LICENSING IN THE SHADOW OF COPYRIGHT

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CITE AS: 17 STAN. TECH. L. REV. 397 (2014)
http://stlr.stanford.edu/pdf/licensinginshadow.pdf

ABSTRACT

Copyright offers protection to creative works, but new technologies put pressure on that protection. Copyright owners and technology firms negotiate over new ways of distributing and transmitting creative works. Understanding the shadow that copyright casts on private negotiations will allow policy makers to better design the statute in a way that encourages more competition, diversity, and transactional efficiency in markets for digital goods. Prime examples of copyright licensing negotiations are the attempts to license digital music services over the past decade. In this Article we present the first qualitative and quantitative data about the licensing process for on-demand music streaming services, gleaned from confidential interviews with executives and attorneys. We report our findings about the time it takes to license a nascent service, if negotiations succeed; the number of record labels and publishers with which new music services typically deal; the general processes through which these licenses evolve; and how changes in the law over the period may have affected the dynamics of these negotiations. We find that copyright law, alongside business practices and professional attitudes, sets complex background rules for these private licensing negotiations. Copyright shapes, constrains, and also presents opportunities for innovation.

TABLE OF CONTENTS

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We thank Nathan Brenner and Abigail Bunce for research assistance. We also thank David Dana, Erin Delaney, Ezra Friedman, Jide Nzelibe, Nadav Shoked, and James Speta for helpful comments. All errors are our own responsibility. This research was funded in part through a Lenfest Grant from Washington and Lee University.

INTRODUCTION

Copyright law offers protection for creative works against unauthorized distribution and transmission. But new technologies frequently emerge and apply pressure to the scope of copyright protection. Imagine, for example, an innovation that offers a new way for listeners to experience music. It could be an application for computers, tablets, and mobile devices, or it could rely on new hardware entirely. Perhaps it runs faster, allows more customization, has a more intuitive interface, or offers some other new feature when compared to existing products. In short, the new technology represents an advance, at least in some dimensions. Now consider the problem of making a new business out of this invention. The newness of the technology presents a novel legal issue: must a firm employing this particular technology acquire licenses from copyright owners before it offers its new service to consumers? If so, from whom will it need licenses? What shape will the deals take? How much will the licenses cost, and how much revenue will these licenses generate for creators and copyright owners? These are the problems of copyright licensing. Given the size and growth of the digital economy—in music, video, games, books, and so on—these are important issues for both business and law.[1]

1. Copyright-intensive industries represent 4.4% of Gross Domestic Product (GDP), or $641 billion. ECON. & STATISTICS ADMIN. & U.S. PATENT & TRADEMARK OFFICE,

In a recent public address at Columbia Law School, Maria Pallante, the Register of Copyrights, identified copyright licensing as a top priority for copyright reform. During this address, Register Pallante argued, "Congress is aware that the development of newer and more efficient licensing models is essential to the digital marketplace and the many submarkets that comprise it."[2] Throughout history new technologies for performing, distributing, or otherwise transmitting copyrighted works have been developed. And with each new technology often comes a licensing dispute between copyright owners and technology companies—a dispute that often leads to a call for reform. Each shift in technology creates pressure for a "reset" in copyright policy, as copyright owners and technologists ask the government to stop the action and start the copyright system again with new rules.

If Congress is aware that new models for copyright licensing are essential, as Register Pallante asserted, what does that mean for copyright policy? It may seem odd to suggest that Congress has any role in private licensing negotiations. But Congress sets the background rules—the shadow under which copyright owners and technology firms negotiate licenses.[3] So what conditions should lead Congress to reevaluate the background rules and adjust the shadow that copyright law casts? Perhaps new technologies do not fit into existing legal categories. Maybe new conditions in the marketplace have shifted the balance between incentives for creation and wide dissemination of copyrighted works. Or perhaps, rather than technological or economic changes, the problem is instead policy makers' incomplete and imperfect understanding of how the market reacts to law. The machinations of the private copyright-licensing market are largely outside the clear view of policy makers, making it difficult to base policy on evidence. In the absence of data, the concern arises that copyright policy might be directed by less-than-clear evidence, or even swayed by political influence, whether that influence is massed through financial support, professional connections, or public campaigns.[4]

INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: INDUSTRIES IN FOCUS 45 (2012). They also represent 3.5% of employment, or 5.1 million jobs. *Id*. at 40, 45. This reflects almost 50% growth over the last two decades, much more than patent-intensive industries. *Id*. at 40. A report commissioned by the technology industries suggests that the worldwide entertainment industry, a subset of copyright-intensive industries, is also growing at a fast rate. *See* MICHAEL MASNICK & MICHAEL HO, THE SKY IS RISING: A DETAILED LOOK AT THE STATE OF THE ENTERTAINMENT INDUSTRY 2–3 (2012). Meanwhile, the international music industry reports significant growth in digital revenue. *See* INT'L FED. OF THE PHONOGRAPHIC INDUS., IFPI DIGITAL MUSIC REPORT 2013: ENGINE OF A DIGITAL WORLD 6 (2013).

2. Maria A. Pallante, *The Next Great Copyright Act*, 36 COLUM. J.L. & ARTS 315, 333 (2013).

3. *See infra* Part I. For example, Congress sometimes sets up compulsory licenses that licensors may either use or bargain around. The Copyright Code features compulsory licenses for compositions, 17 U.S.C. § 115 (2012), and distribution methods such as jukeboxes, *id*. § 116.

4. *See, e.g*., JESSICA LITMAN, DIGITAL COPYRIGHT 22–32 (2001) (on the influence of lobbying on copyright policy).

In this Article, we present one of the first empirical investigations of a private market for copyright licensing. Using qualitative and quantitative data, from both public sources and private interviews, we explore music licensing in the shadow of copyright. We study how copyright law shapes private negotiations over copyright licenses and how these licensing negotiations shape innovation among digital music services. With this empirical foundation, based upon a decade of licensing efforts (2001 to 2011), we work toward policy recommendations for how the law might evolve to better address the changes wrought by ongoing innovations at the intersection of technology and copyright.

Our empirical approach adds a new dimension to the legal literature on the regulation and licensing of commercial Internet-music firms. Previous inquiries in this area have focused on the historical development of the statutory and regulatory regime for webcasting.[5] Others look more to the self-interested arguments of the actors involved, describing the political conflict between copyright owners and technology firms.[6] Another approach has been to explain the rights that digital music services implicate and name the institutions that administer those rights.[7] Here, we focus instead on measuring key dimensions of the licensing process—the time spent licensing, the number of parties with whom new services negotiate, the amount of variation in service characteristics across licensed services—as well as the organizational dynamics of this process.

We find that licensing an Internet music service can take as little as nine months but in other instances can take in excess of twenty-four months, with a median licensing time frame of about eighteen months. Surprisingly, the amount of time that a licensing negotiation takes has changed little between 2001 and 2011 as the digital-music marketplace has matured.[8] The services we studied, at the median, reached licensing deals with between ten and fifteen labels and other aggregators on their way to a critical mass of recordings sufficient to launch their services. That said, the great majority of this time is spent in licensing discussions with the major record labels.[9] In contrast, on the

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5. *See*, *e.g.*, Peter DiCola & Matthew Sag, *An Information-Gathering Approach to Copyright Policy*, 34 CARDOZO L. REV. 173, 221–240 (2012); Vanessa Van Cleaf, *A Broken Record: The Digital Millennium Copyright Act's Statutory Royalty Rate-Setting Process Does Not Work for Internet Radio*, 40 STETSON L. REV. 341, 356–378 (2010); Sara J. O'Connell, Note, *Counting Down Another Music Marathon: Copyright Arbitration Royalty Panels and the Case of Internet Radio*, 8 MARQ. INTELL. PROP. L. REV. 161, 166-72 (2004).

6. *See*, *e.g.*, Karen Fessler, Note, *Webcasting Royalty Rates*, 18 BERKELEY TECH. L.J. 399, 419–21 (2003) (describing how the negotiation postures of parties were influenced by the benchmarking procedures of the Copyright Arbitration Review Panel).

7. *See*, *e.g.*, Rick Marshall, Oh Mercy: How Interactive Streaming Services Navigate the Digital Music Rights Licensing Landscape 13–17 (Nov. 21, 2012) (unpublished manuscript), *available at* http://ssrn.com/abstract=2179111.

