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Assessing Alternative Compensation Models for Online Content Consumption

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ASSESSING ALTERNATIVE COMPENSATION MODELS FOR ONLINE CONTENT CONSUMPTION

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INTRODUCTION

The quick emergence of the Internet from a network that facilitates limited communications among academics and governmental agencies to a worldwide and extremely popular medium has changed and challenged the worlds of law and business in a variety of ways. Yet the content industry, especially its segments which involve the production and distribution of popular music, have perhaps been the most affected by the Internet's ability to allow for global, efficient, and cheap communications and data exchange. Over recent years, the leaders of the music industry have witnessed their existing business models come under attack. Rather than purchasing or licensing music from them directly, Internet users of all ages are accessing songs and other forms of content of their choosing online, without the consent or control of those holding the legal rights to such content ("copyright holders")[1] and without compensating them for such use.[2] In doing so, online users rely upon techno-

1. Throughout the analysis, I will refer to such entities as the "copyright holders," without addressing the specific intricacies of copyright law that set out the rights afforded to those that compose, author, and record the specific works. In the context of this paper, these distinctions are not crucial.

2. For recent information as to the extent of the file swapping phenomenon, see David W. Opderbeck, *Peer-to-Peer Networks, Technological Evolution, and Intellectual Property Reverse Private Attorney General Litigation*, 20 BERKELEY TECH. L.J. 1685, 1696-99 (2005); *see also* Neil Netanel, *Impose a Noncommercial Use Levy to Allow Free Peer-to-Peer File Sharing*, 17 HARV. J.L. & TECH. 1, 2-4 (2003).

logical innovations that provide access to vast amounts of content, and the quick transfer of data among users. Yet concerns regarding the strength and prospect of current business models are no longer limited to the music industry alone. Movie studios and other entities involved in the production of content[3] are quickly acknowledging the challenges they face in the twenty-first century given the ease of digital copying and the extent of content available online, and are constantly contemplating proper strategies to respond.

The troubles of the content industry, however, are not merely concerning the existence of destructive technological applications and communication networks. The technological innovations mentioned have caused substantial changes in the behavioral patterns of a (mostly) law-abiding segment of society. Citizens (especially, but not only, youngsters) are constantly and in many instances knowingly violating copyright law and infringing upon the rights of the copyright holders.[4] In other words, within certain social circles, social norms are now quite different than the actual copyright laws on the books.[5]

In view of these developments, the content industry's leaders are moving swiftly to secure and even improve their position in the online content markets. In many instances, they are making use of their influence and capital to guarantee the assistance of regulators in these efforts. As part of these efforts, they have suggested and begun to implement new models of content distribution that are premised upon secured networks and encrypted content.[6] With these measures in place, copyright holders should be able to capitalize on the Internet's broad communications and worldwide access, while assuring that they will be compensated for all instances in which their content is used. These models, usually referred to as digital rights management ("DRM") schemes, are facing a broad opposition of scholars, activists, and concerned citizens. This broad "coalition of dissent" forcefully argues that DRM schemes will impede on the public's rights to fair use, privacy and other fundamental rights.[7] Others argue in addition that there is no evidence that the content industry's existing business models are compromised and that the content providers' income is reduced in view of unauthorized online

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3. Examples include eBooks, software and games; however, the analysis set out in this article will focus exclusively on music and video content.

4. For interesting insights as to the rationales for such file-sharing, see Gali Einav, *College Students: The Rationale for P2P Video File Sharing*, 2004 CITI Working Papers (on file with author); *see also* DAVID CALLAHAN, THE CHEATING CULTURE 185-87 (2004). For a discussion of file sharing and social norms, see Opderbeck, *supra* note 2, at 1700-01.

5. *See* WILLIAM W. FISHER, PROMISES TO KEEP 243-44 (2004); *see also* Tim Wu, *When Code Isn't Law*, 89 VA. L. REV. 679, 722-25 (2003).

6. *See* PAUL GOLDSTEIN, COPYRIGHT'S HIGHWAY 170 (2003) (discussing the early origins of this idea).

7. *See* discussion *infra* Part II.B.

content access.[8] The DRM schemes are also criticized by other powerful industry players, such as telecommunication providers and hardware manufacturers,[9] whose interests are not always aligned (and at times are even opposed) with those of the content industry.[10]

Beyond the overall attack on DRM, several scholars have been arguing for the complete or partial abolishment of copyright protection in the online context. Such protection, they argue, is no longer required as copyright holders can easily compensate for the income stream that the unauthorized online access to content is diminishing through the other advantages the online environment provides.[11] Artists could use the Internet to promote their offline products (such as live performances, CDs and other forms of merchandise) or even rely on the users' benevolence to compensate them for the enjoyment of their works (in the same manner the local artist is tipped at a street corner).[12] Clearly such arguments are not embraced by the content industry, and as such are not likely to be implemented on a broad scheme.

Within this spectrum of intellectual debate (which has many practical implications) concerning the future of copyright protection in the online realm, between strong online copyright protection and copyright abandonment, several new ideas and models have been recently discussed; ideas that offer sufficient incentives to generate content production in the digital era by well-compensated artists, while protecting the social interests involved. These are Alternative Compensation Schemes ("ACS") for the use of content online that are specially tailored to meet the specific challenges of the online world. These models, set forth by prominent legal scholars such as Terry Fisher[13] and Neil Netanel,[14] which rely in part on earlier scholarship ("The ACS scholars"),[15] provide for indirect compensation to the copyright holders of various works, which would be distributed by a governmental entity. The extent of the

8. *See generally* CALLAHAN, *supra* note 4.

9. *See generally* FISHER, *supra* note 5, at 242.

10. Interesting problems arise when a media conglomerate (such as Sony or GE) includes both a manufacturing and content division. Here, while one division might suffer from the ongoing file swapping, the other benefits by growth in the sales of relevant hardware. Here the conglomerate struggles in formulating its overall strategy in addressing these matters, and at times takes contradicting positions.

11. *See* Netanel, *supra* note 2, at 74-76.

12. Netanel refers to these forms of solutions as "digital abandon." *See* Netanel, *supra* note 2, at 74-76. This dynamic is at times referred to as the "Street Performer Protocol." *See* John Kelsey & Bruce Schneier, *The Street Performer Protocol and Digital Copyrights*, FIRST MONDAY (1999), http://www.firstmonday.dk/issues/issue4_6/kelsey/#k4.

13. *See generally* FISHER, *supra* note 5.

14. *See generally* Netanel, *supra* note 2.

15. *See, e.g.*, Raymond Shih Ray Ku, *The Creative Destruction of Copyright: Napster and the New Economics of Digital Technology*, 69 U. CHI. L. REV. 263, 263-70 (2002); Glynn S. Lunney, Jr., *The Death of Copyright: Digital Technology, Private Copying, and the Digital Millennium Copyright Act*, 87 VA. L. REV. 813, 813 (2001). For a recent summary of these models, see Jessica Litman, *Sharing and Stealing*, 27 HASTINGS COMM. & ENT. L.J. 1, 34-35 (2004).

copyright holders' compensation would depend on the relative uses of their content online, and would be distributed from a designated fund. The fund would be financed through levies set on specific services and equipment that are related to the online experience. As I will illustrate below, the recent scholarship addressing these alternative models for compensation in the Internet context is not engaged in merely floating abstract notions and legal concepts. The ACS Scholars go to great lengths to draw out, in extensive detail, the ways in which these schemes could and should be implemented.

According to the ACS scholars, implementing these models will meet several important objectives. These models will allow society to maintain a vibrant market of content production and online distribution, while changing today's reality in which millions of citizens are rendered infringers (and at times outlaws) by copyright laws.[16] In addition, the shift to the ACS model will hopefully mitigate several inefficiencies in today's business and legal frameworks: the existence of costly and extensive litigation that is required for resolving copyright disputes and sharpening the meaning of legal rules and terms;[17] the imbalance of power between the large media conglomerates and artists that have yet to transition into stars; and the fact that only a small portion of all artists are able to make a decent living off their talents.[18] Yet perhaps above all, the ACS scholars' objective in constructing these models is to allow for the enrichment of the public sphere with a great variety of easily accessible content for both the users' consumption and modification.[19] By doing so, they aim to promote important ideals related to free speech and democracy.

In this article I closely examine and constructively critique the ACS models and scholarship. In doing so, I part from the already growing base of literature addressing this issue that has been quick to reject ACS for a variety of reasons, without taking a close look at its internal dynamics.[20] I, however, choose to focus on the model's inner workings—its "nuts and bolts" that are the mechanisms aimed at transforming this model from abstract policy ideas into actual regulations and business practices. In doing so, I examine whether the model could be implemented as described and the possible outcomes of such implementation. This analysis leads to concrete suggestions for several changes in the

16. *See* FISHER, *supra* note 5 at 243.

17. *Id.* at 245-46.

18. *Id.*

19. *Id.* at 245.

20. *See, e.g.*, Mark A. Lemley & R. Anthony Reese, *Reducing Digital Copyright Infringement Without Restricting Innovation*, 56 STAN. L. REV. 1345, 1408-10 (2004); Rebecca Tushnet, *Copy This Essay: How Fair Use Doctrine Harms Free Speech and How Copying Serves It*, 114 YALE L.J. 535, 589-90 (2004); Peter K. Yu, *P2P and the Future of Private Copying*, 76 U. COLO. L. REV. 653, 708-12 (2005).

model to provide for its smooth, efficient, and fair implementation. In addition, it offers several points for future consideration regarding the balancing of benefits the scheme will bring against the unintended consequences of its implementation. In this article, therefore, I hope to lead the way to future scholarship and technological innovation that will respond to the challenges this paper draws out and addresses.

To thoroughly address this issue, the article is structured as follows: In Part I, I draw out the legal, business, and technological background leading to the current reality in which the ACS schemes might prove necessary. In view of the fact that a great deal of legal and other scholarship (including, of course, that of the ACS scholars) has addressed this background in length, I chose to address these facts in brief, while adding references to the most recent legal, technological, and business changes occurring in the online realm. In Part II, I address the DRM solutions promoted by the content industry, the legal and policy rationales that stand behind this model, as well as their shortcomings in terms of economic feasibility and technological sustainability. The importance of this part of the analysis is to establish a baseline for comparison which will serve us in the latter parts of this article. Only after understanding the DRM scheme can we later compare it to those offered by the ACS scholars while trying to establish which will lead to better results for artists, content owners, users, and society in general. In Part III, I address in further detail the ACS models, while focusing on the issues drawn out by Professor Fisher in his recent book, *Promises to Keep*,[21] and Professor Netanel in a recent article published with the Harvard Journal of Law and Technology.[22] In Part IV, I offer a constructive critique of the alternative compensation models, while addressing difficulties in their implementation and problematic results that might arise from their adoption.

Before going further, I must introduce several underlying assumptions that are needed to explain the somewhat limited scope of the discussion and analysis at hand. While the arguments presented throughout this article at times strongly oppose those promoted by the ACS scholars, I accept the notion that the implementation of these schemes is politically and legally feasible. Furthermore, I accept most of the legal and economic descriptions and analyses the ACS scholars provide as to the structure of today's content markets. In addition, I agree that unless the mentioned changes are made, courts and legislators will maintain today's legal status quo that embraces the rights of the copyright holders. For instance, I concede the fact that courts addressing today's copyright law in the near future will continue to find online file sharing as an infringement of copyright and will continue to allow the "breakdown" on such

21. *See generally* FISHER, *supra* note 5.

22. *See generally* Netanel, *supra* note 2.

infringers, which include many users that are usually law-abiding citizens. Within this framework and while applying these assumptions, I engage in an analysis that hopefully will promote this strand of scholarship that offers an interesting answer to a much discussed question.

I. THE CONTENT MARKET IN THE TWENTY-FIRST CENTURY: A PRIMER ON WHERE WE ARE TODAY

To understand the ACS scholarship, we must first acknowledge the motivations and concerns of the ACS scholars, as well as the technological, economic, and legal foundations of their analysis. We must do so to later examine how and whether these are met in the blueprint they provide for the ACS. Generally, from the perspective of the ACS scholars (which I share), today's innovations create an *opportunity* made possible by technology, and a *crossroads* for regulators. To meet important social objectives, the ACS scholars have a strong preference towards one path. However, in view of regulatory paths taken in the past and the balance of power at the present, they believe that in the future, unfortunately, another path will be taken. Thus, they draw out an ambitious plan that would allow for the maximization of the social benefits of technology, while allowing content creators to maintain some of the rights and benefits they have today.[23] As we are quietly approaching a crucial crossroads at which regulatory decisions concerning the future of copyright policy must be made and the other dominant options currently debated are in their opinion extremely unattractive, the authors strongly promote ACS, with its many shortcomings and compromises they are the first to admit. I devote the following paragraphs to draw out the opportunity, the crossroads, and the pressures at this juncture to better understand the background for the emergence of the ACS models and the urgency in addressing the model at this time.

A. Opportunity

Before addressing the opportunities made possible by technology, a few words about the technology itself. When referring to "technology," commentators in this field usually mean the software, hardware, knowledge, and communications infrastructure made available to a growing portion of the American public, and to almost every college student[24]: a connection (broadband, in most cases) to the Internet, a computer, or

23. *See* FISHER, *supra* note 5, at 6-10; Netanel, *supra* note 2, at 45-46.

24. This part of the discussion might call for an analysis of the "digital divide;" the fact that not all segments of the population have equal access to these technological riches and opportunities. I decide not to address this issue within this analysis, both because I do not wish to broaden the scope of this article and analysis, and because I believe this is a matter that will be resolved over time—or at least severely mitigated. For interesting data and perspective on this matter, see Amey Stone, *The Digital Divide That Wasn't,* BUSINESS WEEK ONLINE, Aug. 19, 2003, http://www.businessweek.com/technology/content/aug2003/tc20030819_4285_tc126.htm?chan=search.

other devices that allow for data storage and content use, and software that allows for quickly searching and downloading such content from the Internet, as well as transforming various forms of content available off-line into formats that could be easily subjected to the online processes mentioned.[25]

While many associate technology which promotes "digital copying" with threats to content holders or even the "death of copyright,"[26] it is essential to point out that the technology itself creates many opportunities for large media firms, copyright holders, and the general public. The large media firms, at first, can make use of such technologies to cut the costs of packaging, manufacturing, and marketing. Rather than print and burn CDs, ship them across the country, and incur other costs related to the physical manifestation of digital content, such firms can provide their content directly to consumers online.[27] The dollars saved from these improvements will not only find their way to the firms' shareholders and executives, but also to consumers who would benefit from reduced prices for media content and artists that are funded by these media firms. For users, the new media technologies present additional benefits, as the new technologies create an extensive and varied media market in which users could easily find whatever form of content they might desire, and at all times. Furthermore, the digital medium transforms users from passive content recipients to active speakers who "rip, tear and burn"[28] text, music, and video on their way to creating new and improved works, while "glomming on"[29] their own statements to existing works using the wonders of modern technology. The importance of this benefit is not confined to the commercial context. As commentators point out, the existence of the technologies mentioned and the opportunities they create enrich the public domain with new forms of expression from many new outputs which address an array of topics.[30] This outcome is extremely important to our social fabric and can promote a democratic culture with a variety of speakers and ideas available to all.[31]

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25. See FISHER, *supra* note 5, at 13, for an additional description of this technological background.

26. For a brief demonstration of articles that carry this title, see for example Eben Moglen, *Anarchism Triumphant: Free Software and the Death of Copyright*, FIRST MONDAY (1999), http://emoglen.law.columbia.edu/my_pubs/anarchism.html; *see also* Lunney, *supra* note 15, at 813.

27. *See* FISHER, *supra* note 5, at 19.

28. This famous Apple slogan has become a term now commonly quoted by scholars aiming to demonstrate the potentials of the new technology. *See, e.g.*, Netanel, *supra* note 2, at 5-6.

29. This was a term coined by Jack Balkin to illustrate today's ability to make use of content to generate new ideas. *See* Jack M. Balkin, *Digital Speech and Democratic Culture: A Theory of Freedom of Expression for the Information Society*, 79 N.Y.U. L. REV. 1, 9-12 (2004).

30. Fisher refers to these benefits as "Semiotic Democracy." *See* FISHER, *supra* note 5, at 28-31.

31. See Balkin, *supra* note 29, at 1-2, for an additional discussion regarding this issue.

B. Threats and Crossroads

The flip side of the various benefits mentioned above, is (as many content providers are acknowledging) that the new technologies and the dynamics they make possible generate a substantial threat to the content providers' existing business models. The online exchange and distribution of content takes place at a dear price to copyright holders (or so they argue) who strongly object to these practices. They object because of the lost revenue such sharing causes and the loss of control over the uses of their content.

It should be noted that addressing the threat to content providers as a whole is somewhat misleading, as every segment within the content market is affected differently by the emergence of the Internet and digital copying. Within the music industry, it is argued that illegal file swapping causes a dip in the sales of CDs, as users will not purchase content they can now get for free online. However, there is only limited empirical evidence to support this intuitive assertion.[32] Within the various video markets, on the other hand, identifying the threat to existing business plans is somewhat trickier. Motion pictures, for instance, present an interesting test case. For many years this medium was considered an "experience good,"[33] "consumed" as part of a larger experience that involved going to the cinema with others.[34] Therefore, merely sharing such content online should not seriously affect the revenue stream from the box office. However, over the recent decade, Hollywood has discovered an additional stream of revenue in DVD sales that are proving to be extremely lucrative.[35] Therefore, it is argued that file-sharing compromises this revenue stream as well, by causing a dip in such sales.[36] File swapping might also affect additional revenue streams, such as movie rentals and the fees for broadcasting these films on various television channels at a later time.

Television shows present an even more complicated issue. Generally, in this medium, revenue is generated through advertising and financed by those paying for advertisements slotted throughout the programs. Thus, sharing such content online after "stripping" it from these

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32. *See supra* note 8; FISHER, *supra* note 5, at 31-34; Stan J. Liebowitz, *Pitfalls in Measuring the Impact of File-sharing on the Sound Recording Market*, 51 CESIFO ECON. STUDIES 439, 440 (2005), *available at* http://www.utdallas.edu/~liebowit/intprop/pitfalls.pdf.

33. For more on this term in this context, see YOCHAI BENKLER, THE WEALTH OF NETWORKS 427 (2006).

34. Socializing with friends, eating popcorn, etc.

35. *See DVD Sales Reshaping Film Industry*, CBSNEWS.COM, http://www.cbsnews.com/stories/2003/10/20/eveningnews/main579020.shtml (last visited Oct. 20, 2006).

36. Note, however, that it is more difficult to download entire motion pictures, and is less appealing to view them on computer screens. That is why it is assumed that the damage to the motion picture is less severe than in the music context. For more on this issue, see FISHER, *supra* note 5, at 5.

advertisements, adversely affects this business model as well. Other TV-based business models generate revenues directly from viewers in the form of subscription fees.[37] Here file sharing online directly undermines the subscription business model, while allowing non-subscribers to enjoy content that was solely intended for subscribers. Yet it should be noted that both TV-based business models are currently in flux as viewers make use of TiVO and other PVRs to skip advertisements during viewing shows and even send these shows to others.[38] In view of the above, television stations are now reconsidering and revising their business models. Some are doing so by providing content online for free or at low prices through online vending sites.

Though the differences among the various media regarding the ways in which they are affected by the online realm are an intriguing topic, I will leave the analysis of such differences for future discussions. For the purposes of this article, I will address the content industry as a whole (unless indicated otherwise) while referring to the basic argument that online unauthorized file sharing adversely affects the business model and revenue stream of content providers.

The brief description above clearly points out that the threats and benefits of the Internet age lead to crucial crossroads, at which policy makers and courts must confront the fears of the content providers, and draw out rules that address the future uses of digital content online. In addition to the problems mentioned above, today's status quo presents a serious educational and legal challenge as well: many law abiding citizens are infringing on the copyrights of others and at times are subject to criminal punishment. Furthermore, in many cases the acts constituting infringement are carried out intentionally and with full understanding of their legal ramifications.[39] This is indeed an unwanted turn of events and might have serious effects on the ethical behavior of individuals in other social contexts.[40] The status quo is also allowing content companies to selectively sue users for extensive damages. These steps are frowned upon by many even within the content industry and is far from contributing to these firms' goodwill.[41]

At this juncture, the content industry is strongly pushing for a protective legal scheme that would allow them to maximize control over their content—schemes that promote the use of DRM systems. I address the DRM option, its advantages, shortcomings, and the reasons it is approached with disdain by many legal scholars and public activists, in Part

37. For example, premium channels such as HBO and Showtime generate such revenues.

38. See FISHER, *supra* note 5, at 131.

39. *See generally* CALLAHAN, *supra* note 4, at 185-88.

40. *Id.*

41. *See* Netanel, *supra* note 2, at 3; FISHER, *supra* note 5, at 126-27.

II below. However, the urgency in applying a new policy paradigm to the use of content online is also shared by those opposed to DRM, who understand as well that society is reaching a crucial crossroad concerning the regulation of online content consumption.[42]

After establishing the opportunities and the problematic crossroads we now face, I move on to address the options at hand or the paths to be taken. I start with the DRM model, move on to additional models contemplated today, and finally reach the ACS. In doing so, I describe how business and policy makers faced and dealt with similar challenges at junctures in the past, how those were resolved, and what that might tell us of the paths most likely to be taken in the future.

