducing the benefit to the original consumer. However, the medium, by which the content product is distributed, may be a rival good. If so, it cannot be shared without reducing the benefit to the original consumer. A newspaper article is a non-rival product since the value to each reader is not reduced even if it is shared endlessly. The printed copy of a newspaper, however, is rival since the benefit to its original consumer is reduced if this consumer has to share it with others.

The excludability of a good refers to whether non-payers can be prevented from consuming it. Unlike rivalry, excludability is rarely intrinsic to a good. Rather, it is largely determined by property rights, the amount of resources devoted to exclusion and the technological feasibility of exclusion (Adams and McCormick 1993). Political and social institutions, as well as technology, are therefore key factors in determining excludability.

MARKETABLE VS. NON-MARKETABLE PUBLIC GOODS

Not all public goods share the same characteristics. Terrestrial radio, for example, is both non-rival and non-excludable — available to everybody with a radio receiver, while a pay-TV channel is also non-rival, but (at least intentionally) excludable — only available to those who pay for it. The combination of rivalry and excludability is essential for the owner’s ability to market a product commercially. To analyse such differences, Adams and McCormick (1993) have made the useful distinction between marketable public goods and non-marketable public goods. Both are non-rival, which is what defines them as public goods, but marketable public goods are excludable while non-marketable public goods are non-excludable.

In market economies, marketable public goods can feasibly be provided by the private sector. Since such products are excludable, it is relatively unproblematic to claim payment from users. Furthermore, due to the scale economies following from the products’ high degree of non-rivalness, providing the products can indeed be a very lucrative affair. If the owners succeed in selling the product to a large number of users, profits may be considerable. Hit music albums and blockbuster movies illustrate this.

Unlike marketable public goods, non-marketable or purely public goods are often provided by the public sector since private providers will encounter free-rider problems and difficulties in claiming payment from users due to the products’ non-excludable characteristics (Adams and McCormick 1993). In the markets for media and entertainment products private provision of purely public goods is usually only possible where revenue sources are found in alternative markets. Terrestrial radio is a good example. It is a non-rival and non-excludable good, and thus the providers do not rely on payment from listeners as a source of income. However, usually terrestrial radio also serves another market, the advertising market. As it is feasible indeed to exclude non-paying advertisers, revenues can easily be collected in this market.

THE PROBLEM OF EXCLUDABILITY

As has been repeatedly pointed out by entertainment industry content owners and their interest organizations, the hurdle to utilizing new forms of e-commerce is piracy – the inability to exclude non-payers. The core of this problem is that products that are traded as marketable public goods in other established market channels become non-marketable public goods in these new channels. Films are traded as excludable products in the theatrical, home video and television markets. But as digital files, distributed online, films easily lose their excludability and then one can no longer effectively prevent non-paying users from watching them.

While providers rely on the consumer-market for revenues and do not primarily seek payment from alternative sources such as advertisers, sponsors, public funding, etc., private provision of non-marketable public
goods is almost impossible. The only feasible possibility may be for the producer of such a product to secure payments from users at the product’s first release. Until the product is released for the first time its producer or owner still controls it simply because it has never been made available to anyone else. Relying on this strategy, the producer must find a suitable occasion for the first release, where the number of paying consumers and their willingness to pay is high enough for the producer to recoup his or her production costs from the first release revenues alone. In the eighteenth century, before any effective copyright-protection for creative products was established, composers utilized this strategy if they had a high enough standing to draw the right audience. Mozart, for example, could collect substantial payments from some of his first performances (Cowen 1998). However, in today’s market, media and entertainment products often gain value only following their first release (as they gain popularity with a growing audience). The first release strategy may still work for certain time-sensitive live products, such as boxing matches or football games, but in most cases, and particularly for recorded products, it is unfeasible. 

The problem of marketable public goods turning non-marketable in new electronic channels would be limited if a product’s performance in one channel was unrelated to its performance in other channels. But this is very seldom the case. Typically, the release of a product in a new channel will have a net effect on the product’s total revenues determined by the sum of revenues from the release in a new channel and the losses such release creates in existing channels (Lehmann and Weinberg 2000; Owen and Wildman 1992). The net gain of releasing a film on pay-TV, for example, equals pay-TV revenues minus losses in other channels such as home video and free-TV due to the audience-leakage from these markets to the pay-TV market. Only if the net gain from a new market channel is positive will the owner have any economic incentive to release the product in this channel. Market channels that transform otherwise excludable products to non-excludable must therefore take a double hit. First, they generate marginal or no new revenues for the owner, and second – and more seriously – they reduce owner’s revenues from existing channels.