8. *See infra* Subpart IV.B.

9. At the beginning of the period under study (2001), there were five major record

publishing side of the music industry, services in recent years dealt with thousands of publishing companies in just a few months prior to launch. Initially, services spent two to five years aggregating licenses from a few hundred publishers (or their representatives). These dealings now occur through a compulsory license and an associated rate settlement among the parties rather than discrete, private negotiations. Nascent music services tend to follow a similar licensing path to the commercial market, which results in a certain amount of homogeneity in what these new services can offer consumers.

Our research also offers a rare glimpse into influences beyond copyright law. We find that the practices and perceptions of the organizations and professionals involved in licensing frame the process of copyright licensing. The music industry consists of many institutions that were built to fit with and take advantage of copyright law. These institutions are established well enough to have developed their own norms and practices about contracts.[10] Technology firms come from a different culture and have their own sets of norms.[11] The actors involved on each side of copyright licensing seek compromise while taking as given the rules of copyright as well as the practices and perceptions of the music and startup communities. These rules and customs impact the means through which and the ease with which the market operates.

Understanding the link between the language of copyright law and the emergence of innovative new music services requires a detailed understanding of licensing practices. Given this connection between the law and the licensing of copyrights, Congress must pay attention to what transpires in private copyright-licensing negotiations. This attention to the private market is important for two reasons: to assess whether the parties' initial property rights have been set in a desirable way, and to understand when and whether to address any failure in the market through legislative reform.

At times, Congress has merely monitored and managed the negotiations among private parties through indirect intervention. As Register Pallante put it, some progress in licensing "does not require legislation and should merely be encouraged, i.e. by reviewing the growth of direct licensing, microlicensing, voluntary collective licensing, and private and public registries."[12] At other

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labels: Sony, BMG, Warner, Universal, and EMI. At the end of the period (2011), there were four, a result of a joint venture between Sony and BMG that led to Sony purchasing BMG. As of this writing, there are just three major record labels: Sony, Warner, and Universal, a result of Universal's purchase of EMI (with some holdings being sold off to satisfy antitrust authorities). *See* George Szalai, *Universal Music Completes $1.9 Billion EMI Recorded Music Acquisition*, HOLLYWOODREPORTER.COM (Sept. 28, 2012, 4:47 A.M.), http://www.hollywoodreporter.com/news/universal-music-completes-19-billion-374965.

10. *See*, *e.g.*, DONALD PASSMAN, ALL YOU NEED TO KNOW ABOUT THE MUSIC BUSINESS 103–19, 167–88, 275–99 (8th ed. 2012) (describing the industry-specific aspects of recording and publishing contracts).

11. *See*, *e.g.*, ANNALEE SAXENIAN, REGIONAL ADVANTAGE: CULTURE AND COMPETITION IN SILICON VALLEY AND ROUTE 128 (1994).

12. *See* Pallante, *supra* note 2, at 333. Beyond just observing the state of licensing,

times, Congress has chosen to offer a statutory substitute for private negotiations, adjusting the negotiating balance between copyright owners and new distribution technology companies through compulsory licenses. According to the Register, "Congress may need to consider legislating new forms of licensing regimes as appropriate, for example, by updating or in some cases repealing compulsory licenses or perhaps enacting extended collective licensing models."[13] In these situations, a compulsory license might operate to break up a logjam in which copyright owners have yet to license a new distribution technology. A compulsory license might also spark changes in existing private arrangements by shifting the negotiating parties' background entitlements.

The music industry is particularly sensitive to how copyright law addresses the licensing marketplace. Music copyrights are subject to some of the most complicated statutory and regulatory schemes in copyright law. Furthermore, both the publishing and master-recording sides of the music industry are subject to many special rules.[14] The music business has developed a large number of specialized institutions, such as collective rights organizations, to deal with licensing.[15] Moreover, the additional influences we mentioned—the frames of practice and industry norms—can either enhance or dampen copyright law's impact on private licensing.