II. EXAMINING THE COMPETITION

In this part, I address several models set forth to suggest a path of action at the crucial crossroads we are facing. I describe some ideas briefly, while emphasizing DRM (which is the main contender at this time), and address several elements, advantages, and shortcomings of this model that will prove essential for the later segments of our analysis. Readers who are well versed in the intricacies of the recent "copyright wars" and the models set forth to resolve the problems at hand should therefore feel free to skip ahead to Part III (or Part IV if well versed in the dynamics and mechanisms of the ACS models).

A. The Foundations and Advantages of DRM

The DRM business model is premised on technological, business, and legal assumptions and requirements. I now address them in turn, while mentioning the potential benefits this model has in store.

1. Business Model

In an ideal setting, the DRM system will allow large content firms, or even individual artists, to set up a portal or website in which they would provide users with their content online for a price to be paid prior to such usage. These systems will allow consumers to select from a wide range of possible products and transactions. For instance, users could choose to pay for one or multiple uses, for uses at one outlet or at several possible locations and through various applications. In addition, users could choose to purchase the right to pass such content on to others or to modify it if they choose to do so.[43] Needless to say that without paying for the service, access would not only be prohibited and unauthorized, but almost impossible (at least for the lay computer user), as the system would be secured and encrypted. Ideally, future DRM tools will facilitate online stores that offer all forms of content, be it audio, video, or any

42. *See generally* FISHER, *supra* note 5.

43. *See* GOLDSTEIN, *supra* note 6, at 201.

reading material at a low price and a guaranteed high quality.[44] In this way, many argue, the DRM model will fulfill the promise of today's technologies and bring us to an outcome that is welcomed by both artists and consumers. Limited versions of these DRM models already exist—for instance Apple's online music store iTunes, that relies on trusted systems installed in the music player on the user's computer, and on that of the Apple's iPod (both of which comply with Apple's overall protocol).[45]

2. Technology

The business model drawn out above calls for the creation of a challenging technological infrastructure; it requires the development of software and hardware that would work efficiently, seamlessly, and with minimal malfunctions (which lead to consumer frustration and loss of revenue to the content provider). Therefore, the system would require a "trusted systems" infrastructure, which must efficiently attend to the management of the many forms of content available. When doing so, it must correctly link between the relevant content and the individuals who were provided with authorization to use it, while limiting such authorized use to the exact usage for which the consumer has paid. In addition, it must include a reliable payment system that could accurately and securely account for the purchases of content use. Finally, the DRM system must be "secured" to ensure that users cannot exceed the authorized use they purchased. Meeting this final challenging objective includes difficult tasks: assuring users cannot "hack" into the DRM systems and access content without authorization, assuring users cannot make copies of content in which they were granted limited access, or pass such content on to other individuals or applications when denied the right to do so. For meeting this objective, DRM engineers apply several forms of encryption and rely on changes and modifications to today's existing hardware and software. I will address specific technological challenges while discussing several shortcomings of this system below.

3. Law & Policy

While the implementation of DRM seems to amount to a technological and business matter, it raises difficult legal and policy questions on several conceptual layers. First, on the most basic level, there are the system's legal "nuts and bolts." Although the security of the system would be guarded by technology, it must be bolstered by specific legal protection that would allow content holders to sanction (with help from the government and the criminal system) those attempting to tamper with the system or the business model as a whole. Such legal rules will prohibit tampering with the DRM infrastructure and construction of pro-

44. *See* FISHER, *supra* note 5, at 155.

45. *Id.* at 156. For more on this, visit www.itunes.com.

grams that can do so. In other words, these rules will resemble the anti-circumvention provisions included in the DMCA.[46] Also, for the DRM scheme to work, an additional set of rules must require hardware manufacturers to comply with specific standards that would facilitate the setting of DRM in place. Such standards are needed to assure that no applications used for the consumption of content would allow for the "leaking" of such content outside the trusted environment.[47] Finally, those advocating the implementation of DRM at times argue for stricter prohibitions against unauthorized users themselves and even for "self help" remedies to be placed in the hand of the copyright holders, which resemble those existing in the "general" realm of property law[48] (such as allowing content providers to aggressively attack the P2P networks and even install viruses within the computers of "heavy" file swappers).[49]

On a more abstract level, the endorsement of DRM systems represents adherence to a specific jurisprudential perspective as to the role and strength of the protection amounted to intellectual property in general and copyright specifically. According to Fisher, DRM models (as well as other models that provide extensive protection to the copyright holder) are premised on a simple, yet dangerous, policy assertion: that copyright in musical and video works must be protected almost to the same extent as other "strong" property rights (such as rights in real property), and therefore include (among others) the rights to exclude all unauthorized actions and take aggressive steps to assert these property rights (which include the self help measures mentioned above).[50]

However, as many point out, this policy assertion is problematic. Musical and video content has indeed been afforded property protection to promote the continuing creation of new content.[51] Yet the accepted theory behind this legal rule is that absent such protection, individuals would "free ride" and use the newly created content extensively, without the consent or compensation of the author (a phenomenon broadly associated with most "public goods"). This would lead content creators to apply their talents elsewhere, where they could fully reap the fruits of their hardship and labor,[52] and thus would lead to a sharp decline in the

46. For more on this issue, see Lunney, *supra* note 15, at 823-45; FISHER, *supra* note 5, at 87-98.

47. Recently, the FCC attempted to put in place regulation requiring hardware manufactures to comply with specific standards that would allow for the tracking of content use. This attempt, referred to as the "Broadcast Flag," has been struck down by courts that found the FCC to exceed its authority by setting these regulations in place. For more on this issue, see generally Susan P. Crawford, *The Biology of the Broadcast Flag*, 25 HASTINGS COMM. & ENT. L. J. 603 (2003).

48. *See* FISHER, *supra* note 5, at 150.

49. *Id.*; *see also* Netanel, *supra* note 2, at 18-19.

50. *See* FISHER, *supra* note 5, at 143.

51. *Id.* at 199-203.

52. *See* Litman, *supra* note 15, at 30 (noting somewhat cynically that with lower levels of compensation, artists might opt to become investment bankers).

quality and quantity of new content in the public sphere.[53] This rationale is not identical to those upon which other property rights are premised. Indeed, copyright differs from other "classic" property rights, such as real property or chattel, in several crucial ways. First, it is non-rivalrous; it allows users to make use of such "property" simultaneously without one individual's use degrading the ability of others to make use as well. Furthermore, in the digital age, the marginal cost for making perfect copies is close to zero. Therefore, the intangible goods protected by copyright have always been provided with a narrower realm of protection than holders of other forms of property.[54] For instance, the copyright holders' right to exclude others is limited by the right of others to engage in the "fair use" of such rights (even without the right holders' consent). In addition, copyright is limited by scope (mere ideas are not protected) and by time.

The tension between content firms' perspective, that strive to command full excludability and other rights usually paired with "property," and critics of this position that stress differences between the underlying rationales for legal copyright protection (which includes severe limitations on this property right) and those of other property rights lead to several critiques of DRM we will examine below.

B. DRM: Disadvantages and Shortcomings

Though the DRM business model has several appealing traits and is embraced by many content holders, it has been subject to a great deal of scrutiny and criticism.[55] These critiques have led the ACS scholars to advocate their somewhat radical solutions as an alternative so to avoid the problematic consequences of DRM. I will briefly address these critiques, while referring to the technological, business, and legal assumptions and requirements mentioned above.

1. Technology & Business

From the technological perspective, many technologists argue that DRM systems cannot and will not meet the ambitious objectives drawn out above (a secure and sustainable trusted system). This is because it is not feasible to implement such systems, as the security challenges DRM presents are too great, and the risks and vulnerabilities are too varied.[56] Here, technologists commonly refer to the experience the industry has had with limited DRM schemes, such as the DVD player, and the speed

53. Another rationale (that is not as salient in U.S. jurisprudence) is the protection of the "moral rights" of the author, who has a right to maintain the integrity of the work she authored, and receive credit for its use. This rationale does not dominate US copyright law and policy, and therefore is not discussed in this article. For more on this issue, see GOLDSTEIN, *supra* note 6, at 137-40.

54. *See* Netanel, *supra* note 2, at 30.

55. *See generally* FISHER, *supra* note 5.

56. *Id.*

and ease with which these schemes have been "hacked."[57] Furthermore, a successful DRM system must be flawless and would only be as strong as the weakest security system on any application connected to the network; a flaw at one point within the system would lead to a "leak" of high quality content into the illegal file-swapping networks.[58] Since the DRM system must be implemented in every application used to consume content, achieving such a high and reliable standard seems somewhat far-fetched.

However, these arguments have not gone without a response. The common counter argument states that although the system cannot be entirely secure against various breaches, the existence of the security measures and the legal sanctions for their breach would sufficiently deter most attempts to hack and infringe. As a sufficient number of consumers would make exclusive use of the legal DRM applications to access content, this business model would still prove profitable and successful.[59]

Additional critiques of DRM from the technological perspective argue that the implementation of DRM systems in all media players would cripple these applications (both in terms of hardware and software), slowing them down and blocking the use of the full potential of the technology. Others argue that setting a DRM standard would adversely affect competition in various hardware and software markets and allow those setting the standards to box out competitors.[60] As it is quite difficult to assess these arguments at this point of time, I will leave them for future inquiries.[61]

2. Law & Policy

DRM has come under heavy fire from legal scholars and social advocates concerning a variety of topics: the fact that these systems (and the legal infrastructure they require) can potentially impinge on the public's right to engage in fair use of copyrighted materials, lead to price discrimination, change the Internet's open architectural structure, and

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57. For a discussion of the vulnerabilities of the SDMI technology (especially with regard to the work of Professor Felten in proving the systems weakness), see GOLDSTEIN, *supra* note 6, at 177-81.

58. Note that the existence of content of high quality is a somewhat rare commodity within these networks, as many files are corrupted or partial. This is why such leaks will be extremely harmful as they guarantee access to quality content.

59. *See* FISHER, *supra* note 5, at 156-58.

60. Regarding the anticompetitive elements of DRM in the way it could stall competitors, see Timothy B. Lee, *Circumventing Competition: The Perverse Consequences of the Digital Millennium Copyright Act*, March 21, 2006, http://www.cato.org/pubs/pas/pa564.pdf.

61. For a most recent analysis of DRM and its vulnerabilities (especially in terms of its crippling effects on the systems it uses), see J. Alex Halderman & Edward W. Felten, *Lessons from the Sony CD DRM Episode*, CENTER FOR INFORMATION TECHNOLOGY POLICY, DEPARTMENT OF COMPUTER SCIENCE PRINCETON UNIVERSITY (2006), http://itpolicy.princeton.edu/pub/sonydrm-ext.pdf.

intrude on the privacy of individuals. I briefly address these arguments, in turn.

a. Fair Use and Means of Self Expression

The DRM models allow media firms to control the exact use of the content they include in their repertoire, while providing a variety of specific usage rights upon request. However, usage beyond the specific authorization provided to every user would be practically impossible, as it would be blocked off by the system's security measures. This reality sharply differs from the one we have today in which copyright holders usually cannot rely upon technological protection, but are confined to the protection and enforcement of the law to uphold their rights. The law, as mentioned above, does not provide for protection against unauthorized uses at all times, but includes important exceptions limiting the time and scope of copyright as well as the exception for fair use—the ability of users to access and modify content without authorization when meeting specific criteria set out by the law and established by the courts. DRM systems, therefore, can provide content owners with *de facto* rights that exceed those provided to them by law.[62]

When contemplating this potential future outcome of DRM implementation, several IP scholars assert that it is extremely problematic and therefore DRM schemes should be rejected, or at least changed.[63] They argue that copyright law, as it stands, sets a delicate equilibrium between sufficient property rights to the authors (as well as performers, etc.) and protection of the basic right and liberties of other users, creators and the broader public.[64] Specifically, they assert that the "fair use" exception provided to users promotes the distribution of ideas and allows individuals to stand on the shoulders of giants when constructing their arguments and convey their message more effectively. Thus, the fair use exception is closely tied to the fundamental concept of freedom of speech and expression. With DRM systems in place, the "fair use" exception would be effectively eliminated, thus harming important social interests of users, artists, and society in general.[65] This inability to make fair uses of digital

62. Also note that while making use of these technologies, content providers are able to control and limit many forms of personal uses, which were not considered legal, yet were outside the realm of copyright law enforcement for practical reasons. For more on this issue, see Jessica Litman, *Lawful Personal Use*, JOHN M. OLIN CENTER FOR LAW & ECONOMICS (August 2006), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=926575#PaperDownload.

63. One might argue that the mentioned limitations to the fair use exception for copyright protection are not a result of legislation, but of technological steps taken by the content holders, and therefore are irrelevant to this policy discussion. The clear response to this argument is that these new extended rights are indeed protected by other laws that prohibit users to make unauthorized uses—such as the DMCA, state and federal anti-hacking laws and additional laws and regulations that might be put in place to facilitate the DRM scheme. *See* 17 U.S.C.A. § 1201 (West 2006).

64. For a discussion of this issue, see generally Tushnet, *supra* note 20.

65. A common example in this context is of a student preparing a school project about the Holocaust. The student wishes to use a graphic excerpt from the film "Schindler's List" but cannot

content and the new technological tools that allow for creating, modifying, and editing content with great ease is a key example of opportunities missed and therefore a road that must be avoided.

At first blush, this concern regarding DRM and fair use need not lead to the overall rejection of these models, but rather calls for rules to assure that the equilibrium mentioned would be maintained even with the adoption of DRM. For instance, such rules might state that for DRM systems to benefit from the legal protections addressed above, they must incorporate a "fair use" exception within the system. They would do so by providing users with free access to content given the fulfillment of specific factors that reflect today's legal understanding of the "fair use" doctrine.

However, as Burk & Cohen explain,[66] it is almost impossible to establish *ex ante* (namely, at the time the DRM systems are structured), what would constitute a "fair use" in practice. In other words, it is extremely difficult to decide at this early juncture when and to what extent such uses should be permitted. The criteria as to what is and should be considered as "fair use" are abstract and ever-changing, and it would be nearly impossible to translate them into a set mathematical algorithm. Reality will continue to produce instances that call for recognition of the "fair use" exception but were not preconfigured into the system. Therefore, the *ex ante* setting of the "fair use" exception in "code"[67] would almost always be applied too narrowly and thus impede on the important interests of the public.[68]

DRM advocates, however, offer an additional response to the "fair use" challenge. They argue that existing loopholes in the DRM system which allow for unauthorized uses and cannot be controlled by the DRM system would in fact allow users to exercise their right to fair use. One famous loophole is the "Analog Hole," which refers to the assumed inability of DRM systems to block users from making copies of protected content through various analog means.[69] Through this "hole," users

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do so because the content is locked by DRM protection (assuming she owns a DVD copy, for instance). For more on this example, see EFF Post-Hearing Comments Requesting Exemption of DVDs from Section 1201(a) (June 2000), *available at* http://www.eff.org/IP/DMCA/20000623_eff_dmca_dvd_comments.html.

66. *See generally* Dan L. Burk & Julie E. Cohen, *Fair Use Infrastructure for Rights Management Systems*, 15 HARV. J.L. & TECH. 41 (2001).

67. For a famous explanation regarding the differences and problems in setting legal rules in digital code, see LAWRENCE LESSIG, CODE: AND OTHER LAWS OF CYBERSPACE 6, 89 (1999).

68. Burk & Cohen, *supra* note 66, at 65. Burk & Cohen go even further to suggest that should a DRM system be put in place with insufficient "fair use" embedded exceptions, individuals should be provided with a "right to hack" the systems and use the protected content without authorization, if such uses amount to "fair use" according to the legal standards. *Id.*

69. In this context, it should be noted that there might be a disparity between audio and digital content (which I have addressed almost throughout the analysis). While there are many ways to "capture" audio content using analog means without losing quality, video might pose more of a problem.

should be able to meet the important social objectives mentioned. Therefore, the objection to DRM on the basis of the inability to provide for a robust "fair use" right would be resolved. Yet the "Analog Hole" argument must face several challenges. First, DRM architects are striving to shut this "hole," or at least limit it to content of very low quality (use of which would not allow consumers to meet the "fair use" objectives mentioned).[70] Second, one could argue that for meeting the important objectives the "fair use" doctrine promotes, merely allowing for copying through the analog hole is insufficient. This is because the tools for making digital copies of analog outputs are too costly, they require a high level of sophistication, and above all they might provide the relevant content in low quality.[71] In view of the breadth of this matter, I will not resolve the question as to the extent of the analog hole and its relevance to this debate and leave that for future analysis. At this point, I merely conclude that the analog hole is far from being a "silver bullet" which will mitigate all "fair use" concerns in a DRM environment.

In summation, it is important to note that the fear of the extensive control over content, which is premised on the arguments stated above, is one of the leading reasons quoted for preferring the ACS solutions over the DRM ones.[72]

b. Price Discrimination

An additional objection to applying DRM concerns is the pricing schemes this model enables. These models allow for the construction of elaborate mechanisms for pricing different services differently. Yet the DRM systems potentially allow content providers to go even further and charge different users different prices for the *same* product or service. Here, the differentiating factor would be the individual and not the service at hand. Content providers might charge higher prices from consumers that have the ability to pay more. They might also try to overcharge when they believe a consumer has a special need for their content and would therefore be willing to pay a higher price at that time. When engaging in such price discrimination schemes, content providers will tailor their prices using personal information they previously collected

70. For more on this issue, see Crawford, *supra* note 47, at 618.

71. This would occur due to the transfer of the content file from analog to digital. *Id.* I thank Phil Weiser for his insights regarding this issue.

72. In addition to these arguments, on the jurisprudential level, proponents of the DRM models can argue that the "fair use" exception should not be considered as a right – but is merely a defense against infringement claims in specific instances. In other words, the fair use doctrine in copyright does not provide individuals with a "right" to use content – and therefore is irrelevant in this context. Furthermore, they argue that free speech in the First Amendment context is an irrelevant argument to the issue of fair use. The issue at hand does not involve a state action, but one of private parties. A discussion of this issue exceeds the limited confines of this article.

about their users, such as data concerning the users' place of residence, past content consumption patterns, overall financial standing, etc.[73]

Even though "price discrimination" has a sinister sound to it, such a pricing dynamic features several benefits addressed in the literature.[74] Mainly, it allows for pricing in a range that is closer to the specific user's actual ability to pay. Therefore, although some users would be charged with higher prices, others would possibly[75] be charged with lower prices they could now afford.[76] However, many scholars argue that such benefits are outweighed by the model's potential detriments.[77] They argue that these models will lead to a transfer of consumer surplus to the content firms running the DRM applications. There is no guarantee such funds would be shared with consumers or other artists, but would be plainly shared with the firms' shareholders and executives. Others argue that these schemes will create consumer concern and unease given the omnipresent surveillance and the ongoing analysis of personal information that is required to facilitate this model (an issue that ties into the privacy concerns addressed below).[78] Knowledge of such ongoing surveillance and its effects on pricing might also change the way in which users conduct themselves online, leading consumers towards cautious and restrained behavior—another undesired social outcome of implementing DRM.

c. The Internet Architecture and the End-to-End Principle

Other concerns regarding the implementation of DRM systems focus on their effect on the Internet and future innovations within its realm. The Internet's tremendous growth over a short period of time has been commonly attributed to the openness of its infrastructure, which allowed anyone to contribute and develop new applications without the need to request permission or receive source codes from controlling entities. In other words, the Internet has thrived thanks to having the "intelligence" of the system at the end users' side, while leaving the pipes "dumb."[79]

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73. *See* FISHER, *supra* note 5, at 165.

74. CARL SHAPIRO & HAL R. VARIAN, INFORMATION RULES: A STRATEGIC GUIDE TO THE NETWORK ECONOMY 39 (1999).

75. The text cautiously indicates this would only possibly happen, as there will be instances in which market forces will allow vendors to pocket the entire surplus from such pricing schemes without lowering prices for specific consumers. *Id.*

76. On the issue of data mining and the use of personal information to facilitate this business model, see FISHER, *supra* note 5, at 167-68; *see generally* Tal Z. Zarsky, *Mine Your Own Business: Making the Case for the Implications of the Data Mining of Personal Information in the Forum of Public Opinion*, 5 YALE J.L. & TECH. 1, 24-25 (2002-2003).

77. FISHER, *supra* note 5, at 168-69.

78. *See generally* Julie E. Cohen, *DRM and Privacy*, 18 BERKELEY TECH. L.J. 575, 576-77 (2003) (explaining privacy interests, perceptions of privacy, and DRM intrusion).

79. FISHER, *supra* note 5, at 171 (citing Mark A. Lemley & Lawrence Lessig, *The End of End-to-End: Preserving the Architecture of the Internet in the Broadband Era*, 48 UCLA L. REV. 925, 930-31 (2000)).

These attributes are commonly referred to as formulating the end-to-end (E2E) principle.[80]

Broad implementation of DRM systems potentially threatens future compliance with these attributes. The successful implementation of a DRM scheme will feature a trusted system embedded within every piece of hardware connected to the web. Therefore, developers of new applications (be they of software or hardware) must comply with the standards the DRM systems use, which would be proprietary and at times unavailable, and would not be free (as they are today) to develop applications in an open environment. Therefore, with DRM, the central system running this scheme would violate the end-to-end (E2E) principle, as the existence of a central system takes the intelligence of the network out of the hands of the end users, and thus stalls Internet innovation. Therefore, the violation of the E2E principle and its effects serves as another reason to oppose the broad implementation of DRM.[81]

d. Privacy

Finally, DRM systems take their toll on users in terms of their ability to maintain their privacy. As Julie Cohen points out, the implementation and operation of a trusted system that coordinates the DRM schemes requires the collection, storage and use of vast amounts of personal information.[82] This personal information includes data concerning the content consumed by individuals, and the times and places they did so. This data could be later compiled to form a revealing profile for every user.

