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Abstract

By distorting the marketplace for digitalized intellectual property, consumers' pervasive pirating practices may discourage future creation of such property. At best, current approaches to curb piracy have met with limited success. After a review of these approaches, the authors suggest a better alternative.

POPing

Consumers' unauthorized downloading of digitalized intellectual property (i.e., file copying by a personal online pirate; henceforth POPing) is so common that 63 percent of U.S. undergraduates admitted to downloading pirated music from P2P web sites (Levin et al., 2004). POPing is viewed as acceptable by 50 percent of college-aged music enthusiasts (Hinduja, 2003) and a majority of U.S. music business majors (Taylor, 2004). Most consumers who engage in POPing believe that they have not perpetrated a crime. For them, digital files found online are not property because they "do not meet the goods, wares or merchandise language" (Nasheri and O'Hearn, 1998, p.149); there is nothing to steal because electronic files lack physical presence (Bowie, 2005). Nonetheless, POPing is not a victimless crime, as consumers' ability to duplicate and distribute digitalized works can meaningfully depress financial returns to these works' creators.

Several approaches for reducing POPing, such as litigation by copyright holders, copy protection schemes, creative pricing schemes, and educating consumers about the victims of POPing, have proven ineffective or minimally effective. After reviewing each of these approaches, we suggest an alternative approach: to encourage media and software companies to embrace a sponsorship-only e-business model.

Litigation by Copyright Holders

Although the pre-peer-to-peer-network (henceforth P2P) literature on reducing software piracy suggests that legal sanctions are more effective than protection schemes, the former typically fail to slow piracy meaningfully (Gopal and Sanders, 1997; Huang, 2005). In 2003-2004, copyright infringement lawsuits brought by leading music companies yielded roughly 500 settlements in the U.S. and 88 in Europe, with a mean U.S. settlement of \$3687.00 (Clark, 2004). As lawsuits were brought only against the most prolific offenders—those sharing more than 10,000 files—such settlements equated to less than \$0.36 per song. Most legal online music services charge far more per song. From an expected value perspective, such settlements are an economic bargain even to the few people who are detected POPing.

If publicized lawsuits, like the ones filed during the last several years by the *Recording Industry Association of America* (RIAA), deter POPing, then it could be addressed judicially. However, POPing traffic on P2P networks is now increasing (d'Astous, Colbert, and Montpetit, 2005), perhaps due to new evasive technologies. For example, pairing Phoenix Labs' free PeerGuardian software with Bluetack Internet Security Solutions' free Blocklist Manager software allows P2P users to block connections to all IP addresses belonging to the RIAA, Motion Picture Association of America, police forces, and the FBI. Because users of PeerGuardian and Blocklist Manager do not connect to websites meant to detect their activities, their POPing is legally risk free.

People who engage in POPing are adept at shifting from more monitored to less monitored networks. With more than 60 P2P networks (Huang, 2005) and minimal switching costs, such shifting is easy. News reports lauding the drop in POPing induced by copyright infringement lawsuits were mistaken because much P2P file-sharing activity became undetected as it migrated from more monitored to less monitored networks (Ahrens, 2005). Therefore, shuttering file-sharing networks like Napster merely shifted POPing to alternative networks and provoked further resistance to obtaining music legally, contrary to RIAA intentions.

Copy Protection Schemes

Copy protection schemes are as ineffective as legal sanctions. Tech-savvy consumers who understand P2P networks, firewalls, anti-virus software, file transfer protocols, copy protection schemes, and the like, eventually can subvert any barrier to POPing—such as encryption, password/ID protection, and crippled versions. However, hacker-level expertise is unnecessary to crack and use copy-protected files, as the mere ability to search websites that post cracks for such files is sufficient.

For example, Microsoft's Windows Genuine Advantage—a system designed to allow only legally installed copies of the Windows OS to receive update patches—supposedly was *hack proof*, yet valid instructions for hacking it appeared on mainstream message boards only days after its introduction (Sanders, 2005). Furthermore, cracks and descriptions of low-tech workarounds, such as depressing the shift key or using marker pens or sticky tape on the CD itself (Borland, 2003), could be found easily via a basic Google search.

Because the product of a single proficient hacker's efforts can diffuse quickly via a P2P network, a cracked version of digitalized content can be shared easily by millions of people. Only an unhackable and customer-acceptable (i.e., user friendly) copy-protection scheme—which has been impossible to devise to date—could hinder POPing.

Pricing Schemes

A 1 percent increase in music CD prices is associated with a 1.4 percent decrease in music CD purchases; as a result, the 20 percent increase in CD prices since 1999 has driven music consumers to alternatives, such as illegally obtained music mp3s, video game CDs/DVDs, and movie DVDs (Stevens and Sessions, 2005). In addition, downward price elasticity boosts sales of these alternatives; for example, a 1 percent decline in movie DVD prices is associated with a 2.08 percent decline in music CD demand (Stevens and Sessions, 2005).