Innovation in music licensing has become part of a larger discussion of copyright reform. Register Pallante stated, "Congress could make a real difference regarding gridlock in the music marketplace. Considering the issues comprehensively may be the most productive course of action."[16] The term "gridlock" reflects an important concern that licensing transactions are not occurring in an efficient way.[17] The potential consequences of an inefficient

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Congress or the Copyright Office might employ softer modes of regulation that could encourage more private deals. Examples include making public statements or creating opportunities for parties to convene.

13. *Id*. at 334.

14. *See id*. at 333–35 (discussing the need for reform of both § 114 and § 115); *see also Music Licensing Reform: Hearing Before the Subcomm. on Intellectual Prop. of the S. Comm. on the Judiciary*, 109th Cong. (2005) (statement of Marybeth Peters, Register of Copyrights) (discussing § 115 reform and the possibility of a "Music Rights Organization"); Peter DiCola, *Copyright Equality: Free Speech, Efficiency, and Regulatory Parity in Distribution*, 93 B.U. L. REV 1837, 1895–99 (2013) (discussing the need for reforming § 114).

15. *See*, *e.g*., Michael A. Einhorn, *Intellectual Property and Antitrust: Music Performing Rights in Broadcasting*, 24 COLUM.-VLA J.L. & ARTS 349, 352–56 (2001); Robert P. Merges, *Contracting into Liability Rules: Intellectual Property Rights and Collective Rights Organizations*, 84 CAL. L. REV. 1293, 1328–40 (1996).

16. *See* Pallante, *supra* note 2, at 335.

17. MICHAEL HELLER, THE GRIDLOCK ECONOMY 9–16 (2008) (discussing gridlock in the copyright context); Michael A. Heller & Rebecca S. Eisenberg, *Can Patents Deter Innovation? The Anticommons in Biomedical Research* 280 SCIENCE 698, 699–700 (1998) (discussing gridlock in the context of biomedical patents). *But see*, *e.g*., John P. Walsh et al.,

copyright-licensing system for Internet music services include stifled innovation, chastened economic growth, and reduced consumer welfare. Magnifying these policy concerns is the music industry's status as "the canary in the digital coal mine."[18] Among other copyright-intensive industries like movies, television, books, and newspapers, music continues to experience changes first. As music moves from the early issues of the digital transition—file-sharing software and the ensuing litigation—to a different stage of maturity—licensing large catalogs of copyrights for legitimate services—we think it is essential to understand more about the process of copyright licensing.

Our findings provide an empirical basis for investigating the balance that copyright law seeks to achieve. On the one hand, copyright policies provide incentives for creation by granting exclusive rights to copyright owners and adjusting the contours of those rights. But these policies also seek to promote access to copyrighted works, by fostering (or at least accommodating) new methods of distribution. With certain previously opaque realities of the licensing of Internet music services disclosed, we might move toward a more holistic discussion of copyright policy.

Copyright and technology meet at a complex intersection, one that has confounded technologists, copyright holders, and legal scholars. Our research offers a detailed understanding of how technology firms and copyright holders navigate this intersection. We hope to shed light on why the navigation plays out as it does, before Congress attempts to redesign this intersection—yet again—in an effort to encourage this traffic of ideas-given-form to flow more freely.

This Article will be organized as follows: Part I describes the legal environment for digital music, explaining the Copyright Act's contrasting approaches to technological change and how these approaches have shaped the regime that governs both webcasters (e.g., iHeartRadio and Pandora) and interactive music services (e.g., Rhapsody, Spotify, and Muve). Part II provides a framework to think about the incentives and constraints that copyright licensors and new-technology licensees face. Part III details the fate of digital-music companies that pursued an important fallback alternative to licensing—going unlicensed. Part IV reports our empirical findings about how licenses for digital streaming services are negotiated, how they are structured, and what policy problems they present. We conclude with some reflections on the implications of our study for copyright reform.

Effects of Research Tool Patents and Licensing on Biomedical Innovation, *in* PATENTS IN THE KNOWLEDGE-BASED ECONOMY 285, 293–96 (Wesley M. Cohen & Stephen A. Merrill eds., 2003) (reporting on interviews finding few gridlock problems with biomedical patents).

18. *See*, *e.g.*, COMPUTER SCI. AND TELECOMM. BOARD, ET AL., THE DIGITAL DILEMMA: INTELLECTUAL PROPERTY IN THE INFORMATION AGE 76–79 (2000) (describing the music industry as "Intellectual Property's Canary in the Digital Coal Mine").