Given the sensitive information they include, the existence of such profiles and databases create several privacy-related concerns: fears that they would be passed on to the government, used improperly by the content providers for marketing (or other commercial objectives), or sold on the active secondary database market. In addition, several scholars mention fears that such data would possibly fall into the hands of unwanted parties in view of improper security measures taken by the database holders.[83] All these reasons and concerns add to the overall discontent with the DRM solution.

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80. The importance of maintaining the E2E principle and the question as to what extent regulators should intervene in maintaining the Internet's open architecture is now hotly debated in the context of the "Net Neutrality" debate—whether ISP's should be permitted to discriminate among content providers when delivering the Internet connection to the end users (and thus violate the E2E principle). On this issue, see Christopher S. Yoo, *Would Mandating Broadband Network Neutrality Help or Hurt Competition? A Comment on the End-to-End Debate*, 3 J. ON TELECOMM. & HIGH TECH. L. 23, 38 (2004).

81. FISHER, *supra* note 5, at 172.

82. Cohen, *supra* note 78, at 584-85.

83. *See* Halderman & Felten, *supra* note 61, at 1-2, 26 (discussing security risks in trusted systems).

C. Summing Up DRM—Learning of the Future from the Past

Thus far, I have demonstrated how DRM models permit copyright holders, upcoming artists, and even consumers to capitalize on the benefits of new technological innovations. In addition, I presented the many shortcomings that have led policy makers, scholars, and even business entrepreneurs to oppose DRM and therefore search for other solutions, which I address in the following chapters. Yet even in view of the business-related, technological and legal difficulties and shortcomings DRM portrays, there is a good chance the media industry leaders will remain unconvinced by the above arguments, and that the DRM model will still prevail. This concern is fueled by a glance at the recent history of choices made by legislators and courts on the one hand, and content firms' executives on the other when dealing with new technologies and the threats to the existing business models of copyright content distribution. The history of society's dealings with such challenges is one of capture (in the hands of content industry) and misjudgment (again by the content industry). In the next few paragraphs I will address the concern that DRM will prevail after all and the historical background and milestones confirming it, which include instances in which regulators and courts accepted the positions of content companies regarding the protection of their content. In addition, I will mention several instances in which content firms moved to block innovative technology and business models that required they partially concede their control over content, even when these models would have proven beneficial to consumers, artists, and at times the content firms themselves.

I start with legal responses to the technological innovations which came with the emergence of digital content, communications, and, thereafter, copying. Here, the ACS scholars (as well as many others addressing these issues) point out that the content industry has been using its influence over legislators to strengthen their hold over their assets by expanding the legal protection afforded to copyright (for instance by extending the time limitations for the lapse of copyright protection), and the creation of para-copyrights (additional ancillary rights which protect the core copyright).[84] A frequently mentioned example of this latter phenomenon is the adoption of the DMCA's anti-circumvention provisions that provide legal protection from attempts to tamper with technological systems put in place by media firms to protect their content from unauthorized uses.[85] In addition, content firms, by way of expensive lawyering, were able to persuade courts to expand the rights they may exercise regarding their content, thus blocking unauthorized activities (and presumably passing legal expenses from their legal battles on to their customers). Here, courts accepted theories of secondary liability for

84. Balkin, *supra* note 29, at 17-18.

85. *Id.*

copyright infringement to block the actions of entities that facilitate the unauthorized exchange of content files. For instance, the content industry has argued successfully that ventures facilitating (in the case of *A&M Records v. Napster*[86]) or providing the software tools for file sharing are indeed subject to secondary liability (or inducement in the case of *Metro-Goldwyn-Mayer Studios v. Grokster*[87]). On the basis of this history, it is quite likely that the content industry would be able to successfully influence legislators, regulators, and courts to accept the legal rules required to set the DRM models in place.

In addition and as mentioned above, many scholars fear that DRM would be implemented regardless of its many shortcomings which are harmful to users, artists, and the media firms themselves. Yet these shortcomings would be overlooked by the content firms who will opt for DRM while aiming to sustain control over their content. In the past, large media conglomerates have often opted against new strategies that would provide less control, but reap other benefits. For instance, scholars often refer to the MyMp3.com venture, which was forced out of business by the large media conglomerates after offering a service that allowed consumers who purchased CDs to access the songs it included at any location through the website's database.[88] This service, arguably, would have provided users with additional convenience and perhaps even promoted CD sales (as they could now be enjoyed with greater ease). Yet the potential benefit to all parties involved did not deter content firms from burying this venture. In addition, the ongoing attacks of the media industry against file sharing networks are arguably another example within this broader pattern of behavior. Several artists have been arguing that the availability of content has led to many benefits, especially for those artists who have difficulty in self promotion and in gaining access to a broader audience. These artists have welcomed the file swapping phenomenon[89] and argued that it led to increases in ticket sales to live performances, and in some instances even to increased CD sales.[90] Again, the content industry has ignored these benefits and voices, and the industry moved to silence this form of uncontrolled distribution.

In view of these historical trends, the ACS scholars argue that the content industry would move to implement DRM without hesitation and

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86. 239 F.3d 1004, 1013 (9th Cir. 2001). For a description of this case, and an analysis that shows that the final outcomes of this case and others were not clear cut, see FISHER, *supra* note 5, at 116-23.

87. 125 S. Ct. 2764 (2005).

88. FISHER, *supra* note 5, at 99-101.

89. For example, see John Borland, *Musicians Launch National Anti-Napster Campaign*, C|NET, July 11, 2000, http://news.com.com/2100-1023-243021.html?legacy=cnet (regarding Courtney Love).

90. *Id.*

consideration of benefits both to them and others. For this reason, they believe alternative models must be forcefully promoted to counter the historical force of the content industry.

D. Other Business Models and Suggestions

In addition to the DRM and ACS models (which I address at length below), there have been other suggestions for resolving the challenge of compensating copyright holders while promoting various social objectives, in the digital age. I now briefly address some of these proposals and models. However, for the balance of this article, I examine and consider the DRM model only, as it is considered the most serious contender and had been openly embraced by many parts of the content industry.[91]

One radical and therefore somewhat theoretical solution calls for the elimination of copyright protection online. In the online realm, several scholars argue, there is no need for copyright law protection to promote content creation and meet other social and individual objectives. The Internet's ability to facilitate worldwide distribution at nearly zero marginal cost, should allow content creators to rely upon other forms of compensation. These would more than substitute for the "lost" compensation they would have received from online users. Such sources of income might come from the benevolence and gifts of consumers,[92] profits derived from live performances, merchandising, or the sale of CDs offline. However, given the dominance of the media firms and their influence over regulators, it is hard to believe such a policy would be accepted.[93]

Another option to resolve the issues at hand (as addressed by Fisher)[94] calls for a "regulatory solution," where the government would use its authority to directly intervene and set the compensation for the authors of works consumed online. Although this solution seems awkward at first, Fisher points out that industries and markets that bear some resemblance to content markets are or were closely regulated.[95] Fisher also notes that several segments of content markets are already subject to heavy regulation.[96] However, it is doubtful that this solution would be acceptable as it allows for government to intervene in society's choices

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91. For a summary of the broad array of solutions currently contemplated, see Yu, *supra* note 20, at 698.

92. A famous example and experiment of using benevolence to generate compensation was conducted by Mr. Stephen King. For an analysis of this incident, see Kylie J. Veale, *Internet Gift Economies: Voluntary Payment Schemes as Tangible Reciprocity*, FIRST MONDAY (2003), http://www.firstmonday.org/issues/issue8_12/veale/.

93. *See* Burk & Cohen, *supra* note 66, at 48-49.

94. FISHER, *supra* note 5, at 183, 186-95.

95. *Id.* at 181-84.

96. *Id.* at 184-85.

regarding speech and content—an interaction that would be broadly criticized (rightly so) as unhealthy and unwanted.[97]

Another solution coming from the business realm provides users with access to a vast repertoire for their own personal use, at a fixed fee paid on a monthly or annual basis. The business models these companies (such as iMesh and the "new" Napster)[98] utilize present some of the shortcomings and challenges of the DRM model (such as the need for a secured system to block leaking) while limiting others (such as the fear of price discrimination and to a certain extent, privacy). It remains to be seen whether consumers would accept these business models, which offer a smaller repertoire than the one available within the illegal peer-to-peer (P2P) networks, and for obviously a higher price.[99] However, when using this model, consumers are assured of the quality of the content and the legality of their actions.

Finally, other business models appear to have conceded to the fact that today's distribution networks are uncontrollable. Therefore, rather than battling them, they choose to take advantage of these networks and benefit from the broad distribution they facilitate. For instance, advertisers develop prime content which is also intended to promote a brand (by hidden or even blatant commercial content), and release it within the network, while hoping it will generate interest and traffic.[100] This dynamic would be interesting to track during the next few years and might be indeed well suited for some works. However, artists whose content will not mesh well with sponsorships or embedded promotions cannot rely upon this model for proper incentives, and will be looking to other options for compensation.[101]

In summary, a great deal of academic and other writing addresses the digital market's promises, threats and some solutions. At this time, DRM seems to be the industry's favorite but a nightmare for many others. We will now address an additional option which competes with DRM—the ACS models.

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97. Litman, *supra* note 15, at 41-42.

98. For more information, see iMesh, http://www.imesh.com (last visited Oct. 30, 2006), or Napster, http://www.napster.com (last visited Oct. 30, 2006).

99. While the abovementioned services are not expensive, the cost of illegal file sharing is still near zero, with the additional cost of the risk of downloading a low quality copy and the slim chance of being sued by the media firms. The cost of the illegal service is of course zero, and the risk of being prosecuted is very slim.

100. A famous example is the American Express campaign featuring Superman and Jerry Seinfeld that was released with great success throughout the file sharing networks, *see* Maria Mandel, Partner, Executive Dir. of Digital Innovation, OglivyInteractive, General Session on Consumer Behavior in a Digital World at the Summit on Intellectual Property and Digital Media, The Cable Center, University of Denver (May 22, 2006).

101. Netanel, *supra* note 2, at 76.

III. THE ALTERNATIVE COMPENSATION MODELS

A. Elements of the ACS Models

Although the ACS models' specific elements are quite complex, the models' overall objectives are simple: They strive to fairly compensate copyright holders for the use of their works online, without directly charging for the use and enjoyment of such works. In addition, these models strive to do so while legalizing today's illegal yet widespread file swapping activities (the models differ as to exactly what elements should be legalized, as explained below). To meet these objectives, the ACS models require careful accounting for the actual uses of content online and thereafter distributing funds that were specifically collected for this reason to the relevant copyright holders. This elaborate task would be conducted by a specific governmental agency—preferably within the Copyright Office (but for this analysis I will refer to it as the "administrating agency"). The scheme has three main components: registration, collection of funds, and the distribution of funds to the right holders (a component which includes the process of assessing the relative usage of works online).[102] I will briefly explain what each component entails, in turn. It should be noted that the ACS models have been recently suggested in several variations by various scholars,[103] although the general theme is mostly the same. For this analysis, unless indicated otherwise, I refer to the model presented by Fisher, which is perhaps the most detailed and comprehensive.

1. Registration

The starting point for implementing this model (as well as for the flow of content and information within it) is the registration process. At this point, copyright holders interested in participating in the ACS register a specific work as their own online, and receive a specific code. This code is to be "watermarked" into the relevant work in its digital format (be it an audio or video file). From that point, the work could be released online, and its subsequent online uses would not require consent.[104] However, thanks to the registration and watermarking process, the copyright holder would be accredited for subsequent uses of the work, and compensated accordingly.

2. Collection of Funds

The next point would be the collection stage at which the administrating agency must extract sufficient funds from the public so as to properly compensate the creators for the online use of their content. This

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102. For a description of the various ACS models, see Litman, *supra* note 15, at 32-33.

103. *Id.* at 32-34.

104. *See* FISHER, *supra* note 5, at 203.

stage presents several key questions in its implementation, especially as to "how much" and "how." When addressing the "how much" question, the ACS scholars strive to maintain the status quo. In other words, the collection process is structured to assure that the overall level of compensation through the model would reflect the losses content owners would incur due to the legalizing of online content file sharing and streaming.[105] To correctly estimate the status quo and the extent of the losses incurred, the ACS scholars engage in extensive calculations to draw out the overall revenue content markets generate, the actual and predicted harm from the illegal online activity and the percentage of the overall revenue that is and would be lost from such online actions.[106] While the actual sums and percentage rates differ among scholars and sub-markets,[107] the results the ACS scholars present lead to a very large sum of over two billion U.S. dollars per year.[108]

After establishing that substantial resources are required to create and maintain a fund for the full compensation of right holders, the models turn to the question as to "how" these sums should be gathered. The simplest response calls for collecting such sums as part of the general federal tax system. While this solution has several advantages,[109] its overall and overwhelming shortcoming is that it seems politically implausible. No administration would raise taxes to meet this objective and risk the public backlash usually associated with tax hikes. In addition, such changes in general tax policy would lead to a public outcry stating the fact that the "tax dollars" of individuals who do not use the Internet at all (or only rarely do so) are cross-subsidizing the increased (not to mention obsessive) content consumption of others.[110] In view of these anticipated difficulties, the ACS scholars suggest that the funds should be raised by a levy to be set on selected products and services that are closely associated with the consumption of online content. Here, they

105. *Id.* at 208; Netanel, *supra* note 2, at 46-47.

106. For instance, see Netanel, *supra* note 2, at 60-67.

107. According to Fisher's calculation, we should account for a loss of 20% of revenue in the music market (which pertains mainly to CD sales) and 5% of the video market, whose most dominant component is DVD sales (but also DVD rentals, premium channels and the growing demand for V.O.D and pay-per-view). FISHER, *supra* note 5, at 209-14. Netanel's calculations lead to somewhat different results (25% loss of revenue in the audio market; 7% in the video market). Netanel, *supra* note 2, at 61.

108. Clearly, it might appear that this segment of the analysis is extremely shaky and might even appear to some as mere guess work. The authors here attempt to assess a future market reaction based on information on which economists cannot agree upon even today (regarding the question as to the effect of online file sharing on the content markets). The authors are aware of this line of criticism—and respond that this is merely a starting point, and the model as well as the sums that must be collected (and thereafter distributed) will be updated on a continuing basis, in accordance to updated information from surveys and the industry. *See* FISHER, *supra* note 5, at 209-15; Netanel, *supra* note 2, at 65-67.

109. Fisher points out that adding this amount to the general tax burden is unlikely to cause any radical distortions, and would be relatively simple to implement. FISHER, *supra* note 5, at 216.

110. *See id.* at 217.

convincingly argue that public opinion would be more likely to accept this limited taxation scheme in the form of a levy, as its impact and effects on individuals that are removed from online content consumption would be minimal.

To apply the levy, policymakers must establish the tax base (namely, which products and services would be subject to the levy), and the actual level of taxation on products and services that are part of this base. Both tasks create difficult policy and empirical questions, and the ACS scholars provide several models to resolve them. The specific ways in which the base and the level of taxation are formulated need not concern us at this time[111]—not because they are uncontroversial but because they would be subject to change in view of updated information streaming to the administrating agency from the industry and from timely reports examining the ways in which content is used and consumed online. In his book, Fisher draws out an initial taxation base (which would be subject to change)[112] and sets the levy at about 11.4% (as opposed to about 4% according to Netanel).[113] In other words, consumers would be charged an additional fee every time they purchase products and services that are part of the tax base. In "return," users would be permitted to make use of an extensive library of content that is available online, in any way they might desire. They would be permitted to listen or view the content, and even include it in digital forms of content they produce so long as they register their work and include a reference to the content they made use of.[114]

3. Distribution of Funds to Right Holders

The final component of the ACS scheme is the *distribution* of the funds to the right holders of the relevant works.[115] Again, the initial (and modest) objective of the ACS scholars is to maintain the status quo when shifting to the ACS model. In other words, the objective is to provide rights holders with proper compensation for the revenue lost when legal-

111. Generally, Fisher draws out four categories that would include the tax base: (1) Equipment that facilitates digital copying—such as CD and DVD burners; (2) Equipment for digital storage—such as blank CDs and flash memory; (3) Internet access providers (although Fisher believes the levy should be limited to broadband only); and (4) Systems and software that facilitate file sharing. *See* FISHER, *supra* note 5, at 217. Netanel suggests adding "dial up" Internet connections to the levy as well, and would include a levy on the purchase of computers themselves. Netanel, *supra* note 2, at 60-62. For the analysis of the tax basis, see FISHER, *supra* note 5, at 217; Netanel, *supra* note 2, at 60-62.

112. Especially in view of recent changes in the ways individuals connect to the internet – i.e. through the use of WiFi technology. *See* FISHER, *supra* note 5, at 251.

113. The disparity in these figures stems from the differences in defining the tax base, as mentioned above.

114. This issue leads to the complicated "derivative works" issue and the problem of accounting for several authors of a single work. The ACS Scholars attend to this matter at length. *See* FISHER, *supra* note 5, at 234-35; Netanel, *supra* note 2, at 57.

115. *See* FISHER, *supra* note 5, at 202.

izing online file sharing and downloading. Here, the ACS differ from more ambitious schemes, that attempt to restructure the way in which artists should be compensated for content production.[116] Yet even the ACS scholars' limited goal presents serious challenges. First, how would the administrating agency know what part of the overall fund every copyright holder should receive? In today's content markets, the public signals its content (or discontent) with various works by paying for them. Since the ACS models involve indirect compensation there is no such direct payment per use to rely upon. To resolve this difficulty, the models turn to a substitute: information about another scarce human resource—attention. Namely, the models call for allocating the funds in accordance to the way in which consumers allocate their attention towards specific works—while providing greater compensation to authors of works that were "experienced" more times.[117] To achieve this, the models call for the construction of elaborate "counting" mechanisms that would allow the administrating agency to count the uses of content online, sum them up and by the end of every year provide a full report as to the number of times each work was used. After taking into account the overall number of works used and the size of the fund for every given year, the copyright holders receive a check from the government that constitutes their "share" of the overall fund collected through the levy.[118] The construction of these counting mechanisms presents many technical and policy challenges, and as these issues stand in the core of my critique, I will address them in greater length in a subsequent part of this article.

Beyond the three components addressed, the model requires several adjustments in the existing legal regime. First, it requires changes in current copyright laws so that the downloading and streaming of content online will not constitute copyright infringement.[119] It should be noted that the ACS scholars disagree on this point. While Fisher believes all

116. Fisher mentions several theories according to which compensation should be distributed (such as models premised on voting), but concludes that in the first stage, it is best to simply maintain the status quo and thus base compensation on usage. FISHER, *supra* note 5, at 234. For more on competing voting schemes, see Peter Eckersley, *Virtual Markets For Virtual Goods: The Mirror Image Of Digital Copyright?* 18 HARV. J.L. & TECH. 85, 111 (2004).

117. At this point, the model somewhat differs from the "brick and mortar" reality, in which the "signaling" usually takes place only once—at the time the content is purchased. However, the online realm is somewhat inappropriate for this form of measurement, and therefore the authors' decision to "count" actual uses of the content, as opposed to its mere "download" is indeed correct. Online, users tend to download a vast amount of content, yet use a minuscule portion of it. Therefore, compensation per download will provide a biased result and will not reflect actual trends of content usage and appreciation.

118. FISHER, *supra* note 5, at 202.

119. In addition, Fisher addresses the possibility that content owners would argue that the shift to the ACS model constitutes a "taking." FISHER, *supra* note 5, at 248-49. Fisher explains why these arguments would probably be rejected, or would not lead to any meaningful compensation for the content owners. *Id.* In addition, Fisher mentions international treaties that might conflict with the ACS model. *Id.* I will not address the international aspect of the ACS model in this article.

online use should be permitted, Netanel argues that only non-commercial uses should be allowed.[120] Of course such changes should also address (and forbid) the self help measures that content companies are trying to apply at this time, and have no place in a regime in which the model has been facilitated.[121] Second, some ACS scholars argue that with the model in place, the legal protection of DRM-like secured systems should be repealed, so as to encourage content providers to participate in the model's registration and compensation schemes (by making the alternatives seem less attractive).[122] Lastly, the actual implementation of the model would require regulatory intervention concerning the various components addressed above. Regulation must address the registration process and the role of the governmental administrative agency. Moreover, it must set rules regarding the mandatory levy, how it would be collected and ways to limit its evasion. Finally, regulation must address the "counting" process, which (as I explain below) would probably include rules concerning the mandatory installment of counting systems meeting a specific standard on all machines.

B. Similar Past Experiences

These models in general and the legislative changes required for their implementation in particular might seem radical to some readers, as they require copyright holders to concede their full control over subsequent uses of their works, and for indirect compensation for such uses. However, the ACS scholars are quick to point out that while their initiative is indeed innovative, it has deep roots in the existing laws and in business models governing the consumption of content, where similar schemes have already been implemented (with varied levels of success) for quite some time. To make this point, they refer to three instances within the realm of the content industry: compulsory licensing schemes, private copying levies and performing rights organizations.