**THE DIFFICULT SOLUTION: PROPERTY RIGHTS, ENFORCEMENT AND TECHNOLOGY**

As long as media and entertainment products become non-marketable public goods in new electronic market channels, there is no easy way to circumvent the problem that owners will be reluctant to offer their products in these channels. As argued above, the potential of the first release-strategy is indeed very limited. However, one may overcome the hurdle and exploit the potential of the new market channels if the products can be made excludable also in these channels.

This can be done by adjusting institutional settings and technology. The most important institutional instrument creating a basis for excludability for media and entertainment products is copyright law, which secures producer’s ownership. As Merges (1995) points out, copyright is a very cost-efficient state-sponsored incentive for new creations. It reconciles individual interest to produce and offer goods with the community’s interest of having these goods produced.

Laws are often adjusted as reactions to developments in society – and thus with a delay. When new electronic channels emerged, the ownership protection offered in these channels by existing copyright laws and regulations could in many cases be inadequate. However, progress has been made, and the first of the World Intellectual Property Organization’s Internet Treaties drafted in 1996, The WIPO Copyright Treaty, entered into force in March 2002, and the other, The WIPO Performances and Phonogram Treaty, is expected to follow by the end of 2002 (IIPA 2001). Together, these treaties modernize the international law of copyright, ushering it into the digital age.

While new international copyright law creates a basis for excludability in the new electronic channels, it is not effective unless it can be enforced. As pointed out by WIPO itself, one of the main challenges lies in the borderless world of cyberspace, and to be efficient the Internet Treaties must become widely adapted by countries in all regions of the world (WIPO 2001). Furthermore, the value of social and institutional instruments like copyright law is always dependent on the resources required to enforce them. If the costs incurred by an owner to enforce legal exclusion are prohibitive, the product will not have any value to the owner in the new channels even with copyright protection in place. In North-America, for example, the Recording Industry Association of America (RIAA) has devoted substantial resources to lawsuits against Internet music pirates based on US copyright law including the No Electronic Theft Act and Digital Millennium Copyright Act, which are amendments specifically addressing Internet copyright issues. However, these lawsuits are mostly attacking larger entities similar to file-sharing services Napster and Morpheus (Variety 2002). To file legal action against all the Internet-users who violate copyright law through excessive peer-to-peer exchange of music products is impossible – the legal costs would be prohibitive.

Technology plays a key part, since it may both enable content-owners to keep their product excludable and to users to consume it without paying. Copy protection of films on DVDs illustrates this. To prevent users from illegally copying films from DVDs onto a computer’s hard-drive for further distribution over the Internet or otherwise, in perfect digital format, many entertainment companies use the so-called Content Scrambling System (CSS). This technology hinders such copying and is thus helping owners to enforce the product’s legally established excludability. However, hackers have developed a software utility called
DeCSS, which breaks this copy protection (MPAA 2002b). As this example illustrates, technology’s role in determining a product’s excludability is not static, but rather very dynamic. One may say that, in an ongoing technological battle or game between copy protectors and hackers, media and entertainment products shift back and forth between being marketable and non-marketable public goods, depending on which side has the lead at the time.

While no copy protection technology has yet proven foolproof, such technologies raise the threshold of difficulty and expense of illegal copying. Generally, resources devoted to development of such technologies thus tend to increase media and entertainment products’ degree of excludability in the new electronic channels.

CONCLUSION

The public good approach to analysing digital online distribution of media and entertainment products reveals that to be successful such distribution needs to secure the excludability of the content or, alternatively, draw on related markets such as advertising for revenues. However, for recorded media and entertainment products that are successfully distributed in other market channels the latter solution is not likely to work. First, related market revenues from a new electronic channel will most likely be limited, and, second, exploitation of the product in the new distribution channel will cannibalize revenues from existing channels. As a result the net effect on a content owner’s profits from a release in the new channel will be negative.

The only alternative likely to produce profitable distribution for recorded media and entertainment products in these new electronic channels is thus to secure excludability of the content. As discussed in this paper, this solution has proved difficult to implement. However, no property rights can be perfectly enforced (North 1990), and it is not necessary to reach the theoretically optimal solution to create a basis for profitable distribution. While still being far from able to provide absolute protection of property rights, the institutional and technological advances made to establish excludability have at least increased the degree of excludability for content in the new electronic channels. So even if content is not excludable among technologically savvy users or hackers, it may start to take on marketable characteristics for regular users with less technological insight. If the degree of excludability can be brought to a level where content appear excludable to a critical mass of the channels users, the basis for profitable distribution would be in place.

By reaching this critical degree of excludability for its content, a new electronic channel will gain access to the vast libraries of recorded media and entertainment products since content owners then will be motivated to add the channel to their existing slate of market channels. This in turn will increase the channel’s appeal towards users, attracting a larger user base, and thus probably also create a positive ripple effect on distribution of non-recorded content that is less sensitive towards excludability.

References