I. THE LEGAL ENVIRONMENT FOR DIGITAL MUSIC

A. *Copyright's Competing Approaches to New Technology*

For decades—even before the commercial Internet arrived—Congress considered revisions to copyright law to prepare for the digital age. As early as the 1960s, some policymakers understood that copyright owners and digital-distribution firms would clash over new ways to distribute copyrighted works over networks of computers.[19] In a sense Congress faces the daunting challenge of developing a "technology-proof" statute, by creating provisions that last longer than the technologies involved and establishing consistent legal principles to apply across new, even unanticipated, distribution technologies.[20]

One legislative approach to technological change in the Copyright Act of 1976 (which, as amended, is the current copyright statute in the U.S.) was to define copyright owners' exclusive rights more broadly than its predecessor law, the 1909 Act, had done. Section 106 of the current code outlines copyright owners' exclusive rights to reproduce, distribute, publicly perform, publicly display, and prepare derivative works based on their works. To counteract the breadth of exclusive rights,[21] there is the broadly defined doctrine of fair use on the opposite side.[22] The broad definitions of these terms serve to vindicate copyright owners' and users' prerogatives in a large range of settings, even settings featuring technologies not imaginable, let alone extant, as of 1976. The delineation of rights in such broad language allows for the kind of flexibility that allows courts and agencies to fill in gaps with updated, presumably better, or at least case-specific information.

Yet the broad-language approach is only part of the story of copyright legislation. The code is filled with dozens of specific exceptions to copyright infringement.[23] The 1976 Act and several amendments over the last four

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19. *See* STAFF OF THE H. COMM. ON THE JUDICIARY, 89TH CONG., COPYRIGHT LAW REVISION, PART 6: SUPPLEMENTARY REPORT OF THE REGISTER OF COPYRIGHTS ON THE GENERAL REVISION OF THE U.S. COPYRIGHT LAW: 1965 REVISION BILL 14, *quoted in* Peter S. Menell, *In Search of Copyright's Lost Ark: Interpreting the Right to Distribute in the Internet Age*, J. COPYRIGHT SOC'Y U.S.A 201, 244 (2012) (discussing the problem of distribution of copyrighted works by "linked computers" in 1965).

20. Richard E. Wiley, *"A New Telecom Act"—Remarks*, 31 S. ILL. U. L.J. 17, 25 (2006) (using the term "technology-proof" with respect to Congress's design of telecommunications regulation).

21. For example, the derivative-works right is quite broad, applying to any works in which an existing work is "recast, transformed, or adapted." 17 U.S.C. § 101 (2012) (defining "derivative work"); *id*. § 106(2) (granting copyright owners "the exclusive right[] . . . to prepare derivative works").

22. *Id*. § 107. Part of this privilege, or affirmative defense, includes the consideration that transformative uses are more likely to be fair. *See* Campbell v. Acuff-Rose Music, Inc., 510 U.S. 569, 578–85 (1994). Thus, more transformative uses can end up being carved out of the broad derivative-works right.

23. See, for example, the many exceptions to the public performance and public

decades have employed an approach based on narrow, detailed, and technology-specific provisions.[24] One might think of specificity as constraining and eventually ossifying the law. But narrow and specific provisions—whether in the form of rights or exceptions—can actually provide another sort of flexibility. Technology-specific language in the statute allows Congress to resolve one content–technology dispute in greater detail without committing to address future disputes in the same way. Courts and agencies must still review and implement such specific provisions, but with a smaller scope of authority compared to their outsized role in controversies that turn on the meaning of broad rights. This alternative, technology-specific approach exists alongside the broad-language, technology-agnostic approach in the 1976 Act. Thus, we now have a Copyright Act full of both expansive rights for copyright owners as well as arcane statutory schemes to deal with particular disputes between copyright owners and firms employing new distribution technologies.