1. Compulsory Licenses

Compulsory licenses have often been set in response to technological changes that made the arms-length negotiations for the use of copyrighted materials costly, impossible, or unwanted for various reasons.[123] Examples go as far back to the early twentieth century and the regulation of piano rollers,[124] with recent examples pertaining to the use of content

120. FISHER, *supra* note 5, at 246-47; Netanel, *supra* note 2, at 37.

121. *See* discussion *infra* Part III.C.

122. Fisher and Netanel disagree regarding this issue as well, as Netanel calls for repealing the anti-circumvention provisions. FISHER, *supra* note 5, at 248; Netanel, *supra* note 2, at 40.

123. Such as to limit the ability of copyright holders to use their rights to exercise an unfair and anti-competitive advantage. *See generally* Netanel, *supra* note 2, at 31.

124. *See* GOLDSTEIN, *supra* note 6, at 64-66.

over cable and satellite television[125] and most recently, by webcasters.[126] In these instances, copyright holders cannot block the use of their content, yet are compensated by users in accordance to a rate set by a neutral (more or less)[127] entity.

2. Private Copying Levies

In addition to these licensing schemes, in various instances, legislators chose to compensate copyright holders indirectly for private copying, while acknowledging that policing the copyright owners' rights against such actions is close to impossible. These schemes exist on a limited basis in the United States (concerning the regulation of the failed Digital Audiotape Recorder ("DAT")),[128] and on a much broader scale in other legal regimes (such as Canada, Germany, and France).[129] In most of these instances, rights holders are compensated through a governmental fund that is financed by a levy set on various applications relevant to the use of such private copies.[130]

3. Performing Rights Organizations

Finally, in several instances, the copyright holders themselves opt for a business model in which the rights to use their content are not negotiated at arms length with the end user. Instead, these users negotiate with intermediaries or collectives, whom at a later time compensate the right holders from the fees they collect.[131] These intermediaries, such as ASCAP and other performing rights organizations have been put in place voluntarily by the rights holders to collect compensation for public performance rights in an attempt to mitigate transaction costs. The intermediaries stand in for the copyright holders, and directly interact with places of business, such as bars, music halls, and barber shops that pay them a set fee for a "blanket license" for the right to publicly perform. This solution is by far preferable to requiring these businesses to locate

125. FISHER, *supra* note 5, at 41-42.

126. FISHER, *supra* note 5, at 103-05.

127. *Id.* (explaining how the webcasting licensing scheme led to uncompetitive results).

128. *See* Audio Home Recording Act, 17 U.S.C.A. §§ 1001-1010 (West 2006); FISHER, *supra* note 5, at 84-87.

129. For Canada, see Jeremy F. deBeer, *The Role of Levies in Canada's Digital Music Marketplace*, 4 CANADIAN JOURNAL OF LAW AND TECHNOLOGY, 153, 153 (2005). For Germany and France, see P. BRENT HUGENHOLTZ, LUCIE GUIBAULT & SJOERD VAN GEFFEN, THE FUTURE OF LEVIES IN A DIGITAL ENVIRONMENT 24-25 (2003), *available at* http://www.ivir.nl/publications/other/DRM&levies-report.pdf.

130. Be they blank disks, or even computers in Germany's case. *See* HUGENHOLTZ, GUIBAULT & VAN GEFFEN, *supra* note 129, at 25-26.

131. Michael A. Einhorn, *Intellectual Property and Antitrust: Music Performing Rights in Broadcasting*, 24 COLUM. J.L. & ARTS 349, 350 (2001).

the specific rights holders and obtain consent for the use of their content.[132]

However, it should be noted that although these examples demonstrate similar existing dynamics that were successfully implemented, the project outlined by the ACS scholars is far more ambitious. With ACS the market scope and forms of usage are much broader and might deter copyright holders from accepting these proposed models, even though they resemble those agreed upon in the past. The ACS scholars are well aware of such possible hesitation on behalf of the content providers, and offer to ease the way into the full mandatory ACS model by first adopting a voluntary model for content sharing.[133] This model includes the same components mentioned above, but instead of setting a mandatory levy, relies upon voluntary contributions by users interested in enjoying and using the repertoire the model provides. This latter model, which Fisher refers to as "the coop," has already been set in place in some countries,[134] and resembles an interesting business model addressed above.[135] However, as I explain above, voluntary "coops" face several shortcomings and I therefore choose not to further address this option, and focus the analysis on the mandatory ACS model.

C. Presumed Effects and Model Outcomes

At the end of the day, the ACS scholars envision a model that will achieve several important objectives, which would justify the vast framework and radical regulatory changes the model requires. They argue that benefits from implementing this model span across users, content creators and society in general, as well as weaken the hold of today's large media conglomerates which exercise extensive power in today's market setting. *Users and consumers* will enjoy access to a vast library of content at a very limited marginal cost, and would not be subject to manipulative pricing schemes (or price discrimination, as addressed above).

In addition, consumers would be free to make use of this content to express their thoughts in an extremely effective and creative manner.[136] *Content creators* and artists, according to the ACS scholars, would benefit from the shift to the ACS model as well. They would greatly benefit from the availability of vast amounts of content for them to "glum on" to and make use of, thus leading to better and richer outcomes. In addition,

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132. For the history of such organizations, see GOLDSTEIN, *supra* note 6, at 68-75.

133. *See* FISHER, *supra* note 5, at 252; *see also* Daniel J. Gervais, *The Price of Social Norms: Towards a Liability Regime for File-Sharing*, 12 J. INTELL. PROP. L. 39, 71-72 (2004). Gervais believes that such a voluntary scheme could suffice as a long term solution. *Id.*

134. *See* FISHER, *supra* note 5, at 258 (regarding Brazil).

135. *See* discussion *supra* Part III.

136. FISHER, *supra* note 5, at 238.

the scholars point out that these models allow creators to distribute their works throughout the market (by using the net) without relying upon today's intermediaries. These intermediaries, such as the large record or motion picture companies would therefore be unable to leverage their market position to extract high rents and draconian contractual terms from starting artists. With time, the ACS scholars predict these intermediaries will even give way to other firms that will assist users in choosing content. Thus, this model will weaken the hold of these few powerful entities over the forms of content the public consumes,[137] leading to another important outcome from the models' implementation.

Finally, in terms of *society* as a whole, the ACS scholars mention several overwhelming benefits stemming from the adoption of this scheme.[138] First, implementing the model will end the current shameful state of affairs according to which a large segment of the population (and an even larger segment of our youth) are deemed "copyright infringers," "pirates," and even "criminals." Since all online content sharing will be deemed legal, this serious social concern would evaporate almost immediately. In addition, the system allows for limiting many undue "transaction costs" that result from today's legal setting. For instance, the ACS allows for reducing legal costs which arise from the need to resolve complicated doctrinal questions concerning copyright protection in the online setting. In addition, it allows for reducing costs related to the enforcement of copyright online.[139]

Can the ACS model indeed meet these objectives? Could it be successfully implemented as described? I now move to my critical examination to find out.

IV. TAKING ACS SERIOUSLY: EXAMINING AND CRITIQUING

The ACS scholars go to great lengths to assure that the models they construct should not be deemed a mere intellectual exercise, but a feasible solution with fair chances of actual implementation and success. Indeed, the implementation of these models would lead to many beneficial outcomes, as drawn out above, and their structure is based on a deep understanding of the legal and business background of today's content markets. In view of these elements as well as the breadth of the analysis and the stature of the scholars involved, I see importance in addressing these models. In doing so, I choose to examine their "nuts and bolts"

137. *Id.* at 238.
138. *Id.* at 243.
139. *Id.* at 243-44.

specifically, leaving others[140] to address and critique the underlying doctrinal and economic assumptions on which the model is premised.[141]

An overall critique of the ACS models is an extensive task. Due to the breadth of the proposals, such a critique calls not only for an in-depth analysis of the law and business of copyright, but that of property law, regulatory law, and taxation law and policy to mention a few. Therefore, within the confines of this article, my contribution is quite specific—I closely examine two specific, yet important, issues and questions arising from the ACS scholarship:

(1) Could a system constructed in accordance to the blueprint provided by the ACS scholars, fairly (accurately, as we will soon see, is too much to ask for) measure the uses of content?[142] If so, what would the implementation of measures assuring such fairness entail? By framing the questions narrowly, I set aside (for now) the difficult questions pertaining to the way in which such funds should be raised, the extent of the overall level of compensation to be divided among the right holders, and the way such sums should be updated along the way. Instead, I address the components of ACS charged with measuring consumption and examine their problematic aspects. I then offer ways in which these problems might be resolved and draw out open questions for future inquiry and technological development.

(2) What would the long term effects of implementing this scheme be? The scholars promoting this model present high hopes that it would benefit artists and creators, weaken the dominant position and standing of today's content intermediaries, and enrich society in several ways. At this point, I assume the model will be implemented as described and thereafter examine whether the high hopes and extensive objectives of the ACS scholars would be met, while pointing out where my projected outcome parts from the ACS scholar's rosy predictions. In some instances throughout the analysis I suggest changes to the model and offer external mechanisms to meet the important objectives mentioned, while focusing on modifications to the models' content distribution mechanisms.

A. Measuring Fairly (?): Internal Challenges

To provide copyright holders with fair compensation, the model must present an extensive and accurate mapping as to how content is

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140. *See supra* note 20 and accompanying text.

141. *But see* Litman, *supra* note 15, at 31 (arguing that setting the details could come later). I disagree, and believe that the many policy issues at hand must be concluded at this early stage in view of the various choices which must be made (many of which have serious policy ramifications).

142. It should be noted that Fisher addresses other solutions for accounting for the users' preferences, such as allowing users to vote for works rather than receive compensation. *See* FISHER, *supra* note 5, at 230, 233. However, this system creates several key difficulties and therefore Fisher rightfully objects to its implementation. *Id.* at 232-33.

used and consumed in the online realm. The model's ability to fairly and accurately measure usage rates of various works is crucial to its overall success, for two obvious reasons (1) without such fairness and accuracy, copyright holders would strongly oppose the model's implementation, and the entire scheme would lose its legitimacy in the eyes of the public; and (2) systematic biases within the measuring process will affect the forms of content society as a whole would generate. In a market operating according to the ACS model, the measurement of content usage is the primary way for consumers to signal their content or discontent with an artist or specific work. Such signaling must be correct to assure the progression and evolution of content markets, as by interpreting and reacting to these signals artists "learn" what form of content is desired by the public, and change their production process accordingly.

The measurement task at hand is colossal. When taking into account the number of Internet users in the United States alone (roughly 100 million) and the number of different "pieces" of content every user will "consume" a day (this of course greatly varies among users, but I believe and average of three would be a modest estimate), the number of factors that must be accounted for in every fiscal year might exceed 100 billion. Thus, when carrying through the measuring task, the administrative agency must overcome both internal challenges (that entail dealing with an extensive dataset and collecting the information in an effective and precise, yet non-intrusive manner) and external challenges (from those who have an interest in intentionally tampering with the data and tilting it in their favor) as well. I address these challenges in turn, while examining what steps must be taken to meet them. These steps, however, create severe side effects, in terms of the system's openness and privacy—which I address below.

1. Internal Challenges & Sampling

The ACS scholars were well aware of the internal challenges, and offer several suggestions. Generally, they suggest that to meet the "counting" objective, the model must introduce a sampling system, which will include several elements.[143] It must include a piece of software to be installed on the end users' machines, that would count their content uses and "report" to a central registry the total amount of uses of different forms of content (the "Counting Software"). In addition, there

143. *Id.* at 225-29; Netanel, *supra* note 2, at 53-54. Here, Netanel also mentions existing technologies which engage in similar sampling tasks. Netanel, *supra* note 2, at 54. A firm that is currently engaged in measuring of content usage through peer-to-peer networks is BigChampagne. *See* BigChamapgne Online Media Measurement, The Data, http://www.bigchampagne.com/thedata.html (last visited Oct. 20, 2006) (describing the way the firm gathers information). However, these practices have met some criticism regarding the accuracy of their results. I also doubt whether BigChampagne could provide sufficient information regarding consumption patterns of content of limited distribution. *See* Jeff Howe, *Big Champagne is Watching You*, WIRED, Oct. 2003, *available at* http://www.wired.com/wired/archive/11.10/fileshare.html.

must be a central system that would sum up, on an annual basis, all the uses streaming in from the individual users (the "Central System"). The Central System will have additional tasks in assuring external fairness, as I mention below. Finally, to efficiently deal with the enormous amounts of data these tasks entail, the ACS scholars suggest that the systems randomly sample a large number of users at any given time, and only include them in the overall database. In other words, while the Counting Software will be working at all times on the users' machines, the Central System will randomly select a specific set of users at set intervals (for instance, every month), and only account for the information streaming in from these specific users at that time. In that way, the model would be able to effectively overcome the massive amounts of data the "collection" and "distribution" stages entail. When addressing sampling, the ACS scholars point out that similar practices have been applied for many decades to establish the rating of the programming on various broadcast stations for the benefit of advertisers (ratings carried out by Nielsen and Arbitron for the television and radio markets, respectively).[144] However, the scholars conceded that the task at hand differs from those mentioned above (regarding radio and TV) as the sample size must be substantially larger than those used in the broadcast context. Yet they do not offer concrete examples as to the sample's size.

2. Sample Size

A closer analysis of the issue of sampling leads to some interesting outcomes. At first, with regard to the actual sample size, I believe that referring to the sampling carried out in the broadcasting context, such as the Nielsen rating model, is a problematic comparison.[145] In the broadcast context, a sample of mere thousands is used to represent the content preferences of many millions. Yet the sample required for the ACS models must be several magnitudes larger. I devote the following paragraphs to the actual size the model must employ, and thereafter move on to examine the implications of using a sample of such magnitude. It is interesting to note that the ACS scholars have neglected to address the actual size of the sample—either nominally, or in terms of the required percentile of the overall sampled population. As I make apparent in my

144. FISHER, *supra* note 5, at 226. For more information as to how these firms engage in sampling see Nielsen Media Research, *Inside TV Ratings: How the Numbers Come to Life*, http://www.nielsenmedia.com/nc/portal/site/Public (follow "Inside TV Ratings" hyperlink) (last visited Oct. 20, 2006); Aribitron, *About Arbitron: What We Do*, http://www.arbitron.com/about/home.htm (last visited Oct. 20, 2006).

145. The Nielsen sampling model has created several controversies of its own regarding its presumed ability to correctly sample preferences in the broadcast context. For instance, it has been argued that the "ratings" are biased against minorities (this was explained by these groups' aversion to fill in the logs they were presented with) and other internal errors in the measuring process. However, many of these problems will not occur within the ACS models in which the sampling is carried out automatically, and users will not always be aware of the specific instance during which they are chosen to be sampled. *See* FISHER, *supra* note 5, at 227-28.

analysis below, setting this parameter is not a technical statistical task which might be left for a later time, but one that required several judgment calls and policy decisions given its potential implications.

Setting the size of the sample involves reaching a compromise between the models' overall efficiency and cost (which are elements advancing the use of a narrow sample), and the fear of unfairness and harm to the motivation of artists whose works are left outside the sample, or who are under-compensated if applied too narrowly (clearly elements advancing a broader sample). Yet striking a balance between these polarizing elements is far from simple. The elements mentioned seem somewhat abstract, while the task calls for identifying concrete parameters for the sampling process. Therefore, to establish a suitable sample size, I move to strike a balance between these elements while taking into account an important and concrete element neglected thus far: the actual level of compensation copyright holders would receive from the administrating agency through the ACS dynamics. It is clearly unrealistic to construct a model that would count every instance of content usage online and provide for full compensation for every such event. Even setting the counting issue aside, it would prove an unbearable administrative burden to send out checks for mere tens or even hundreds of dollars to specific users out of the enormous two billion dollar pot every single year. Yet even to assure that compensation for the sum of $5,000—which is a non-negligible sum for many Americans and especially young artists (and therefore would serve as the baseline for the rest of the analysis)—would not be often neglected, overlooked or under-compensated, the sample must be of considerable size. Using the $5,000 sum as a benchmark leads to an important insight; $5,000 amounts to a mere 0.0025% of the overall yearly fund, yet represents 250,000 separate uses of the specific work every year. Therefore, setting the $5,000 benchmark implies that the sampling process must be sensitive enough so to identify 0.0025% trends within a dataset of 100 billion bits of data pertaining to content preferences.

When taking into account this level of sensitivity, an initial statistical analysis concludes that the size of the sample must be about 0.1% of the overall population (which in this case, as indicated above, would be about 100 million users, and growing, in the United States alone). In other words, this calls for a sample of about 100,000 users! Only with such a sizeable sample, could artists who are entitled to receive annual compensation of about $5,000 be relatively assured there is a reasonable chance[146] that the use of their works would be accounted for and their compensation would not be lost to a statistical error. Any smaller sample, in my opinion, would be unacceptable to these copyright holders, and rightly so. It is therefore apparent that the sampling tasks at hand

146. *See* Statistical Appendix, *infra* note 147.

sharply differ from that of the Nielsen rating system mentioned by the ACS scholars. Yet this is to be expected, as the Nielsen ratings pertain to viewers' choices among merely tens (in the most extreme case that takes into account the various cable channels) of options. In the situation at hand, the model attempts to sample a selection of millions of different forms of content, which display a multitude of consumption patterns.[147]

The assertion that such an extensive sample is required to accommodate artists who are deemed to meet the $5,000 annual threshold can come under several forms of attack. First, on the statistical level, one could argue that even with a much smaller sample, artists whose content is consumed around the $5,000 threshold should not object. Applying a smaller sample would not necessarily mean these artists are to be neglected and left uncompensated. To the contrary, in many cases, the exact opposite would occur; not only would the usage of their content be accounted for, but due to a statistical error acting in their favor, they would receive a payout that is double or triple the size of the sum that would reflect the actual consumption of their respective content. Moreover, in the long run, after several years and samples, the chances for statistical errors of measuring a specific "piece" of content are minimized, and a year of over-compensation would be followed by a year of under-compensation, and vice versa.

In response to this critique, I return to the important objective of achieving fairness in the counting process and reasons for such fairness. I believe that should artists who deserve compensation at the $5,000 level (who stand at the core of those which the model sets to promote and protect)[148] be confronted with the risk of losing substantial compensation in a given year due to a statistical error, they would strongly object to this model, and deem the model unfair, even when facing a similar chance to "double" their income. Furthermore, I believe such an objection would have substantial merit, as it indeed seems unfair that a large portion of the population would not receive their fair share of the overall fund due to an unlucky sample.[149] I also find the "long run" argument stated above unconvincing. Many forms of content have a very limited "life span" on the virtual shelves. This does not result from the lack of space on such shelves, but because of the limited appeal they might have

147. Statistical Appendix (on file with author), *available at* http://law.haifa.ac.il/faculty/lec_papers/zarsky/denver.pdf.

148. As mentioned, the model strives to protect and promote artists with limited market appeal and distribution that are served unfairly by today's market. *See* discussion *supra* Introduction.

149. These assertions might sound merely speculative. They are based on conversations with artists, and the understanding of the alternative options (both those discussed below, and those that provide for a sufficient sample size) that could allow for accurate compensation to a broader array of artists. Clearly, establishing whether these assertions are correct will require surveying public opinion. However, should the ACS model be seriously contemplated by regulators as a viable option, I would assume the court of public opinion will bring the actual opinions and voices of artists on these issues into play.

given new materials that are constantly brought into the market. Therefore there would not be any substantial subsequent sampling "rounds" to potentially offset the unfair errors of one given year, as the public's attention and taste would have already wandered elsewhere. Furthermore, even if a specific copyright holder would receive her fair share several years later, she would still be required to "survive" for several years without receiving sufficient funds—an outcome that might prove unbearable for many starting artists.

The next critiques of my assertion regarding the breadth of the sampling method required (and the goal of protecting the prospective income of the artists with limited market share) return to the main objective of the ACS model—maintaining the status quo. Here, the cautious and careful reader may raise two critiques. First, it could be argued that forms of content with such a meager usage percentile (0.0025%!) which the current analysis addresses are usually disregarded in today's media markets. Therefore these authors need not complain, as the shift to the ACS model does them no harm. For instance, in the broadcast context, there are several examples of programs which attracted a small but devoted audience, yet received a "0.0" rating score according to Nielsen.[150] However, given the fact that advertisers have no interest in shows with extremely low ratings, this sampling error had no real implications. In the content-retail context, works (such as books, DVDs, or music CDs) that are consumed in such a limited number which puts them at risk of being unduly ignored in the overall sampling process are also deemed to be quickly removed from the shelves of the relevant retailers and thus destined for oblivion. Therefore, the results of using a limited sample would, in the worst case, leave these copyright holders at the same point they are today—which as mentioned is the overall objective of the model at this time.

Furthermore, a critical reader may add that when taking a realistic look at today's content business structure and practices, especially with regard to music industry, artists whose works are consumed at such limited scales (such as those mentioned above), rarely receive substantial compensation at all. As Fisher explains in great detail,[151] artists receive mere pennies on every dollar of CD sales revenue. Yet more importantly, starting artists rarely receive any compensation, as the funds they might incur are first applied to cover the advances they received (advances that in many cases were used for promotion purposes).[152] Therefore, when structuring a model to maintain the status quo, the interests of

150. For example, such an instance occurred regarding John McEnroe's short-lived show on CNBC. For more information, see Wikipedia, *Nielsen Ratings*, http://en.wikipedia.org/wiki/Nielsen_ratings (last visited Oct. 20, 2006).