Many consumers believe that POPing is justified by the past pricing abuses of large and impersonal companies (Donaldson-Evans, 2004). Because the major recording companies lost their class action lawsuit for price fixing, it is unsurprising that many consumers believe these companies cheated them for years and that POPing affords further remuneration beyond the \$13 each plaintiff in the class action lawsuit received in settlement.

Seemingly, price elasticity for digitalized intellectual property is high. As a result, current pricing schemes—per song or monthly fee for website access—are unlikely to reduce POPing because pricing-related attitudes are unrelated to it. Furthermore, POPing has a positive externality for music consumers because it helps drive down CD prices (Freestone and Mitchell, 2004). The music industry may tout the 30 million legal downloads since the inception of pay-per-song online services, but this number pales relative to the 250 million songs shared illegally each month (Bowie, 2005).

Educating Consumers about the Victims of POPing

POPing might have been curbed by educating consumers that it and shoplifting are equivalent, i.e., that theft is theft regardless of venue. However, education efforts of this ilk have failed because they focused on damage to artists and faceless corporations (d'Astous, Colbert

and Montpetit, 2005). Arguments about the harm POPing was causing to Microsoft, Metallica, Bill Gates, and George Lucas fell on deaf consumer ears.

Lately, the movie industry has tried a variation of this approach: to portray *everyday victims*, such as sales clerks and theatre ushers, in anti-POPing ads. Showing harm to people *just like them* could counter consumers' beliefs that POPing is a victimless crime and boost consumers' empathy for victims. However, this variation is unlikely to succeed because it rests on consumers overcoming two issues: (1) their deep-seated resentment towards historical pricing strategies in the media and software industries, and (2) their belief that POPing is pervasive. If everyone else gets something for free, then only a sucker pays for it. Although educational campaigns highlighting *everyday victims* may temper resentment towards the media and software industries, it will be hard to convince people that POPing is uncommon when the vast majority of their peers engage in it.

Adopting an Sponsorship-Only e-Business Model

Perhaps media and software companies should only make accessible, rather than sell, digitalizable works. This switch should enhance the available assortment of such works. For example, the *big five* record labels—Sony Music Entertainment, Universal Music Group, EMI Group, Warner Brothers Music, and BMG Entertainment—released only 7,000 albums in 2003. In contrast, Garageband.com is a website that allows consumers to hear music recorded by 50,000 independent bands and to influence which of those bands becomes popular.

An *affinitive merchandise plus sponsor ad* e-business model could have companies (1) offer digitalized content to consumers at little or no charge, (2) sell affinitive merchandise and services to consumers at full price, and (3) sell contextually triggered ad exposures to sponsors at quantity-discounted prices. For example, Warner Brothers Music could link free downloads of Metallica songs to ads for Metallica concerts, T-shirts, and posters. Similarly, websites for software companies could link freeware/shareware to offers for advanced technical support, customized versions, and brand-related merchandise (e.g., Firefox mouse pads, Adobe coffee mugs). A mix of digitalized content and sponsored, search-term-triggered contextual ads—à la Google's successful ad-based model—works best when viewer traffic is high or highly specialized (Rappa, 2006). Clearly, the latter pertains for consumers of artist-specific works. Furthermore, as a website's popularity grows, the opportunity arises for that site to morph into a broader and more profitable web portal that could earn additional income from increased links to sponsors' contextualized ads.

Unlike the current business models of media and software companies, this e-business model is unthreatened by moral rationalizations for POPing or the belief that everyone is POPing. Given their history with the Internet, musicians and other creators of digitalizable works should respond favorably to this e-business model. Despite today's pervasive POPing, most musicians believe the Internet has helped them to make more money from their work; only 3 percent believe the contrary (*PEW Internet and American Life Project*, 2004).

Intellectual property creators and companies could establish revenue-sharing schemes that work analogously to European and Canadian tax levies on blank recording media. By re-distributing web-based revenues in proportion to each work's popularity—number of downloads per month could serve as a proxy—intellectual property creators would receive additional deserved income. Such schemes should satisfy the needs of consumers as well as media and software companies.

However, one important caveat is worth noting: the impact on revenues of switching to a sponsorship-only e-business model is unknown. To make an informed decision about if, when, and how to switch, all stakeholders in media and software companies—including shareholders—require accurate forecasts of revenue streams under alternative macro/microeconomic scenarios and content delivery models. Clearly, scholarly and practitioner efforts to produce such forecasts would be of major value to consumers, companies, and public policy makers

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Note: Title graphic by Carole E. Scott