This thumbnail sketch of these differing legislative approaches, both embodied in the Copyright Act, provides one perspective on why music copyright in particular has become so complicated. During the 1990s, as the commercial Internet expanded rapidly and the first consequences of digitization arose, Congress adopted several bills that addressed the impending development of online methods to distribute music. These statutes—most prominently, the Audio Home Recording Act of 1992 ("AHRA"), the Digital Performance Right in Sound Recordings Act of 1995 ("DPRSRA"), and the Digital Millennium Copyright Act of 1998 ("DMCA")—often represent the technology-specific approach in its most baroque form.

Congress has created a patchwork of rights and exceptions for copyright owners and technology firms to navigate whenever a new distribution technology arises. The 1990s-era statutes operate against a backdrop of broad rights granted to copyright owners decades earlier, as well as preexisting exceptions, both broad and specific. Where the specific provisions created in the 1990s legislation leave off, the background grants of exclusive rights and exceptions pick up. In the following sections, we will attempt to highlight the most significant features of these statutory provisions as they apply to the music-licensing marketplace.

B. *Music Copyright*

Copyright law applies to a very general set of works, defined by statute as

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display rights in § 110 of the code—one is so narrow it only applies to performances of copyrighted works at agricultural or horticultural fairs. 17 U.S.C. § 110(6) (2012).

24. See, for example, the Audio Home Recording Act, which deals with digital audio recordings not made with computers, *id*. §§ 1001–10; the jukebox compulsory license, § 116; the protections for semiconductor chips, *id*. §§ 901–14; or the protections for vessel hull designs, *id*. §§ 1301–32.

"original works of authorship fixed in any tangible medium of expression."[25] But the statute also mentions several specific categories of works as examples.[26] The subject matter category into which a copyrighted work falls can affect the rights that owners enjoy and the exceptions that the public enjoys with respect to that work. Two distinct subject matter categories pertain to music: musical works[27] and sound recordings.[28] The legal rights in the music we hear as a unified whole are thus bifurcated by U.S. copyright law. This bifurcation is fundamental to understanding music copyright and the structure of the music industry.

A piece of music that you hear will often have two rights holders—the owner of the musical work and the owner of the sound recording. These owners can be the same person or entity, but they need not be. A musical work is a sequenced combination of musical notes with a particular rhythm, as well as any accompanying lyrics. It could be composed prior to a particular performance, perhaps memorialized in sheet music, or created through improvisation. A sound recording is (often) a particular performance of a musical work that has been captured on tape, disk, or another medium. Technically, a sound recording might also capture found sounds other than musical works, such as street noise. In this article we will focus on the typical commercial case in which sound recordings are the result of particular recorded performances of musical works.[29]

Copyrighted works receive a set of exclusive rights under U.S. law. In the music industry, the rights of reproduction[30] and distribution[31] typically go

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25. *Id*. § 102.

26. *Id*. (stating that "works of authorship *include* the following categories") (emphasis added).

27. *Id*. (listing "musical works, including any accompanying words). The term "musical work" is not defined elsewhere in the code. Sometimes we use the term "musical composition" interchangeably with "musical work" because the former term is more evocative of what it refers to.

28. *Id*. (listing "sound recordings"); *id*. § 101 (defining sound recordings as "works that result from the fixation of a series of musical, spoken, or other sounds, but not including the sounds accompanying a motion picture or other audiovisual work, regardless of the nature of the material objects, such as disks, tapes, or other phonorecords, in which they are embodied.").

29. Licenses to use musical works are sometimes known as "publishing licenses," while licenses to use sound recordings are sometimes known as "master use licenses." *See* PASSMAN, *supra* note 10, at 244–62 (discussing various types of publishing licenses); M. WILLIAM KRASILOVSKY ET AL., THIS BUSINESS OF MUSIC 69–70 (10th ed. 2007) (discussing licensing of masters).