151. FISHER, *supra* note 5, at 55-58.

152. *Id.* at 58.

artists with such limited circulation need not be taken into account, as in today's world their overall situation is grim as it is.

My response to both of these critiques is that they are flawed, as they are premised on a comparison between the legal and business setting we have today, and the one created by the ACS models. However, the ACS scholars' aspiration to achieve a status quo must also take into consideration the outcomes of other, competing solutions to the challenges of the Internet and digital media. In other words, conducting such a comparison must take into account the outcome of the use of DRM systems (that as mentioned above are the leading contenders in today's policy debates) which are backed by appropriate legal and regulatory steps. Such a comparison brings a very different result.

Generally, the implementation of DRM leads to several beneficial outcomes for artists whose works achieve only limited exposure and circulation. At first, DRM systems allow content creators to receive full compensation for all uses of their content, as limited as they may be. These models face no difficulties in capturing all traffic and uses of content (in fact, as mentioned above, that is one of the major critiques of this design) and directly charge per use, regardless of the relative percentage of such use within the overall social consumption pattern. In addition, once the DRM systems are set in place, artists would be able to present their content to a vast crowd with limited expenses associated with the manufacturing and distribution process. Therefore, copyright holders would receive more pennies on the dollar, thus weakening the above mentioned argument that artists with a very limited market share will rarely receive any revenue after the content industry gets their cut. And finally, DRM systems will not be limited by shelf-space, as today's brick-and-mortar stores are, and therefore would allow for the "long tail" phenomenon to take place.[153]

In view of the above, authors of works that are consumed in "small portions" in a DRM architecture over an extended period of time would witness a stable flow of revenue (as they are starting to see today), which they would hardly want to replace with the fluctuating, luck-driven revenue stream the ACS model would provide when using a small sample. In view of all the above, an ACS model using a small sample, which guarantees compensation only for those who produce content with a broad appeal,[154] would seem to be an unwanted option for authors with small- and medium-size audiences, who would probably opt for a DRM-based

153. The newly coined term "the long tail" refers to the fact that thanks to the endless shelf space the Internet e-commerce websites provide, we are witnessing a new and interesting phenomenon – a much greater variety of works are being consumed at non-trivial levels. For more on this issue, see generally, CHRIS ANDERSON, THE LONG TAIL 16 (2006).

154. For an explanation as to why works with a broader appeal face a lesser risk for a statistical error, see Statistical Appendix, *supra* note 147.

solution given its beneficial traits mentioned above. To avoid this result and reach an outcome that would be attractive and fair to this important constituency (which might draw sympathy of large segments of the public), a broad sample must be applied to the ACS collection practices.

In addition to arguments for the use of a broad sample premised on achieving fairness for artists, other arguments for such broad samples could be premised on a different interest—the fact that the use of a limited sample would generate an unwanted incentive structure for content creation. As mentioned, with small samples, the risk of error substantially differs between popular and not-so-popular works. Therefore, with a limited sample, the model might generate strong incentives for authors to develop "instant hits," which lead to great exposure over a short period of time during which such hits are "consumed" time and time again, and quickly thereafter disappear.[155] These hits, of course, will generate a sure revenue stream, as the chances they would be missed by the sampling process are very low. As some scholars argue in other contexts,[156] a hit-driven content market, in which artists strive to deliver "hits" rather than works that might be cherished by a limited audience but have no broad and instant appeal, leads to low quality content—hardly an outcome we would strive for the ACS models.[157]

In summation, in this section I am not arguing that the ACS models are inherently flawed, but that they call for the use of an extensive sample base. However, the relevance of this discussion does not end here. Recognizing that the model calls for extensive sampling has several important implications. First, implementing ACS will call for the construction of a new and unprecedented sampling model that is very different from the ones we have today. Therefore, policymakers must establish whether the task of dealing with such an extensive data set is a feasible

155. Concerning this final argument, it could be stated that these results do not create unwanted changes in the incentive structure, but merely point authors in the direction they were heading in the first place—creating music that would generate the greatest possible revenue! This however, is not always true: First, the statistical analysis I conducted shows that there is a much greater chance for the model to account for the use of a "work" that is consumed *many* times by *few* users than for works that are consumed *few* times by *many* users. *See* Statistical Appendix, *supra* note 147. Therefore, the sampling structure creates incentives for content that is used many times by the same users—a pattern of behavior which resembles those of today's "instant hits." Second, some artists might have a preference in producing several works every year, with every work aiming at a specific crowd, setting or state of mind. This pattern of creation, which might lead to works of high quality, may become unpopular in view of the risks of not being included in the sampling model.

156. FISHER, *supra* note 5, at 79-81.

157. In addition to the reasons stated in the text, it could be assumed that in some cultures, not receiving exact compensation for the use the authors' works, would cause aggravation of all artists. In Israel, for example, AKUM the local equivalent of ASCAP goes to many lengths to provide for a full account of public performances of works (and have even implemented a costly and sophisticated system that aims to account for the use of all works broadcasted on various stations rather than make use of sampling). Interview with Ramat Gan, CEO & COO, AKUM, in Isr. (2005). While the wisdom of such policy (as well as whether it services the interests of its members) can be debated, it still indicates the motivations and state of mind of artists to have a full picture of consumption patters, even at a very high cost.

one. Second (and assuming that applying this sample is indeed feasible, which is not far fetched given the extensive datasets today's corporations manage),[158] applying such a vast sample will complicate the process and create additional costs which must be added to the overall cost-benefit analysis carried out before applying the model. Third, and most importantly, the use of such an extensive sample affects the way in which the models' architects can deal with other challenges, as I will show below. I now move on to point out other problems arising from the implementation of this model that in part result from the necessity of a large sample base. I start with external challenges and the fear of gaming.

B. Measuring Fairly (?): External Challenges and Gaming

1. Introduction to Gaming

Beyond internal challenges to the ACS architects' efforts to provide an accurate picture of the patterns of content consumption, we must now confront challenges arising from attempts of various interested parties to taint the results of the sampling process. In other words, even after resolving the problems of fairly assessing online consumption patterns, the ACS model faces serious external challenge that might undermine its sustainability and render it extremely unfair and unwanted—the challenge of gaming.

By gaming, I (and the ACS literature in general) refer to actions of online users who strive to artificially inflate the number of registered uses of content in the administrative agency's final annual report. The overall reason for engaging in such conduct is clear—to increase the payout to the individual to whom the relevant work is registered. The identity of the gamer and his or her specific motivation and sophistication might vary; gaming might result from actions of professional criminals trying to manipulate and abuse the ACS; newly-founded business ventures that will specialize in "promoting" artists and their works within the ACS collection process; and even the actions of devoted fans that strive to promote their beloved artist and in that way prove their loyalty and affection (possibly after being encouraged to do so by the artist himself).[159] As I will explain and illustrate below, such gaming might be carried out by use of various means, but generally would constitute an attempt to simulate the "use" of a specific form of content, a great number of times. This could be done manually, or through the use of auto-

158. *See, e.g.*, Charles Babcock, *Data, Data, Everywhere*, INFORMATION WEEK, Jan. 9, 2006, *available at* http://www.informationweek.com/news/showArticle.jhtml?articleID=175801775.

159. Artists commonly ask of their fans to "check out their website." Therefore, it is easy to imagine artists encouraging in various ways their fans to access their songs multiple times (it is also easy to imagine that fans of certain forms of music might be more willing to comply—yet I leave the discussion of these different trends of fan behavior for future research).

mated applications, such as "bots," that would constantly "use" the specific form of content.[160]

It is fair to assume that given these various reasons and incentives to game, gaming would indeed occur in the ACS model. The temptation to game would be too great to resist, even though some of these actions are fraudulent and illegal according to today's law, and should surely be rendered illegal by specific rules as part of implementing the model. To prove this point, it should be noted that various gaming practices are creating an overall problem in the Internet media market. In several contexts, commercial entities have an interest to artificially inflate the popularity of certain online products (especially content), as this would lead to a lucrative payout to an interested party. Several examples concerning Google come to mind. For instance, website owners try to game Google's PageRank algorithm and system to assure their website would be prominently displayed as a response to various keywords submitted by searchers. They do so by (among others) artificially linking to and from the relevant site. These efforts have created an entire industry (Search Engine Optimizing—or SEOs) and generate an ongoing cat-and-mouse game between Google and those attempting to "game" its rankings.[161] In addition, website owners try at times to game Google's AdSense system, which posts advertisements on websites and compensates the website owner per clicks on these ads. Here, these website owners attempt to increase their payout by inflating the number of ad-clicks on their webpage, thus threatening the creditability of Google's business plan.[162] These examples show, that when business models compensate (directly or indirectly) for mere attention, and such attention could be artificially simulated online via technological means, then gaming practices would surely be quick to follow.

The existence of successful gaming opportunities and initiatives in a content market operating in accordance to the ACS model would be extremely problematic. It would threaten the stability of the model, and lead to discontent and frustration with its overall structure. Not only will gaming lead to compensation of the undeserving, it will adversely affect other artists that refrain from these practices. Since the sum to be divided among the right holders is set and limited for every given year, the distribution of funds amounts to a "zero-sum-game" in which any additional compensation to one claimant directly diminishes or even elimi-

160. Some ACS Scholars refer to these practices as "ballot stuffing." *See* FISHER, *supra* note 5, at 226; Netanel, *supra* note 2, at 55.

161. For more on this dynamic, see JOHN BATTELLE, THE SEARCH 161 (2005). For an explanation as to how the SEO firms work, see Search Engine Optimization: Information from Answers.com, http://www.answers.com/topic/search-engine-optimization (last visited Oct. 20, 2006). For an explanation of one dynamic, "Spamdexing," see Spamdexing: Information from Answers.com, http://www.answers.com/topic/spamdexing (last visited Oct. 20, 2006).

162. *See* BATTELLE, *supra* note 161, at 187 (regarding "click fraud" of the AdSense system).

nates the payout to the other. For these reasons, minimizing gaming should be seen as an important objective both in planning the model's structure, and throughout its use.

Yet before going further, I offer the following concrete example, which involves two fictitious individuals, Angela and Bruce, who interact in a content market governed by the ACS model. I believe it might somewhat illuminate the abstract gaming concerns mentioned above:

Angela is a gifted violist making her first independent steps in the music business. She has made several tapings of pieces she composed and preformed, and registered them online. Thereafter, she sets up a personal website, where she makes her works available for streaming and downloading. By tracking the usage rates of her website and information as to the trends of the popular file-sharing networks, she learns that there is an interest in her work by a growing number of avid fans.

Bruce, on the other hand, is a terrible musician yet a shrewd businessman. When the ACS model is implemented, he registers several works in his name, all of himself banging away on the drums with no sense of rhythm. He too sets up a website at which his works can be streamed and downloaded. Immediately thereafter, his works are downloaded and used an extensive number of times.[163] *This results from the fact that Bruce, who moonlights as an IT expert at several schools and businesses, has "planted" a small and undetectable piece of software on all of these computers' mainframes. This program causes all the computers within these networks do download and endlessly "play" the pieces registered in Bruce's name.*

At the end of the year, the administrating agency divided the annual fund and sent out "royalties" to the relevant registered right holders. Bruce (and other entrepreneurs like himself) received a hefty sum, which reflects constant usage and a great amount of interest in his "works." Angela received nothing (or close to nothing), as the threshold for receiving funding through the ACS model has been heightened by the actions of Bruce and others, leaving those with works that led to limited, yet genuine interest, with no compensation whatsoever.

The ACS scholars have been quick to identify the risks of gaming and have addressed several strategies in which this concern could be confronted and mitigated.[164] In the following paragraphs, I offer a taxonomy for examining the gaming risks and proper responses, while critically examining the response strategies offered thus far, and suggesting additional insights as to how to approach the concerns of gaming. I also

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163. This notion of gaming through the use of "bogus content" is not discussed by the ACS scholars, who focus on the promotion of existing works. I, however, believe that this form of gaming would be a major threat and concern.

164. Netanel, *supra* note 2, at 55-57.

examine what the effects of such anti-gaming measures would be on important objectives the ACS scholars point out elsewhere, such as the E2E principle and maintaining information privacy.

2. Confronting Gaming by Sampling

As gaming might turn out to be a serious and strategic threat to the existence of the ACS model, it is wise to examine at this early stage what steps might be taken to mitigate these practices. These steps would be part of the overall "distribution" stage in which the administrating agency determines trends of consumption and allocates funds to the deserving right holders. As mentioned, this stage includes: (1) the task of assessing content usage while relying upon sampling, using (2) Counting Software installed on every system individuals use for content consumption online, and (3) a Central System run by the administrating agency for summing up all streaming results.[165] I will examine how every one of these elements might contribute to mitigating gaming concerns, and what the implications of changing these elements to confront this challenge might be.

The first element which the ACS scholars argue would mitigate "gaming" is the sampling process that is used to create the database, according to which the funds are later distributed to the relevant authors.[166] Since only a portion of the overall population at any given time is sampled and only the information collected in the sample would impact the distribution of funds, it would be extremely difficult for a "gamer" to affect the overall outcome of the fund distribution. This is because there is only a remote chance that his or her gaming attempts would be accounted for—a fact that would discourage potential gamers from engaging in these practices. Gaming practices of course carry some costs (of hardware, software, computer power and time) and risks (of getting caught), and after carrying out a cost/benefit analysis, potential gamers would choose to focus their time and attention elsewhere. Thus, "sampling" not only provides for a more efficient process, but a safeguard against external threats to the accuracy and fairness of the distribution process.

Yet in my opinion and in view of the analysis presented above, relying on sampling alone to battle the threat of gaming is insufficient. This is because of the previous conclusions reached concerning the size of the sample the ACS model would require (in order to adhere to "internal fairness"). As explained, the sample must amount to around 0.1% of the overall population.[167] A sample of such magnitude, would not deter prospective gamers from engaging in gaming practices. When conducting

165. *See infra* Part IV.A.1.

166. Netanel, *supra* note 2, at 56.

167. Statistical Appendix, *supra* note 147.

their cost/benefit analysis as to whether to engage in such gaming, they might presume that given this sample size, it would be feasible to penetrate the sample on a regular basis and assure an increased payout. This presumption would probably be true.

Clearly, unsophisticated gamers, who will try to achieve this by endlessly "playing" their works over their own computer, would surely be disappointed and unsuccessful. However, sophisticated users would surely apply other means to increase the chances of inclusion in the sample. They would simultaneously use several "identities" from the same computer; abuse their access to a network of computers, and even distribute computer viruses and "Trojan horse" programs which will cause other computers to "play" the content of their choice without the actual knowledge of these computers' owners (as Bruce did in the example above).[168]

A cautious critic at this juncture, might question the logic of this last argument, as follows[169]: the sample size should not have an impact on the gamers' decision whether to engage in gaming or not. What the gamers would be looking at is the expected return on their business venture (which is their engagement in gaming practices with their related expenses and risks). This expected return is calculated by multiplying the probability of their success to place "their" content within the sample, by the payoff in the case of such success. It is true that the smaller the sample, the smaller the probability of placing within the sample. However, there is a flip side here as well: the smaller the sample, the larger the payoff in case of inclusion within the sample.[170] Therefore, whatever the sample size, the expected value remains the same, and the motivation of a potential gamer to engage in such gaming should not change. Thus, the argument goes, sample size is an irrelevant factor.

My response to this argument is, that merely examining the expected return in both instances (the one in which the sample was extremely small and somewhat larger) is insufficient. Even though the expected return is equal, the risk involved in both investments is very different: the smaller the sample, the greater the risk that the venture would fail at every given attempt to game. It is true that the expected value is the same, and given an unlimited opportunity to engage in gaming at zero marginal cost, attempts to game a small or large sample should lead to the same economic results. However, marginal costs will

168. It is fair to assume that in a world operating in accordance with the ACS models that it would be relatively easy to distribute these forms of viruses and it would happen frequently.

169. I thank Neil Netanel for engaging me in a discussion regarding this point.

170. This is because the smaller the sample, the more every sampled piece of content would be valued in the final process in which the funds are distributed to the right holders. In other words, the smaller the sample, the more dollars every right holder would receive for every single instance of usage.

never be zero and the gaming practices involve risks. In addition, as any other business venture, this one as well requires some assurance that there is a relatively high chance that the investors would be able to reap the fruits of their labor after a reasonable period of time. An ACS model using small samples will not allow gamers to have such assurance (which is why small samples would in fact be an affective tool to battle gaming). Yet as explained above, the sample would by no means be small. Thus, gaming ventures would be economically viable, and additional measures must be taken to block them.

Another critique, coming from a very different direction, would argue that the actions described above seem far fetched or too pessimistic, as there is no real reason to believe that individuals would go to such lengths in an attempt to squeeze extra dollars out of the ACS model, especially if there is over a 99% chance that any specific gaming effort would not be accounted for at all. Therefore, sampling will be a sufficient deterrent against gaming. It is of course extremely difficult to predict future behavior and outcome in the ACS model at this early juncture. However, I believe that given the relative low costs of computer power, and the way the ACS model is structured, gaming would be sure to become a lucrative business to some and a massive headache to others (namely, the model's administrators, other artists and regulators) even when sampling is applied. To prove this point, I refer to another contemporary online dynamic, which is somewhat similar: *spam*. Here entrepreneurs engage in business practices (that in terms of their legality could be described as varying from grey to the completely illegal) that generate an easy profit by multiplying their voices online at a very low marginal cost.[171] Spammers, and the firms paying for their services, are not deterred by the low rate of success and response these messages have. Because of the extremely low marginal cost of sending multiple messages, merely splinters of one percent in responses to the spam solicitations is sufficient for them to break even.[172]

Continuing this analogy somewhat further, I believe that comparing the potential risks of gaming to the very real problems of spam, teaches an important lesson: mistakes and lack of vision at the early stages of planning systems lead to serious problems at a later stage. At later stages, opportunities to make easy profits through abusing the system are extremely difficult to defeat. Rather, they lead to an extensive "arms race" between those trying to protect the system and those trying to con-

171. Similarities aside, it should be noted that the premise of the spammers business plan is very different. Rather than benefit from a governmental fund, they strive to capitalize on a very limited number of gullible consumers that would purchase the services offered through spam, and in that way render the entire process profitable. *See* Spam: Information from Answers.com, http://www.answers.com/spam (last visited Oct. 20, 2006).

172. For one description of the spamming business model, see Spam: Information from Answers.com, *supra* note 171.

tinue to contaminate it. In the process, they create an overall waste of technological innovation, and additional social costs in terms of burdening courts and other law enforcement agencies. Therefore, if the implementation of an ACS model (on a broad or limited scheme) is to be taken seriously, its planners and administrators must take steps to mitigate the gaming problem in advance. I now address what steps might be taken, while explaining how they could be implemented in the other two elements of "the distribution" stage (that attends to monitoring and assessing content usage)—the "Counting Software" and the "Central System."

3. Fighting Gaming—Beyond Sampling

Clearly, additional measures are needed to deter gamers and mitigate the effects of their actions. I now address several solutions which strive to meet this objective. Here, I refer both to solutions mentioned by the ACS scholars, and my own proposals. The latter are based on proposals mentioned in the context of battling spam.[173] Generally, such strategies will strive to (1) undermine the gamers' business model, and the outcome of their cost/benefit analysis concerning their decision whether to engage in gaming, and (2) Block content usage that is clearly artificial and a result of gaming attempts.[174] The former would mostly be applied through the users' local "Counting Software," while the latter through both the "Counting Software" and the "Central System." The following analysis will address these two components in turn, starting with the "Counting Software."

At this point, one might ask (as I have been asked several times): Is this discussion indeed suited for a legal and policy crowd, as these are not legal nor policy issues but mere technical ones? Shouldn't these questions be left for technologists, system architects, and computer engineers, who are supposed to identify such risks and move to resolve them at the time the system would be implemented? Perhaps. Yet I believe that decisions as to what actions should be taken against gamers are far from merely technical. They involve policy decisions as to the way the ACS model would be structured, which, in turn, have important implications regarding several issues policymakers and scholars found important in the past. For these reasons, I not only believe this discussion is timely, but that it must involve and be of interest to policymakers and lawyers as well.

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173. As mentioned above the problem at hand somewhat resembles that of spam, and therefore the some of the solutions selected are ones that are applied to battling spam as well.

174. Clearly there would be a problem with definitions here—how should we define, for example, the actions of fans mentioned above (replaying the works of their favorite artist). I assume these actions would and should be rendered legitimate.

a. The End Users' End

As mentioned, the gamers' business model could be undermined by forcing gamers to incur costs when attempting to place content within the sample. With such costs, it would not prove worthwhile to engage in these practices so to receive the mere pennies for every time the gaming attempt proves successful. Possible measures for achieving this objective are structuring the "Counting Software" to register a work as "used" (or "consumed") only if viewed or heard in its entirety,[175] or that additional computational processes must be carried out before the work would counted.[176] Of course, for this scheme to work, it must be applied on every machine and application that might be used to "consume" content (whether they are computers, PDAs, or other portable devices such as iPods or MP3 players). Yet I believe that these measures alone are far from sufficient. Gamers would clearly try to defeat them by attempting to penetrate the Counting Software and shut down these anti-gaming measures. Moreover, they will also try to game the Counting Software itself, so that it sends out indications that specific forms of content have been consumed numerous times, even though that was not the case.

