

# Computer security



Q: Address any of the topics of the papers on DRM, either in terms of personal incentives, corporate incentives, national security, computer security, or international affairs. With the advancement of technology copying of digital content has become relatively easier. Hence content vendors have started to opt to protect their property with technology rather than relying solely on legal protections. These technical protections, such as encryption and copy controls, are often lumped together with licensing privileges. This is basically called Digital Rights Management (DRM). To understand the corporate motivations of the creative industry players to invest fully into DRM we must look at the implications of these technical protective measures. With the growing and wide spread advent of new digital video recording, distribution technologies, and the widespread availability of internet piracy measures of technology having a direct impact on the distribution channels and sales of these industries the critical concern faced by these corporations is the fact that they cannot compete with freely available copies of their content. The movie studios are particularly effected as competing with free is concerning for them mainly because their content is more prone to single use consumption than the other industries such as music. A range of industry wide efforts have been undertaken that have build up to the adoption of DRM. Such as Serial Management System for digital audio tape that was authorized by the Congress which aimed to make difficult the task of making faithful copies of copies; a measure that was made obsolete after the proliferation of other digital mediums. There were efforts undertaken by be vendors too, such as the one installation features imposed by some distributors of computer software that limited the advent of pirated software access by the use of a watermark and encryption

technologies; a measure that was solely dependant on the original buyer being held liable. Encryption systems as well as a code key aimed to limit the playing of content on a specific piece of hardware. The movie industry developed digital versatile disks (DVDs), which are protected by a technology called the Content Scrambling System (CSS). The incentive behind the development of this measure was to ensure that movies released for viewing in one region of the world cannot be viewed in another hence limiting their sales revenue to be cannibalized. These technical protections are primarily for two markets: the market for players and the market for content. Since the market for players is mostly derived from the market for content, this raises questions about whether the player market can capture the value of the underlying content, and thus undermine the incentive for creation. Disentangling the relationship between the content market and the player market is not trivial, since the demand for players is derived from the demand for content. The main harm that might arise from monopolization of the player market is that it could divert profit from creators, and thus erode the incentive to create. This brings us to the central point of DRM which underlines the fact that the level of protection is a choice variable. If the firms want to charge higher prices, they must spend more money on protection. The costliness of protection will have a moderating effect on prices. And as far as the impact of legitimate free distribution on sales through paid channels as well as sales on pirated channels is concerned the studies conducted show that the creative industry can compete with freely available copies of their content by the use of product differentiation and market segmentation.