30. *See* 17 U.S.C. § 106(1) (2012) (giving the copyright owner the "exclusive right[] . . . to reproduce the copyrighted work in copies or phonorecords"). Copies are defined as "material objects, other than phonorecords, in which a work is fixed by any method now known or later developed, and from which the work can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." § 101. Meanwhile, phonorecords are defined as "material objects in which sounds, other than those accompanying a motion picture or other audiovisual work, are fixed by any

together.[32] Manufacturing or otherwise creating copies and then selling them as physical objects or as downloads amount to an exercise of the reproduction and distribution rights under copyright law.[33] A separate right that copyright owners enjoy is the right of public performance. Unlike the reproduction and distribution rights, the public performance right differs fundamentally by subject matter. The copyright owners of musical works have a right of public performance that applies generally across venues—analog or digital, real or virtual—although subject to specific statutory exceptions.[34] This performance right includes in-person performances (such as in a theater or concert venue), analog performances (such as over AM or FM radio), and digital performances (such as Internet radio, also known as webcasting).[35] The public performance right for sound recording copyright owners, on the other hand, applies only to digital performances.[36] Finally, it is worth mentioning both types of music copyright owners enjoy the exclusive right to prepare derivative works, such as translations and adaptations.[37] In the music industry, this right comes into play

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method now known or later developed, and from which the sounds can be perceived, reproduced, or otherwise communicated, either directly or with the aid of a machine or device." *Id*. In other words, phonorecords are the analogue of copies when it comes to sound recordings.

31. *See* § 106(3) (giving the copyright owner the "exclusive right[] . . . to distribute copies or phonorecords of the copyrighted work to the public by sale or other transfer of ownership, or by rental, lease, or lending").

32. By "go together" we mean that the same person or entity usually ends up administering these two rights from the § 106 bundle.

33. *See*, *e.g*., United States v. ASCAP, 627 F.3d 64, 71–73 (2d Cir. 2010) (stating that downloads implicate the reproduction right and referring to downloads as "transfers" of an electronic file, which implicates the distribution right).

34. *See generally* 17 U.S.C. § 110 (2012) (listing several exceptions to the public performance and public display rights).

35. *See* § 106(4) (giving the copyright owners of musical works the "exclusive right[] . . . to perform the copyrighted work publicly); *see also* § 101 (defining the verb "to perform" as "to recite, render, play, dance, or act it, either directly or by means of any device or process"). The code defines *public* performance as follows:

> To perform or display a work "publicly" means—
> (1) to perform or display it at a place open to the public or at any place where a substantial number of persons outside of a normal circle of a family and its social acquaintances is gathered; or
> (2) to transmit or otherwise communicate a performance or display of the work to a place specified by clause (1) or to the public, by means of any device or process, whether the members of the public capable of receiving the performance or display receive it in the same place or in separate places and at the same time or at different times.

Id.

36. *See* § 106(6) (giving the copyright owners of sound recordings the "exclusive right[] . . . to perform the copyrighted work publicly *by means of a digital audio transmission* (emphasis added)); *see also* § 101 (defining a digital transmission as "a transmission in whole or in part in a digital or other non-analog format"); *id*. § 114 (defining a digital audio transmission as "a digital transmission as defined in section 101, that embodies the transmission of a sound recording" and noting that the right "does not include the transmission of any audiovisual work").

37. *See* § 106(2) (giving copyright owners the "exclusive right[] . . . to prepare

in the context of sample licensing.[38] The derivative works right is also implicated in the context of synchronization licenses, or "sync licenses," which permit the licensee to use a musical work and sound recording to accompany video.[39]

The possibility of overlap between the reproduction and distribution rights, on the one hand, and the performance right, on the other, does exist.[40] But for our purposes it will be useful to distinguish cleanly between the different rights. The reason for this distinction is that various institutions of the music industry are arranged according to the types of copyrightable subject matter (i.e., sound recordings or musical works) and the different exclusive rights afforded to these owners (e.g., reproduction or performance rights), as the next section explains.

C. *Music Industry Institutions*

Key institutions of the music industry reflect the fundamental divide between musical works and sound recordings. Each type of music copyright has its own set of associated institutions; each type of author has different choices to make about which institutions to contract with.

Composers and songwriters often contract with music publishing companies (what we will just call "publishers") to administer their musical work copyrights. Typically, the composer(s) or songwriter(s) of a musical work retain ownership of the copyright. Still, the publisher might hold the authoritative position for licensing the musical work. The composer(s) usually receive fifty percent of the proceeds from commercial exploitation of the work.

Recording artists, on the other hand, usually contract with record labels. In contrast to publishing contracts, recording contracts (especially with the major labels) require recording artists to transfer their copyrights to the record label

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derivative works based upon the copyrighted work").