Some of these concerns could be dealt with through other measures I will mention shortly. However, to properly block the gamers' efforts, steps must be taken to protect the Counting Software from tampering. It is of course difficult to establish today what steps must be taken, but it is fair to assume that the industry must establish a standard for "safe" counting software, and that regulation must be put in place to assure that all manufacturers comply. Furthermore, to assure that the system would be secured from tampering, the protocols for carrying out these tasks might have to be kept secret.[177]

Walking through the steps required to mitigate gaming by blocking artificial content usage through measures installed on the users' end (i.e. the Counting Software) leads to similar outcomes and conclusions. Here, to block suspicious trends of usage, the ACS planners must establish a limited number of daily (or monthly) legitimate uses of every form of

175. FISHER, *supra* note 5, at 228.

176. This is a solution that has been suggested in the Spam context. *See* Jo Twist, *Microsoft Aims to Make Spammers Pay*, BBC NEWS (Dec. 26, 2003), http://news.bbc.co.uk/2/hi/technology/3324883.stm.
Other solutions have been suggested in the "spam" context might fit as well—such as Microsoft's initiative to charge a miniscule sum for every email used after a very high number. Here the model might choose to charge users an additional sum (in addition to the levy) if they consumer over a specific number of works in a set period. *See* Microsoft, Q&A: Microsoft's Anti-Spam Technology Roadmap (Feb. 24, 2004), http://www.microsoft.com/presspass/features/2004/Feb04/02-24CallerID.mspx.

177. In other words, these applications would be required to use "closed source" code as opposed to "open source" code that provides for many benefits in terms of allowing for other developers and innovators to add on additional and complementary applications and programs to the existing infrastructure.

content from a single user.[178] Every additional form of use to be registered with the Counting Software would not be accounted (out of suspicion it is merely a result of gaming) and will not increase the payment to the relevant right holder. Again, gamers would try to interfere with these measures by overriding this application, or even figure out ways in which every "machine" could unnoticeably run several pieces of Counting Software simultaneously, and in that way defeat this defensive measure.[179] Therefore, again the model's engineers must preempt this threat by standardizing, securing, and even locking the Counting Software application.

b. ACS vs. E2E

This ongoing circle of action and reaction described above leads to an interesting final outcome: At first it illuminates additional required adjustments to the legal system when implementing the ACS—adjustments that would address the standardizing of the Counting Software and possibly render illegal any attempts to tamper with its inner workings as part of an attempt to game. Yet beyond that, it is apparent that for the ACS model to work smoothly (and battle gaming efficiently), several elements featured and heavily criticized in the DRM systems, must be included in this model as well! For instance, standardization of the Counting Software could be used as means to engage in anti-competitive practices. Furthermore, the ACS model will include elements that would interfere with the Internet's E2E principle.

As mentioned,[180] the E2E principle states the importance of allowing any developer to easily add new applications to the network without requesting the consent of others. However, with Counting Software that includes the secured elements mentioned set in place, developers will be limited to complying with the Counting Software's specifications. This might prove a problem. As discussed in the DRM context, these developers might not be able to exercise their full potential to innovate when forced to comply with external constraints. This would diminish the overall innovation that characterized the Internet, and thus lead to an unwanted social outcome.[181]

The ACS scholars do not address the tension between the aim to achieve external fairness in the counting process and maintaining an open network that adheres to the E2E principle (though in several places they discuss the importance of maintaining the latter, as a reason to object to DRM solutions). However, as this analysis indicates, a conflict

178. FISHER, *supra* note 5, at 229.

179. *Id.* at 226 (addressing this threat).

180. *See supra* note 80.

181. I concede to the fact that the harm to the E2E principle will be less severe than that caused by DRM, yet effects this principle nonetheless.

with the E2E principle might be inevitable. This is not to say that the ACS model should be rejected on this basis. I believe that much to the contrary, the other benefits ACS brings into play should justify the limited use of locked and closed components within the Counting Software. The ACS model promotes creativity by opening up many forms of content to the general public for their unrestricted use—and paying a price in terms of somewhat limiting innovation in the development of web applications is acceptable.[182] Clearly, however, others might not share this view, and therefore this matter must be acknowledged, discussed, and resolved (even on a temporary basis) prior to implementing an ACS model.

c. Battling Gaming, the Central System and Privacy

Additional measures that would be surely required to effectively battle gaming must be implemented through the Central System. These measures will again strive to locate and thereafter disregard content usage that is artificial and therefore an attempt to game. To do so, these Central Systems would be structured to limit the number of times a specific work would be counted from a specific destination within a specific timeframe. A "destination" could be defined as a specific IP address, a specific "machine," or a Counting Software application.[183]

Yet this might not be enough. As gamers would apply dynamic IP addresses and shift from one machine to another,[184] the system must have the ability to detect normal trends of content consumption, and disregard action patterns that sharply differ from these trends (that indicate gaming and distortion might be afoot). However, as I will now explain, meeting this task again conflicts with an important principle the ACS scholars strive to adhere to—maintaining the privacy of the content users (as opposed to the DRM systems, which have been criticized for compromising the users' privacy).[185]

At first, a few words about the ACS model and privacy. On its face, the contemplated ACS models create serious risks for privacy harms. The models call for frequent reporting of the content consumed by individuals to a data inventory controlled by the administrating agency that in turn is part of the government.[186] Clearly, the information the ACS model involves is extremely delicate, as it could provide a great deal of insight into the individual's personality and most inner thoughts that are

182. Of course efforts should be made to construct Counting Systems that allow for both the blocking of distortions and the use of open applications, and in that way enjoy the benefits of both worlds. This is a point worth explaining to technologists and policy makers upon constructing the ACS model.

183. *See* FISHER, *supra* note 5, at 228 (alluding to this solution).

184. *See id.*

185. *See* Netanel, *supra* note 2, at 55.

186. *See* discussion *supra* Part III.

reflected in her decisions as to what forms of content to use and consume.[187] In addition, an individual's knowledge that her entire pattern of content consumption is constantly being viewed and stored would, have an adverse effect on the users' online behavior. Individuals will fear that such data could be passed onto other entities within the government, commercial entities, or abused by individuals with access to the database. Not only would such knowledge and fear cause users to feel intimidated and perhaps a loss of autonomy,[188] but it would affect the content users' choices in selecting content to listen to and view online. Users will conduct themselves in a conforming manner; namely, they would refrain from listening to content that could be viewed as outside the mainstream in fear of what others might think.

Clearly these are unwanted results that would lead to the quick failure of the ACS. For this reason, the ACS scholars have specifically addressed this matter,[189] while setting a very high threshold of privacy protection. They state that the model must include rules prohibiting any subsequent use of the data collected, and requirements that such data be immediately purged after being summed up to formulate the overall sum of works consumed at a specific time (a process carried out by the Central System). These rules, which would reflect similar restrictions existing in some media,[190] will assure users that there is no need for concern regarding their privacy, and that such fear need not impact their content preferences and selections.

Although I strongly agree with the ACS scholars' privacy concerns, I believe these rules set a privacy threshold that is far too high. The personal information pertaining to the content preferences of many individuals is indeed sensitive and raises serious privacy concerns. However, this same information would probably prove crucial in attempts to mitigate gaming. To effectively battle gaming, the administrating

187. *See* Stan Karas, *Privacy, Identity, Databases*, 52 AM. U. L. REV. 393, 438-39 (2002) (discussing the privacy concerns arising with regard to the collection of "mere" consumer data). For a glimpse of the ways in which such concerns generated public outrage in a much more limited context, see various stories concerning the collection and use of personal data by TiVo. *See, e.g.*, Jeffrey Zaslow, *If TiVo Thinks You Are Gay, Here's How to Set It Straight*, WALL ST. J., Nov. 26, 2002, at A1.

188. For a discussion of privacy concerns stemming from the fear that one's actions are constantly being viewed, see Tal Z. Zarksy, *Desperately Seeking Solutions: Using Implementation-Based Solutions for the Troubles of Information Privacy in the Age of Data Mining and the Internet Society*, 56 ME. L. REV. 13, 32 (2004). For the view that the monitoring must be limited in order to limit misuse and embarrassment, see Jerry Kang, *Information Privacy in Cyberspace Transactions*, 50 STAN. L. REV. 1193, 1212-17 (1998). For the view that such monitoring might harm autonomy, see Julie Cohen, *Examined Lives: Informational Privacy and the Subject as Object*, 52 STAN. L. REV. 1373, 1425 (2000). For additional philosophical background on the fear and privacy concerns associated with the creation of vast databases that include personal information, see Daniel Solove, *Privacy and Power: Computer Databases and Metaphors for Information Privacy*, 53 STAN. L. REV. 1393 (2001). *See generally* DANIEL SOLOVE, THE DIGITAL PERSON (2004).

189. *See* FISHER, *supra* note 5, at 228; Netanel, *supra* note 2, at 55.

190. Netanel, *supra* note 2, at 55.

agency must constantly track and analyze the databases of online content consumption, in order to establish a baseline of normal and abnormal consumption patterns and in that way identify attempts to distort the model. At this early stage, it is of course difficult to establish what forms of data would be required to quickly and efficiently detect these patterns. However, I will assume that the analysis cannot rely upon the aggregated data of samples taken throughout the year. Rather, I believe that for the first few years such analysis would require information concerning the origins the data, in terms of an IP address, or a specific Counting Software—in other words, information that might compromise information privacy and would not be available if the privacy measures stated above are taken.[191]

An interesting example of another gaming concern, and the way in which it is confronted, illuminates the nexus between battling gaming and the use and analysis of Internet traffic. Here I refer to concerns regarding click fraud and the threat to Google's AdSense model. As mentioned,[192] Google is currently battling attempts to "game" their lucrative business model, according to which website publishers are compensated per click on advertisements set on this page. In a lawsuit about to be settled,[193] it has been argued that these practices cause advertisers massive losses, and therefore these practices might indeed threaten to undermine Google's business model.[194] As a renowned security expert recently noted,[195] these gamers at times use sophisticated strategies while "attacking" from multiple IP addresses and at times using "Trojan horses" that take over the machines of unsuspicious users and apply them towards these causes. The settlement mentioned, and the documents published by experts involved in the case provide us with some insight as to how Google confronts this challenge. Here too, Google is responding in several ways. First, its experts automatically block repeated clicks that are clearly fraudulent. Yet to block more sophisticated gamers, Google employs teams of experts as well as sophisticated algorithms that examine the overall database of clicks, which include a data trail about every click, with information regarding its originating IP address and the

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191. Here I disagree with Ku who holds that privacy would not be a problem as information beyond the aggregated sums of usage will not be required. This assertion is incorrect given the risks of gaming. Ku, *supra* note 15, at 314-15.

192. *See supra* Part IV.B.

193. Plaintiffs' Second Amended Class Complaint, Lane's Gifts and Collectibles LLC v. Yahoo! Inc., Case No. CV-2005-52-1 (Ark. Cir. Ct. Feb. 17, 2005). On this issue, see Eric Goldman, Technology & Marketing Law Blog: *Lane's Gifts Click Fraud Lawsuit Near Settlement*, http://blog.ericgoldman.org/archives/2006/03/lanes_gifts_cli_1.htm (Mar. 8, 2006, 16:25 EST); Nicole Wong, Official Google Blog: *Update: Lane's Gifts v. Google*, http://googleblog.blogspot.com/2006/03/update-lanes-gifts-v-google.html (Mar. 8, 2006, 13:58 EST).

194. *See* BATTELLE, *supra* note 161, at 186-88.

195. Bruce Schneier, *Wired News:Google's Click-Fraud Crackdown*, WIRED NEWS, July 13, 2006, http://www.wired.com/news/columns/0,71370-0.html.

time it took place. After examining these databases, they attempt to establish what constitutes a normal and abnormal form of ad-related clicking. Thereafter, they move to disregard abnormal clicks, and amend their automatic filters to disregard such clicking patterns from there on.[196]

Returning to the ACS model, I believe the analysis and example above provide us with some important insights as to future planning and the way in which the ACS model must deal with personal information. Clearly, this analysis should not lead to the conclusion that within the ACS model, all privacy protection must be abandoned (an outcome that might undermine the ACS model in its entirety). However, understanding this potential conflict between the need to respond to gaming and privacy concerns requires us to realign the means of privacy protection the model will employ. First, the ACS model must abandon the very high threshold of privacy protection mentioned above that would not allow for the meaningful analysis required for fraud detection. Clearly, data regarding content consumption should not be put to subsequent commercial uses, or passed on to third parties (either commercial or governmental), yet it cannot be purged immediately as well. Rather, the ACS's privacy policy must be structured to allow the administrative agency to probe the dataset of information pertaining to the samples gathered, which also includes data as to the sources of the sample (in terms of IP addresses or even an identification number for every Counting Software).

Allowing such practices to take place will, of course, generate some privacy concerns. Individuals may fear that security will be breached and the data regarding content consumption will leak, or that someone within the administrative agency will misuse the data. They might also fear that the government will subpoena such information if it deems it necessary for an investigation (a realistic option given recent events). Therefore, steps should be taken to preserve privacy, while maintaining the ability to battle gaming. For instance, strict security requirements could be set in place regarding these databases, with harsh punishments for those who breach them.

Should the steps mentioned prove insufficient to confront fears of the government systematically misusing this database, the model's planners might consider solutions recently examined by security agencies in the context of the war on terror. Here, the government is faced with the challenge of examining vast commercial databases (such as credit card

196. For an in-depth discussion as to how these practices take place, see Alexander Tuzhilin, *The Lane's Gifts v. Google Report*, http://googleblog.blogspot.com/pdf/Tuzhilin_Report.pdf (last visited Oct. 20, 2006); Click Quality Team, Google, Inc., *How Fictitious Clicks Occur in Third-Party Click Fraud Audit Reports* (Aug. 8, 2006),http://www.google.com/adwords/ReportonThirdPartyClickFraudAuditing.pdf#search=%22How%20Fictitious%20Clicks%20Occur%20in%20Third-Party%20Click%20Fraud%20Audit%20Reports%2C%20Click%20Quality%20Team%2C%22 (last visited Oct. 20, 2006).

and airline databases) that might hold important clues as to future terrorist attacks. Obviously, allowing the government to access these databases without restrictions, while conducting massive "fishing expeditions" creates serious privacy concerns.[197] To meet this challenge, researchers are trying to formulate ways in which the government could engage in data analysis and data mining, while searching and detecting data patterns of dangerous anomalies, without having the ability to "see" the data itself.[198] Only after such anomalies that indicate the existence of a security risk are detected, are the law enforcement agents permitted to receive information as to the actual data within these datasets (as opposed to overall trends).

Shifting back to the ACS model, applying these new technologies (should they indeed prove workable) would allow for creating a database of information relating to the users' content consumption to be held in confidence by a trusted third party that would not be permitted to make any use whatsoever of the data. Thereafter, the governmental administrative agency would analyze and "mine" this database, without having access to the data itself. Only after establishing the existence of gaming patterns, will the agency move to block similar actions in the future. Clearly this issue requires additional research as to whether it is even feasible to blindly recognize such patterns in an effective manner and these options still need to be discussed and weighed before decided upon. Yet the importance of maintaining the ability to battle gaming must be borne in mind when addressing privacy questions in the ACS context. The abovementioned examples show that based on other contexts, balancing gaming and privacy might be possible, with proper planning and understanding of the interests involved.

I conclude with two final points regarding privacy. First, I note an additional issue that would require future discussion and analysis—the ability of the administrative agency to bring action against "serial gamers" (by way of existing or special laws). To do so, the administrative agency must not only block the gaming practices, but establish their existence, locate the "gamer" and link him or her to the gaming activities—all tasks that require access to personal information. Clearly the extent of the gaming problem will set the tone as to what forms of actions would be taken. Enabling the administrating agency to engage in these actions will create privacy concerns, as well as concerns of selective enforcement, which will somewhat echo concerns voiced today regarding

197. For a recent account of this issue, see JEFFREY ROSEN, THE NAKED CROWD 148-49, 196 (2005).

198. For additional details, see K. A. Taipale, *Data Mining and Domestic Security: Connecting the Dots to Make Sense of Data*, 5 COLUM. SCI. & TECH. L. REV. 2, 74-81 (2003). For a discussion of the legal implications of these tools, see ROSEN, *supra* note 197, at 148, 196.

the ongoing lawsuit against individuals engaged in file swapping. I leave these discussions for a later time.[199]

Second, privacy in terms of the ACS model raises an interesting question regarding the ability of the copyright holder to capitalize on their right without exposing their identity. In today's content markets, and especially in one enabled by DRM, creators could sell their works without the need to establish their identity, and can even rely upon the use of pseudonyms.[200] With ACS, however, the administrative agency must have proper identification and contact information about the copyright holders so as to provide them with proper compensation by the end of the year. This requirement might compromise the ability to capitalize on anonymous or pseudonymous works.[201] These concerns could be substantially mitigated by structuring the ACS model in order to provide for the pseudonymous registration of works. However, allowing such registration would (again) lead to problems concerning the ability to track gamers, who would constantly attempt to register bogus works in their name. I leave the balancing between these objective (anonymous creation and defeating gaming) for a later time.

To conclude our discussion of achieving fairness when measuring usage in the ACS model, I point out that the key to this task is balancing. After correctly establishing the benefits and detriments of every policy choice and steps, regulators must balance privacy, network openness, accuracy in measurement and, vulnerability to gaming. I hope this discussion will assist in this complicated task, by drawing out the elements involved, and the possible tools available for constructing the proper balance.

C. The Outcome of ACS Implementation

At this point of the analysis, I put aside my examination of the "nuts and bolts," and move to examine the impact of implementing the ACS model. I do so while accepting that the implementation of the ACS is politically and legally feasible. As mentioned above, when Fisher sums up his description of the ACS model, he mentions the benefits of such implementation to users, artists, and society on the one hand, and the much welcomed weakening of today's overpowering media conglomer-

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199. FISHER, *supra* note 5, at 225-26 (addressing this matter briefly).

200. Note, however, that right holders can rarely enforce their rights without revealing their identity.

201. This is of course not to say that the model compromises the important right to speak anonymously. On this issue, see Tal Z. Zarsky, *Thinking Outside the Box: Considering Transparency, Anonymity and Pseudonymity as Overall Solutions to the Problems of Information Privacy in the Internet Society*, 58 U. MIAMI L. REV. 991, 1024 (2004). The question as to whether there is also a right to financially capitalize on content distributed anonymously should be addressed at a later time.

ates on the other hand.[202] In this sub-part, I will confront these predictions while closely examining three issues: (1) Which segments within the content industry might choose to voluntarily exclude themselves from the model, and whether such exclusion will cause a problem to the overall implementation of the ACS model; (2) How the model's implementation would affect the balance of power between the various players in the media market (3) Unplanned and unwanted effects the model's implementation might have on the creation, development and distribution of content in the post-ACS digital environment. Throughout my analysis I examine how these issues compare to the objectives the ACS scholars set out to achieve, and suggest changes that might be required in the model's structure to overcome instances in which these objectives will not be met.

1. Forms of Content—The Limits of the Model (Or: Why Pornography and ACS Don't Mix—and Why We Need Not Worry About That)

As mentioned above, even though the ACS model consists of many mandatory elements (such as a levy on services and applications related to online usage and possibly the use of Counting Software), it still requires voluntary participation of one important group—the copyright holders who must agree to provide their content online through the open ACS model. The other option such content owners might exercise is refraining from providing and distributing their content online altogether, or limiting such distribution to locked DRM systems that would directly control the ways in which users access their content. As the ACS scholars argue correctly, this option will be quite unattractive and artists have strong incentives to participate in ACS. For upcoming artists, the model provides for vast exposure to a worldwide audience. For already renowned artists, the model provides compensation for online uses that are already taking place and will probably continue to take place online in any event (in spite of the industry's attempt to block them) given the fact that DRM technology cannot provide foolproof locks against the leaking of content to illegal sharing networks.[203] In addition, opting for limited distribution through a DRM model should be undesirable,[204] as this re-

202. *See supra* Part III.

203. Artists are usually unable to block the migration of their works online, as users upload versions of the famous works of these artists to the web within the file-swapping networks, while at times "cracking" various locks installed on these forms of content offline (such as the cracking of DVD encryption and uploading full length motion pictures to the file swapping network). *See* Netanel, *supra* note 2, at 9-10.

204. As mentioned, according to Netanel, the adoption of an overall ACS scheme also calls for the repeal of the legal protection amounted to the trusted systems enabling the DRM infrastructure. *See id.* at 40-41. In other words, the implementation of ACS models will call for canceling or limiting DMCA-like provisions that prohibit and criminalize the circumvention of copyright protection mechanisms. Thus, the authors would have an even greater incentive against opting for the DRM option. *See id.* at 59. Note that Fisher objects to this notion—while arguing that individuals should

quires substantial setup expenses, as opposed to the mere registration the ACS model entails.

However, even after taking these benefits and detriments into account, some copyright holders might still refuse to participate in the ACS model. It is, of course, extremely difficult to predict how many and whom will chose to exclude themselves, yet I believe, it is safe to assume that a specific segment of the online content market will refrain from participating in ACS—those creating and producing pornographic materials.[205] These copyright holders will probably continue to make use of trusted systems for distributing their materials, and lead the way in the development of new applications with greater security.

I draw this conclusion while relying upon several arguments. First, I believe these copyright holders would refrain from participating in the ACS in view of the registration process. This process will explicitly link their names with the production of this form of content in a public register, thus making this information available both to the public and to the government.[206] Second, these content providers will fairly assume that individuals interested in "consuming" such content online, would be uncomfortable with reporting their consumption histories through the use of the counting systems mentioned above,[207] and will therefore try to hide any traces of such consumption.[208] This is quite the opposite of many other settings, where users would be happy to indicate their interest in specific forms of content, as it would lead to additional compensation for the artists whose content they now enjoy. The users' reluctance to participate in the counting process would lead to a drop in the compensation such content providers would reap through the dynamics of the ACS model (as opposed to the compensation they might reap through other compensation models).[209] In view of these arguments, I believe the por-

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be allowed to make use of both models, and that they would no doubt flock to ACS that is preferable by far. *See* FISHER, *supra* note 5, at 108-10.

205. In this segment, I only refer to works whose distribution is permitted according to relevant laws. The online distribution of content deemed illegal requires an extensive analysis that is beyond the reach of this article.

206. The motivations here might be mixed. Some might fear the public eye and social backlash of being associated with this form of content. Others might not want the government to have easy access to such lists. This argument is not without flaws—as the current system requires these content providers to provide information to both government and the public concerning their activities (when suing to enforce copyright, registering websites or even filing tax returns concerning their operations). However, I argue that the ACS model would require a great deal of exposure and an easily accessible central repository.

207. Note that these concerns will be exacerbated given my previous analysis of the required balance of privacy measures and concerns with anti-gaming activities that will inevitably broaden the concerns users will have regarding the governments ability to track, save, and see what content they are consuming online. *See supra* notes 186-91 and accompanying text.

208. *See* FISHER, *supra* note 5, at 227 (describing a similar dynamic regarding the tracking of content usage by Nielsen Media (in the context of television)).

209. Note that I need not argue that the consumption of pornography will decline because of the tracking devices put in place—an argument that is somewhat problematic to prove given the fact

nography content industry will opt for the DRM model, as opposed to the ACS model addressed above.[210]

Yet the reluctance of the creators and distributors of pornographic content to make use of the ACS model need not indicate the model's weakness. Much to the contrary, I believe such reluctance would strengthen the model and assist in its implementation, by somewhat silencing two powerful critiques against its adoption. One such critique would argue that a model that does not charge for marginal uses of content will potentially allow users to access endless amounts of pornographic materials at no additional costs. This, in turn, may lead to an array of problems, such as unhealthy addictions of online users to such materials. Another critique (with somewhat of a populist flavor) will argue that the ACS scheme leads to the cross-subsidizing of the "consumption" of pornographic content online. In plain terms, it argues that individuals who barely use the Internet in general and file sharing applications in particular, would be indirectly funding (through their contribution to the governmental fund, via the levy) the production of pornography and enabling excessive use of such content.[211] Clearly, this argument could be made with regard to many other elements and forms of content.[212] However, placing this critique in the "pornography" context is sure to generate additional support and may threaten the implementation of the model, as it will find its way to the hearts of many citizens.

In summation, pornography has been a driving force in the development of online technologies, and generates a vast amount of online traffic. According to this analysis, this industry will remain outside the model. However, in view of the benefits stemming from this outcome, I believe this should not be a reason to reconsider the way the model is constructed.

2. The Role and Power of Intermediaries in the ACS Model

a. General

An important objective the ACS scholars aim to achieve in the shift to the ACS model concerns the realignment of power in the media con-

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that the consumption of free pornography is extremely popular online. I however argue that users will take actions to avoid being tracked by the various means mentioned above when consuming pornography—which would lead to substantial losses to these copyright holders.

210. Note that DRM creates privacy concerns of its own. *See supra* notes 82-83 and accompanying text. However, these concerns can be mitigated by sophisticated consumers making use of e-cash and similar measures that will not allow for tying their payment method to their real-world identity. Such measures will not be helpful in the ACS world, which must track (for reasons mentioned above) the actual IP address the consumer is using.

211. FISHER, *supra* note 5, at 217.

212. For instance, conservatives, who use their computers for word processing and email only, will argue that they are cross-subsidizing the consumption of music and video content which advocates ideas they strongly disagree with (and vice versa). *Id.*

tent markets. These markets feature large media conglomerates, which serve as intermediaries and deliver the works of artists to their prospective consumers. In today's media markets, such intermediaries are vested with a great deal of power, which according to several scholars leads to unwanted results to artists, consumers and society as a whole.[213] The ACS model, so it is argued, empowers both artists and consumers and thus mitigates the unwanted results stemming from the existence of the overpowering media intermediaries in the current market (a result stemming from today's market structure).[214] I hereby examine the assertion that a shift to the ACS model will indeed realign this market balance and cure the many problems this balance (or rather, imbalance) creates. In doing so, I provide both an analytical and comparative analysis that might prove otherwise. Thereafter, I discuss steps that might be taken to allow the ACS model to achieve this objective. I also address points for future research to sharpen the understanding of the role of intermediaries in an ACS content market.

To start out, a few words regarding the role of media conglomerates as intermediaries in today's content markets.[215] First, in terms of their relation with artists, these firms provide them with funding, connections, knowledge and expertise, and in this way promote them from anonymity to stardom. The firms make use of their massive distribution and promotion mechanisms and deliver the relevant forms of content to the actual and virtual doorsteps of the masses.[216] Before launching this process, however, in the music context, most artists assign their rights in the sound recording over to these intermediaries and in return receive mere pennies for every dollar to be made in sales of their works.[217] Artists are forced to do so because they lack any other meaningful option to promote their content and deliver it to interested consumers. Second, the intermediaries provide an important service to the audience (the consumers) as well. They choose specific works from a nearly limitless selection and advise consumers that such content is worthy of their limited attention.

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213. For one description of market concentration, see ROBERT MCCHESNEY, THE PROBLEM OF THE MEDIA 177-83 (2004). For an opposing view, see BENJAMIN M. COMPAINE & DOUGLAS GOMERY, WHO OWNS THE MEDIA? (2000).

214. FISHER, *supra* note 5, at 242. In all fairness, it should be noted that according to Fisher, the future role of today's powerful intermediaries is unclear—they might be able to capitalize on their expertise and power to remain vital and profitable in the new realm, but might also be outperformed by newer players. Elsewhere, however, when addressing the effects on artists, Fisher mentions that the model will allow them to be less dependant on a few intermediaries. *Id.* at 240. Below I examine this key assertion in depth.

215. This segment of the analysis is structured in terms of the music industry. The arguments could be rephrased to meet the structure of the television and film industry, which are probably far more concentrated.

216. For example, see FISHER, *supra* note 5, at 21-22 for the roles of music intermediaries in today's markets.

217. *Id* at 54-55.

Given the economics of scale and scope content markets involve, these intermediaries have grown in size, and a limited number of them dominate a vast portion of the market.[218] Beyond several advantages such integration provides, this phenomenon leads to problematic outcomes on both sides of the equation (i.e. vis-à-vis artists and consumers). The market power and dominance these firms enjoy allows them to obtain draconian terms when negotiating with artists, thus limiting the artists' actual benefits from the fruits of their talent and labor.[219] With regard to consumers, it is argued that the content selection these concentrated intermediaries provide is dull and mainstream, as well as limited given the almost endless array of options.[220] This results from the intermediaries' policy of maximizing profits, which at times conflicts with other social objectives.[221] In addition to this critique as to the actions of the intermediaries, it has been argued that permitting a limited number of corporate entities to control the content consumption patterns of a vast segment of society is problematic *per se*, as these entities will control what the public knows and therefore how it thinks and acts.[222]

The ACS scholars are well aware of these concerns regarding the powerful position of content intermediaries in the media market, and advocate ACS as a way to mitigate these problems. Indeed, at first glance, the ACS seems to provide a reasonable response to these failings of today's content markets, with regard to the troubles of both artists and consumers. First, in terms of artists, the ACS model creates a media market with an extremely low barrier to entry. Any artist could easily upload her work to the Internet, where it could be accessed and used by a very large audience, and receive indirect compensation for the content's consumption (after going through a quick, cheap, and simple registration process). Therefore, these artists would not be forced to rely upon the assistance of the mentioned intermediaries, while making use of the Internet's infrastructure and features for content distribution and promotion. Also, they need not rely upon the intermediaries for compensation, which they receive directly from the administrative agency.[223] Consumers, too, would benefit from the shift to ACS. They will not be limited to the content the intermediaries choose to promote and distribute, but could access a broad array of content directly online, while interacting directly with the artists themselves.[224]

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218. *See* MCCHESNEY, *supra* note 213, at 177-83. *But see generally* COMPAINE & GOMERY, *supra* note 213.

219. *See, e.g.*, FISHER, *supra* note 5, at 54-55.

220. *Id.* at 80-81, 238.

221. *Id.*

222. BENKLER, *supra* note 33, at 202.

223. FISHER, *supra* note 5, at 238.

224. *Id.* at 239.

b. The Critical View

Critically reviewing these rosy predictions of the realignment of forces in the ACS content market leads to some skepticism of their accuracy. The shift to the ACS model will indeed lower several barriers to entry for artists to the content market, and will allow them to easily upload their content, as well as distribute it directly to consumers. Therefore, the importance of these aspects of the content intermediary's role will quickly diminish. However, in a market operating in accordance to the ACS, the role of intermediaries, vis-à-vis consumers, will still remain, and gain importance. Here, consumers will reach out to intermediaries for guidance in selecting content which might meet their specific interests, be of the highest of quality and thus worthy of their attention. Indeed, in the ACS model, human attention is a scarce commodity (which eventually leads to the artists' compensation) and one which consumers will try to guard when facing the abundance of content the model provides.

The ACS scholars acknowledge and even welcome the prospect of important intermediaries in the ACS content market. However, they argue that these intermediaries need not be so powerful as to allow them to abuse artists.[225] In addition, they need not be the same conglomerates we have today (although these entities have been known to leverage their market power in one medium towards another). Rather, the ACS model will lead to the appearance of an abundance of experts, media critics, or simply music or movie lovers that will comb through the Internet searching for notable materials, and will list and link to them at their respective home pages.[226] These will be the new intermediaries of the ACS age.

Though this description may seem convincing, I find it too optimistic. It is missing a crucial element I address below—that of the power which would be amounted to intermediaries in the ACS content market. Furthermore, I believe there is a good chance that all the ailments that inflict the general media market will manifest in the ACS content market as well, thus leading to the reappearance of today's concerns of concentration and imbalance. In the next few paragraphs I will explain why.

As mentioned,[227] the ACS content market will feature many intermediaries, which will all offer content "consumers" lists of recommended forms of content. The key question, however, is which intermediaries will the public choose to trust and entrust with their valuable attention span, and what will the trends of "intermediary selection" resem-

225. *Id.* at 238.

226. This notion was mentioned by Volokh with regard to the broader Internet context. *See* Eugene Volokh, *Cheap Speech and What It Will Do*, 104 YALE L.J. 1805, 1815-16 (1995).

227. *See supra* note 226 and accompanying text.

ble. Based on similar instances occurring in other media markets,[228] I assume that most of the public will focus on and flock to a limited number of intermediaries. The public will demonstrate a trend of concentration on a limited number of resources. These trends, in turn, will provide the "popular" intermediaries with a great deal of power. Moreover, I will argue below that there is a good chance that these "popular" intermediaries will be an extension of the same powerful conglomerates that dominate today's content industry. Thus again leading to the reemergence of various concerns.

Let us begin with the future trends of "intermediary selection." Clearly, in the ACS model, almost anyone could become a self appointed intermediary. However, as recent work in the fields of sociology and network theory indicates, human attention tends to be concentrated, and masses tend to focus most of their attention on a very limited number of resources, for a variety of reasons I need not address here.[229] In other words, human attention tends to be distributed according to a "power law," rather than equality among various outputs available. This is best demonstrated by recent studies concerning the Internet. While the Internet allows almost anyone to set up a website that is accessible world wide, various analyses of online content consumption, market structure, and even link structure lead to the somewhat surprising result—the Internet is turning out to be as concentrated as other forms of media (even though the physical barriers to entry are considerably lower). This concentration is expressed in the overwhelming share of a limited number of entities in the revenues the online market generates,[230] the attention users pay to websites,[231] and the number of incoming links other websites post on their pages.[232] These studies show that the Internet content market is demonstrating interesting trends of concentration that lead to high barriers to entry and new hubs of power. They also show that in today's online realm it is quite difficult for an independent website to gain a dominant market position, even though the barriers to entry were assumed to be very low. While we are constantly confronted with anecdotal stories of blogs, video clips and songs that start out in the author's garage and reach a very broad audience, these are still exceptions to the

228. *See infra* notes 229-33 and accompanying text.

229. On these issues, see DUNCAN J. WATTS, SIX DEGREES (2003); ALBERT-LÁSZLÓ BARABÁSI, LINKED (2002).

230. Eli M. Noam, *The Internet: Still Wide Open and Competitive?*, TPRC (2003), http://tprc.org/papers/2003/200/noam_TPRC2003.pdf.

231. *See* BENKLER, *supra* note 33, at 238. For a study proving this assertion in the limited context of blogging, see Shirky: Power Laws, Weblogs, and Inequality, http://www.shirky.com/writings/powerlaw_weblog.html (last visited Oct. 20, 2006).

232. *See* Matthew Hindman, Kostas Tsioutsiouliklis, Judy A. Johnson, *Googlearchy: How a Few Heavily-Linked Sites Dominate Politics on the Web* (2003), http://www.cs.princeton.edu/~kt/mpsa03.pdf. Benkler sums up these empirical studies. *See* BENKLER, *supra* note 33, at 238-40. However, Benkler (in the context of the mass media in general) does not believe that the Internet displays or leads to over-concentration, but is just right. *Id.*

overall trend and pattern of content consumption online.[233] The market is mostly dominated by a selected few (the identities of which we will soon address).

Superimposing these theories and concrete findings on the issues at hand leads to the conclusion that the world of content intermediaries in the ACS content market will probably prove to be no exception. Most of the users (especially those lacking sophistication) will flock in great numbers to a limited set of intermediaries, who will dominate the "attention" market. Once the dominance of these intermediaries would be established, it would be quite difficult to penetrate this closed circle. At this point, these intermediaries will command a great deal of power over artists (and to a lesser degree, consumers).[234]

Next, let us give some thought as to who these intermediaries might be (although the actual identity is of only secondary importance for forwarding this argument). Arguably, these intermediaries could be anyone who wins the public's trust in this ever-changing medium. However, here again a view of the Internet's trends of content consumption proves instructive. Reviewing the lists of this medium's most popular destinations leads to a limited number of websites, which include several websites which were founded early on and therefore enjoyed a "first mover" advantage.[235] However it mostly includes websites affiliated with renowned brands of the offline media world (such as Time Warner, Disney and Microsoft).[236] The success of these websites could be explained by these firms' ability to leverage their success and position in other media markets towards domination in the Internet medium as well. Such leveraging is achieved while making use of their capital, brand, and goodwill as well as their ability to divert the attention of their audiences in other media towards their online presence.[237]

Again, let us return to the ACS model. Here, it is fair to assume, these dominant intermediaries would be able to leverage their dominance in other media as well. However, an important caveat is in order: in the "general" online context, the media conglomerates were able to assure their online dominance by capitalizing on their vast content inventory which they control through intellectual property laws and are already

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233. C. Edwin Baker, *Media Concentration: Giving Up on Democracy*, 54 FLA. L. REV. 839, 895-97 (2002).

234. For instance, see BATTELLE, *supra* note 161, at 153-59, for examples of the power of Google as an intermediary. Battelle demonstartes that if excluded from Google's results this might cause a devastating outcome for the excluded party.

235. Ebay, Yahoo! and Amazon.com are examples of such websites. *See* BENKLER, *supra* note 33, at 245-46, for conflicting studies regarding the role and dominance of first-mover websites online.

236. *See* MCCHESNEY, *supra* note 213, at 221 (relying upon a study by the *Columbia Journalism Review*).

237. *Id.* at 177-83, 221-27.

known to the public. By presenting such content exclusively on their new websites, they were able to attract Internet traffic and attention. In the ACS model, such leverage would not be possible, as any other intermediary would be permitted to recommend, present, and link to the content of others. Therefore, it remains to be seen whether these media conglomerates could gain dominance in the ACS media market while relying on their offline goodwill and trademarked brand alone.

The notion that the Internet would become a concentrated medium that will allow (and according to the above mentioned studies, indeed allows) many offline media conglomerates to maintain their strong market position is far from novel. Already in 2000, in an insightful article, Professor Netanel pointed out that the Internet medium will not lead to an overall restructuring of the media market power balance, but would facilitate the continued dominance of the major media conglomerates in this new medium, for the reasons mentioned above.[238] I believe this analysis should be applied to the narrower context of the ACS model as well, which will share many of the attributes of the broader online context, and lead to similar forms of concentration.

Finally, we reach the third tier of the critique as to the role of intermediaries in the ACS content market, which stems from the previous two; if merely few intermediaries will command the access to the majority of consumers, then the actual barrier of entry to this new content market will remain extremely high for upcoming artists. These artists can post their materials online, or integrate them into the file-swapping networks. Yet if the majority of public attention is focused on the content specific intermediaries recommend (which might be early movers, or the "good-old" media conglomerates), artists will only reach true fame and compensation if selected and endorsed by these powerful intermediaries. Therefore, the actual change in the balance between the media conglomerates and artists might not occur. It is quite possible that upcoming artists would still be forced to sign one-sided agreements with the dominate ACS intermediaries in order to gain name recognition to the extent that would lead to substantial compensation (in what would resemble the infamous payola scheme which often exists between artists and radio stations).[239]

c. Possible Solutions

For ACS to indeed weaken the position of dominate intermediaries (which, as I explained, might be the same ones we have today), the

238. Neil Weinstock Netanel, *Cyberspace Self-Governance: A Skeptical View from Liberal Democratic Theory*, 88 CAL. L. REV. 395, 440-41, 463-65 (2000).

239. As explained above, a substantial level of usage is required to reach high levels of compensation. *See supra* Part IV.A. Therefore, given the immense competition these markets will demonstrate, the role of these intermediaries will be as important as ever.

model must include additional elements. One somewhat aggressive solution might call for regulatory intervention requiring dominant content intermediaries to carry all forms of content equally and without discrimination, as well as regulatory steps to assure that dominant firms in other media would not move to take over the online distribution market.[240] However, the chances such solutions would be accepted are slim, as they will meet fierce objections. They would especially meet the objection of the media conglomerates' representatives (that have demonstrated their ability to influence legislators and assure their interests remain secure) while arguing that such regulation impedes upon the rights of these content firms to engage in free and unregulated speech.

Beyond the regulatory solution, I suggest that the strengthening of the artists' position in the ACS realm is achievable by researching, developing, funding, promoting, and maintaining alternative means to distribute content when shifting to the ACS model (in addition to the measures put in place to achieve proper compensation). One possible option mentioned calls for reliance upon various sites that provide ranking and sorting that are formulated in a "bottom-up" process; in other words, users (working in collaboration) would both classify the many forms of content available online, and rank them according to their subjective liking.[241] The advantage of these forms of recommendations mechanisms, also currently referred to as "folksonomies,"[242] is that they do not reflect the preferences of one central intermediary (that might have specific interests), but thousands of individuals.[243] In other words, this is a "many-to-many" process.

Folksonomies are coming into existence through several websites that allow users to sort and rank various forms of information, including content. This new concept is currently being closely examined by academics and businesspeople. At this time, however, I am somewhat skep-

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240. Fisher addresses a similar option in drawing out a possible broad alternative solution to the challenges of digital copyright—which includes an extensive regulatory framework to promote content creation. *See* FISHER, *supra* note 5, at 186-98. However, such proposals are usually struck down because of the overall aversion to governmental intervention in the regulation of content markets (which at times could be understood as impediments on the free speech rights of various market actors). *Id.*

241. *See* Thomas Vander Wal, *Understanding Folksonomy (Tagging that Works)* (2006), http://s3.amazonaws.com/2006presentations/dconstruct/Tagging_in_RW.pdf. Vander Wal coined the term "folksonomy" to describe this "bottom-up" process. *See id.*

242. For more on this term that is used for bottom-up processes used for sorting and ranking, see http://www.answers.com/topic/folksonomy. For a current critique of this model's problems by Clay Shirky, see Clay Shirky, *Folksonomy,* MANY 2 MANY, Aug. 25, 2004, *available at* http://many.corante.com/archives/2004/08/25/folksonomy.php. As mentioned, this dynamic has been addressed by Benkler. BENKLER, *supra* note 33, at 76-80. For a somewhat critical view of these dynamics, see STEVEN JOHNSON, EMERGENCE 159-62 (2002).

243. Fisher refers to the use of such distribution methods, not in the context of the mandatory ACS model, but of the voluntary "coop" one. *See* FISHER, *supra* note 5, at 254-55. Although he praises this model (while referring to Benkler's work regarding Slashdot.com), he does not see its endorsement as part of the ACS, nor discuss its shortcomings or ways it could be promoted. *Id.*

tical whether these dynamics, will counter the concerns voiced above. Although this dynamic seems to reflect a grass roots movement of sorting and ranking, it could be manipulated by powerful interest groups, which would promote specific forms of content, while again leaving independent and unaffiliated artists outside the loop. This would lead to the resurfacing of the problems addressed above, and the creation of a high barrier to entry on the one hand, and an unattractive intermediary on the other.[244]

This skepticism regarding the role of folksonomies stems from my belief that they could be tainted and manipulated in various ways. First, they could be subjected to gaming by external entities, which will rely on many of the dynamics addressed above to generate results that are favorable to their clients. Artists with financial or other backing would be able to apply various technological means to simulate broad satisfaction with their content that would lead to a high ranking. Thus, the fact that this is a "many-to-many" medium can turn out to be a weakness. Folksonomies could be gamed by internal entities as well; in other words, the apparently-neutral entities running the ranking and sorting websites might be overtaken by a large media conglomerate that would secretly or actively promote "their" artists throughout the various rankings, regardless of the "bottom-up" process. To those who believe these predictions are somewhat pessimistic, I merely mention the growing interest among today's large media conglomerates and moguls in social network websites which generate folksonomies of their own. Recently, News Corporation (News Corp.) has purchased the extremely popular MySpace.com website, which has become a successful platform for launching and distributing new forms of music through a sophisticated recommendation and accreditation system. While News Corp.'s plans and intentions for MySpace are unclear, the potential risk for the "contamination" of the bottom-up process to meet the objectives of the media moguls is apparent.[245]

Could the problems and threats to this form of distribution be resolved? Possibly. But to do so will require additional research regarding these issues—research that should be funded by the ACS fund (that is funded by the levy described above) should the model be implemented. In addition, the fund should finance non-affiliated folksonomy sites,

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244. Benkler frames this concern as the fear that "money" would still allow specific entities to buy their way into a dominant market position in the connected world (note that Benkler concludes that the end of the day this problem is substantially mitigated in the Internet medium). BENKLER, *supra* note 33, at 234.

245. *See* Steve Rosenbush, *News Corp.'s Place in MySpace*, BUSINESSWEEK ONLINE, July 19, 2005, *available at* http://www.businessweek.com/technology/content/jul2005/tc20050719_5427_tc119.htm. Note that News Corp. is still cautious about the ways in which it would use this new addition to its group, yet already mentions the use of this tool to promote its own content. *Id.*

which will provide limited incentives to the sorters and rankers, while assuring that these mechanisms remain untainted.

Another possible option for content distribution in the ACS content market, which would not lead to the unnecessary empowerment of intermediaries (be them new or old), is of content distribution among smaller circles of users who belong to virtual communities. Here, as opposed to the dynamic mentioned above, I refer to one that could be defined as "few-to-few" and therefore somewhat insulated from the disadvantages inflicting the broader folksonomies.[246] Within these communities, members could inform others of various forms of content they have "stumbled upon" online, and which they could recommend to other community members. Such a recommendation will carry merit as it is both made by a community member whom has earned the other members' trust in the past, and who they know has preferences and tastes that are similar to their own. As Eben Moglen has pointed out long ago, this distribution model will allow for the very quick spreading of content and ideas, while taking full advantage of the Internet's robust and worldwide network.[247] Clearly this distribution model sharply differs from content distribution in the offline world that has been mostly premised on the "broadcast" or "one to many" model, according to which one central source sets out to meet the preferences and tastes of a very broad audience. This model could supplement or even substitute other models that rely on "central" intermediaries that provide general recommendations to the broad public (that could result from both a top-down and a bottom-up process).

The Internet allows for this alternative model for content distribution to transpire while making use of communities that are created online and convene in several possible settings (such as chat rooms, mail-lists, forums and others)[248] that are referred to as "social software."[249] These communities, of various sizes, are formulated to address or discuss specific, yet mutual topics, which could be related to hobbies, work, neighborhood, and past experiences[250] or are premised on a common trait

246. Clearly the empirical question that lurks in the midst concerns the line between a mere "community" to an overall "many-to-many" folksonomy. I will not address this matter here and leave it for future research, yet mention that many of the benefits of the "community" come from both a feeling of intimacy and familiarity with the other community members (notions that are absent on the broader scale). The question, as to the point at which such intimacy and familiarity disappear is an extremely difficult one. For this issue, I would use the definition adopted by Benkler—"larger than a dozen, smaller than a few hundred."

247. *See* Eben Moglen, *Comment: Liberation Musicology*, THE NATION, Feb. 22, 2001, *available at* http://www.thenation.com/doc/20010312/moglen.

248. *See* BENKLER, *supra* note 33, at 357 (explaining that the Internet is creating many new looser social networks.

249. *See id.* at 373.

250. *Id.* at 368.

or attribute of all the participants.[251] The dynamics of these virtual communities have led to several astounding accomplishments, such as the creation of elaborate software tools and detailed content repositories—and all without a "classic" top-down structure.[252] In addition, the Internet is filled with anecdotal examples of various works that gained worldwide exposure and fame after being passed on through word of mouth.[253]

This form of distribution carries numerous benefits. Because of its diffused nature, it does not support the creation of a small yet powerful group of intermediaries which have an overall grip over a large portion of society, and as such could leverage their power towards the artists and consumers. Therefore the existence of content distribution within these communities could mitigate concerns of overpowering intermediaries in the ACS model.[254] In addition, the diffused nature of this model makes it considerably harder to game. Within these communities members "know" the others by their specific reputation, and therefore are less prone to manipulation by external or internal forces.[255] For these reasons, I believe this form of content distribution is preferable to the use of the folksonomies mentioned above.

However, content distribution through the use of such virtual communities is not a concept without challenges and problems. This field as well has generated an enormous amount of recent scholarship, which addresses these issues. A problem that is constantly mentioned when addressing these dynamics is that of motivation[256]: How can society motivate individuals to partake in the community dynamic, and in that way both contribute recommendations and receive feedback within these circles? Clearly participation and motivation to participate are key elements, as without them, consumers will revert to the "customary" modes of content consumption (and collecting information about such content)

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251. For a recent survey as to these various realms, see James Scott & Thomas Johnson, *Bowling Alone But Online Together: Social Capital in E-Communities*, 36 J. COMMUNITY DEVELOPMENT SOCIETY 9 (2005).

252. For instance the free software movement that led to the development of Linux. On this issue and for additional examples, see BENKLER, *supra* note 33, at 59-74.

253. For example the famous "JibJab" cartoons. *See* Funny Videos, Pictures & Jokes at JibJab.com, http://www.jibjab.com (last visited October 25, 2006).

254. Benkler makes a similar argument with regard to the broader, Internet context. *See* BENKLER, *supra* note 33, at 255. In other words, he argues that a "thin tail" of user traffic in peer-to-peer and other social networks mitigates many of the troubles of media concentration online. *Id.*

255. Recent scholarship indeed indicates that "successful communities" include users who provide personal information about themselves, and in that way contribute to their reputation and the accreditation of the content they convey. *See* Chris Forman, Anindya Ghose & Batia Wiesenfeld, *A Multi-Level Examination of the Impact of Social Identities on Economic Transactions in Electronic Markets* (July 2006), *available at* http://ssrn.com/abstract=918978.

256. On these issues, see the work of Paul Resnick which presents several projects and papers on the issue of motivation in this context. *See generally* Paul Resnick's Home Page, http://www.si.umich.edu/~presnick/ (last visited Oct. 20, 2006).

with all their shortcomings. Another problem arising in this context is gaming within these circles. Namely, the fear that interested parties would penetrate these communities, and provide recommendations that appear trustworthy, yet reflect the actions of interested parties and are financed by well-to-do artists and their intermediaries. Regarding this last issue, there is some hope, as recent experiences with recommendation systems in the e-commerce context show great progress in overcoming this difficulty. These sites, as well as other virtual communities, have been struggling with the challenge of identifying fraudulent recommendations and have begun to learn to neutralize them.[257]

In view of the advantages of content distribution through virtual communities, I believe the implementation of the ACS model must include measures to strengthen this mode of distribution. One way to achieve this is by subsidizing (again, from the ACS fund collected through the abovementioned levy) computer equipment, support, and other related expenses for community centers and other not-for-profit organizations, to promote the formation of online mechanisms which will facilitate these social networks. Such a subsidy will assure these social networks will not be connected to any commercial entity that might taint the content distribution process. Other funds could be used to motivate participants in these communities by providing limited prizes. Yet clearly additional research is required to establish other ways to achieve this objective.

In conclusion of this article's analysis as to the role and power of intermediaries, the shift to the ACS model must also include an examination as to how content would be distributed in a market operating in accordance to this model. This analysis must look into ways to promote distribution through alternative platforms and networks. It must also examine whether these platforms and networks will prove to be broad and robust enough to effectively compete and even replace the distribution mechanisms controlled by today's media conglomerates. Only by specifically addressing distribution, could the ACS model meet its important objective of realigning the power balance between artists, intermediaries and consumers.

3. The Outcome of the Model—Content and Content Producers

Beyond the model's effects on the media market and its intermediaries, the shift to the ACS model might profoundly change the consumption patterns of content online. These changes in consumption patterns will be followed by changes in the compensation authors, performers, and artists receive for creating such content. These last changes, in turn,

257. For example, Ebay has enhanced its actions against those manipulating vendors' feedback. *See* EBAY, *Frequently Asked Questions: Feedback Manipulation Policy*, *available at* http://pages.ebay.com/help/announcement/22.html (last visited Nov. 21, 2006).

will presumably lead to changes in the content which is produced by the market.[258] In the following paragraphs I examine these changes and their possible adverse effects on society. Thereafter, I suggest several amendments to the model to avoid these problematic effects, some of which resemble the alternative distribution mechanism that were mentioned above in a different context.

A key element to this part of the analysis is an assumption that not only will the ACS model be accepted for governing the compensation for content use online, but that this model's grasp will reach beyond this limited realm and pertain to a significant amount of *all* content consumption. This assumption is required, as should this not be the case, authors and artists will continue to receive compensation through today's conventional channels. These other media channels (such as retail, TV, etc.) will not be affected by the new ACS and dynamics it creates, and would offset the specific market and social forces of the online model. This underlying assumption regarding the breadth of ACS is not far fetched; the Internet is hardly a confined universe of content use and consumption. Today users download music, and through burned CDs or other portable devices enjoy this content when they are away from their computers. Clearly, in the very near future, the shift of content from the online world to the offline world (as well as vice versa) would be seamless, and the technical challenges of shifting and streaming video content from computers to TV sets will be resolved.[259] With the abundance of free and high quality content available online (through the ACS model), it is fair to assume that with time, this realm would become a hub of content exchange and a prime source of compensation for artists. It is at this point of time where this segment of the analysis will turn relevant. However, as identifying this point of time would be difficult and applying changes to the ACS model at a late stage costly and complex, I believe these matters are best discussed and addressed at the early stage of planning the model, as I do now.

In the following paragraphs, I argue that the switch to the ACS model will generate changes in the consumption pattern of consumers.[260] The reason for such changes will be additional limitations and pressures to be set on the users' attention span upon consuming content. These

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258. This argument is premised on the notion that artists, when deciding what form of content to create, take into account the amount of profit they might reap from its subsequent sale. Not all take this notion as a given. *See* Litman, *supra* note 15, at 28; Moglen, *supra* note 26.

259. Bob Zitter, Time Warner, Summit on Intellectual Property and Digital Media Conference, The Cable Center, University of Denver (May 22, 2006). Apple has recently announced it is developing the "iTV"—an application that would bridge the PC and the TV with ease, thus resolving the challenge mentioned in the text. *See* Nick Wingfield & Merissa Marr, *Apple Computer Aims to Take Over Your Living-Room TV*, WALL ST. J., at B1 (Sept. 13, 2006).

260. Fisher generally acknowledges that with the shift to the ACS model, such changes might occur, but does not elaborate as to their nature or their subsequent effects. FISHER, *supra* note 5, at 237.

pressures will come with the adoption of the ACS model, which will present users with many millions of content options online, at a marginal cost of zero. Such a variety provided to consumers with no financial constraints, would possibly create a tendency to engage in constant "flipping;" mercilessly skipping from one form of content to another at the moment they are displeased with what they are receiving. Such behavior would resemble television viewing in a multi-channel medium, which offers thousands of channels to viewers with only limited time and attention span. In this latter example, many viewers indeed respond to this variety by engaging in constant "flipping" switching from one channel to another.

Such enhanced "flipping" behavior online could have several outcomes. At first, it might allow content consumers to become more demanding in their pursuit of quality content, and less willing to settle for mediocre products. Thus, content that rises to the top of the "most watched and listened to" list would be better than the content that is at the top in today's market dynamic. This point could be strengthened by a recent controversial study comparing prime time television programs of today and those shown in previous decades.[261] This study argues that some of today's leading television programming introduces shows with many interweaving story lines, intelligent writing, and thicker and more intense plots. Given the fact that deciding upon the quality of such content products is an extremely subjective task, these factors might objectively indicate that indeed the content available has improved substantially. One possible reason for this improvement could be the intense competition for the consumers' attention in a multi-channel age.

Yet the users' limited attention span, and the "flipping" phenomenon may have an adverse affect as well. This adverse effect concerns forms of content that are of social significance, yet are only fully appreciated after being experienced, watched, or heard in their entirety and perhaps even only after several such "experiences." I will refer to these works as "Masterpieces."[262]

In a cultural environment that allows for constant "flipping" between forms of content that are all available at marginal cost of zero, it could be assumed that users will not provide Masterpieces the second and third chances that are required for their full appreciation. Therefore, the depth and genius of these works will not be recognized and acknowledged. Rather, users will immediately switch to other forms of content that would satisfy their immediate "needs" for entertainment and leisure.

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261. For this analysis, see STEVEN JOHNSON, EVERYTHING BAD IS GOOD FOR YOU 62-116 (2005).

262. Clearly this definition does not comply with the common definition of such works. In addition, there are, of course, many examples of great works of art which have immediately achieved commercial success and broad public appreciation.

Should this dynamic take place, it could generate the following chain reaction: Users and consumers will not acknowledge the existence and value of such works, and therefore will not review these forms of content in their entirety (which, as mentioned above is a prerequisite for generating compensation to the authors in view of "gaming" concerns), nor return to them at a later time. In addition, they would not mention the existence of such works to their peers and friends (while acting as intermediaries in the various networks and structures mentioned above) who would therefore not learn of these works and refrain from their usage. Thereafter, authors and creators of such Masterpieces will suffer a drop in the compensation they receive in an ACS-governed market. Finally, content producers will choose to under-produce these forms of content (or Masterpieces) in view of the limited compensation they will reap. This, in turn, would harm society in general, which would now be deprived of important cultural resources.[263]

It is interesting to note, as a comparison, that today's model for compensation (in which users directly compensate authors, usually in advance, for access to content) provides for a more supportive environment for Masterpieces and their authors. Here, the authors of such works might gain access to the market by receiving support from a large media conglomerate that attends to funding and distribution after deciding to promote this specific artist and her work (to meet personal, social or even financial objectives).[264] Consumers, who would purchase such works (acting upon the recommendation of the media conglomerates in their capacity as content intermediaries) would be more willing to experience such works in their entirety and perhaps even several times. This is because they have already paid for such content, and would be willing to devote more time to it,[265] to justify (in their eyes, at least) such past expenditures. They will also do so, because alternative forms of content (which must be directly purchased) are scarce. A result of devoting time

263. As mentioned above, this part of the analysis is somewhat shaky, as it is based on a problematic premise—that the authors of Masterpieces are indeed motivated by the level of compensation they are likely to reap. Those disagreeing with this argument might further argue that in this context, authors of Masterpieces rarely take into account the success of their writing, and are lead by other intrinsic or extrinsic incentives (and many of which rarely receive meaningful compensation for such works during their lifetime). I would argue, that at least some authors of Masterpieces are not motivated by internal incentives alone, and therefore this discussion is at least somewhat relevant.

264. *See* Baker, *supra* note 233, at 878. Baker explains that in the publishing context, publishers have been known to invest their profits from lucrative publications in important projects that will probably not make them any money. However, he also explains that these practices are quickly disappearing as this business as well is becoming "bottom line" oriented. On this issue, see also Andre Schiffrin, THE BUSINESS OF BOOKS: HOW INTERNATIONAL CONGLOMERATES TOOK OVER PUBLISHING AND CHANGED THE WAY WE READ 91, 95, 108 (2000).

265. My assumption stated in the text as to the consumers willingness to allocate more time and attention resources to products they have already purchased and paid for relies on the "Sunk Costs Fallacy"—a cognitive phenomenon, according to which individuals want to cut their losses, but continue to engage in actions that allow them to capitalize on costs they already incurred. For more on this phenomenon, see Wikipedia, http://en.wikipedia.org/wiki/Sunk_cost_fallacy.

to this work would be the users' ability to recognize the true value of the Masterpieces and thereafter revisit such content and recommend it to others (who would go ahead and purchase such content). This, in turn, will provide for additional compensation to the Masterpiece right holders.

Yet the challenges the ACS model presents to the compensation for and production of Masterpieces might be countered by several advantages this model has in store; advantages that arise from the model's distribution dynamics. The ACS models can easily integrate and promote content distribution networks that employ small groups congregating online, and allow for the quick and efficient diffusion of ideas and content between people with a common interest and in many cases similar traits and preferences.[266] These "virtual communities" can prove a fertile ground for effectively distributing information about Masterpieces in a dynamic that could overcome the "flipping" threat addressed above. This is because, within such a community, members recommend to each other works they believe will meet their specific taste and liking. Within these circles, it is fair to assume that users would be willing to accept recommendations and act upon them, even if this would mean resisting the "temptation" to flip to another form of content if the recommended work seems at first unsatisfactory. They will do so because users would learn from experience that recommendations given within these systems will prove worthy of their time and attention—even though at first glance they might not appear as such. In addition, within these secluded circles, members will know a great deal about each other—a factor that would contribute to the effectiveness of the recommendation.[267]

The notion of distributing information regarding Masterpieces through social networks is of course far from novel—and is probably one of the main ways in which information regarding these forms of content travels. However, the online social networks include several important improvements and advantages: They allow for the creation of broader and richer communities that are not hindered by geographical distances and bring together people with common interest from very different backgrounds. Furthermore, in a market operating according to the ACS model, such networks not only can recommend the work but provide it directly, either by linking or allowing downloading.

Therefore, to sum up this point, examining the possible effects of the ACS model on the creation of Masterpieces provides us with an addi-

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266. In many cases, this common interest is the reason for the creation of the online forum or community (for instance, a recommendation on a new jazz album in a jazz-fan forum). In others, the common interests might be incidental (for instance, a neighborhood forum, in which one neighbor who know the others well, recommends a book she believes they will appreciate).

267. *See* Forman, Ghose & Wiesenfeld, *supra* note 255 (discussing the importance of personal information regarding participants to the success of the internal dynamics of virtual communities).

tional reason as to why the implementation of the ACS model should include tools, funds, and applications that would promote social online networks. With such robust networks, the potential damages the pressure and limitation on the users' attention cause Masterpiece production, could be substantially mitigated.

However, with the implementation of the ACS model, policy makers must remain alert and constantly examine whether this model facilitates sufficient exposure, consumption, and thereafter, production of Masterpieces. Should this new marketplace lead to underproduction of Masterpieces, policymakers must consider promoting the production of such works using other, more direct measures. For instance, the administrative agency could be required to set aside limited sums from the overall, levy-financed, fund. These sums could be than used towards the direct promotion of Masterpiece production, by providing prizes for extraordinary works and scholarships for their authors. This dynamic has indeed been suggested (for other reasons) by some of the ACS scholars.[268] It is also commonly applied in Europe with regard to the funds collected via levies to compensate artists for non-authorized personal uses.[269]

Clearly this last suggestion presents several shortcomings. The funds and scholarships mentioned will be distributed by a committee of "experts" that might be biased, engage in elitism and paternalism when deciding what does and does not amount to a Masterpiece worth financing and promoting. The famous controversies surrounding the National Endowment for the Arts would surely be echoed,[270] with all their political implications, as politicians decide what form of content is worthy of public funding. However, in specific instances, this partial solution will indeed be required in order to allow the sponsoring of Masterpieces, which might be lost as a result of the contemplated shifts in compensation policy and trends of content consumption.

CONCLUSION

In this article, I chose to address and contribute to a new line of scholarship that offers an interesting policy solution to the difficult challenges of today's digital content market. The ACS scholars have drawn

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268. *See* Lunney, *supra* note 15, at 915-16. (arguing for such allocation from the fund to provide to marginalized artists). *But see* Netanel, *supra* note 2, at 58 (arguing that such practices should be limited, as they might lead to "rent seeking"). I agree with Netanel's overall concern, but disagree with his result given my analysis of Masterpiece consumption above.

269. *See* HUGENHOLTZ, GUIBAULT, & GEFFEN, *supra* note 129, at 68-69 (summarizing the states that allocate some of the funds to a "social fund").

270. FISHER, *supra* note 5, at 217. For more information regarding the case law and controversy this fund involved, see Freedom of Expression at NEA, http://www.csulb.edu/~jvancamp/intro.html (last visited Oct. 20, 2006).

out an elaborate and thoughtful blueprint for an extensive and innovative model. I have attempted to continue this line of scholarship by sharpening issues that remain open, pointing out some matters that require additional thought and analysis and examining others that should be somewhat changed. I have emphasized the need to develop mechanisms for content distribution (in addition to those focused on compensation) and mentioned several existing online models that might be fitting for the task.

Yet, at the end of the day, I assume that many readers will still remain unconvinced by the arguments set forth and maintain their position that the implementation of an ACS model (even with the improvements suggested herewith) is politically, technologically, or economically infeasible. To these readers, I say that the journey this article draws out was not traveled in vain. The analysis conducted above has taught us important lessons regarding the business and policy implications of the development of new technological tools in an ever-changing content market. These lessons will prove fruitful when facing future challenges that will be sure to arise in the Internet society.