38. *See* KEMBREW MCLEOD & PETER DICOLA, CREATIVE LICENSE: THE LAW AND CULTURE OF DIGITAL SAMPLING 83, 136, 225–26 (2011).

39. *See* PASSMAN, *supra* note 10, at 248–53.

40. United States v. ASCAP, 627 F.3d 64, 73–74 (2d Cir. 2010) (holding that downloads are not public performances, but could be reproductions and distributions). But is a stream a reproduction and distribution? Sometimes it is, according to the Register of Copyrights: "In the case of streaming of prerecorded material, the transmission is typically made from a copy of the audiovisual or other work that has been made on a server. The making of such server copies without authorization constitutes infringement of the reproduction right. And in some cases, streaming can also implicate the distribution right: some forms of streaming actually transmit a copy of the entire work to the recipient's device, where the copy will remain for some period of time and can be used for subsequent replays of the copyrighted work." *Promoting Investment and Protecting Commerce Online: The Art Act, The Net Act and Illegal Streaming: Hearing Before the Subcomm. on Intellectual Prop., Competition, and the Internet of the H. Comm on the Judiciary*, 112th Cong. 19 (2011) (statement of Maria A. Pallante, Register of Copyrights), http://judiciary.house.gov/_files/hearings/printers/112th/112-77_66614.pdf.

for defined periods of time and defined geographic regions for exploitation. In return, the recording artist receives a share, however large or small, of royalties from sales and licenses of the recording. The sound recording side of the industry includes other stakeholders beyond the recording artists and the record labels. Session musicians who perform on the recordings, usually members of the two unions for musicians,[41] can also receive royalties for performances of sound recordings.[42]

It is helpful to think of the publishers and record labels as separate and distinct entities for the purposes of licensing music distributors and other music users. This is because the legal analysis under copyright law requires a distinction between musical works and sound recordings. But in terms of corporate structure, the same multinational conglomerates that own the three major record labels also own major music publishers. As a result, publishers and record labels have cross-relationships and overlapping interests. Yet it would still be a mistake to blur the boundary between the two types of entities. Just because a publisher and a record label have the same corporate parent does not imply that the rights to any sound recording as well as the musical works expressed therein are contained in the same corporate portfolio of copyrights.[43] Thus, the opportunity for "one-stop shopping"—the ability to acquire licenses for a sound recording and the underlying musical work at the same time—should not be exaggerated despite the apparent vertical integration between publishers and record labels.

In the United States there are two predominant pathways to obtaining licenses for the use of copyrighted musical works and sound recordings: deals with rights collectives and deals with the copyright holders themselves. Publishers and record labels are the root licensors for musical works and sound recordings, respectively. These copyright owners or administrators can negotiate licenses directly. But publishers and record labels have at times organized into both formal and ad hoc collectives, and often exercise their copyrights through these intermediaries. Rights collectives represent some exclusive right (e.g., the performance right) or rights (e.g., the reproduction and distribution rights) on behalf of some aggregated set of copyright stakeholders related to one type of subject matter. This agglomeration of owners and rights can occur through willful membership, assignment, or Copyright Office designation. Copyright owners' contracts with these intermediaries, based on

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41. The two unions that receive royalties in this way are the American Federation of Musicians (AFM) and the American Federation of Television and Radio Artists (AFTRA, now part of SAG-AFTRA). § 114(g)(2).

42. The circumstances under which session musicians earn royalties will be explained below. *See infra* Subpart I.D.

43. *Cf.* DAVID BASKERVILLE & TIM BASKERVILLE, MUSIC BUSINESS HANDBOOK AND CAREER GUIDE 52 (9th ed. 2010) (explaining that a major label "might" purchase an artist's compositions).

splitting up the exclusive rights in the copyright bundle,[44] also diminish the possibility of one-stop shopping for licensees. Different licensing schemes—compulsory, blanket, and direct—have been employed for different uses of musical copyrights within this market. These schemes can determine not only the pathway through which copyright licenses are obtained, but also the prices and terms of those licenses.

Some publishers use the Harry Fox Agency ("HFA") to collect royalties for their reproduction and distribution rights when copies of recordings of their musical works are made. Other publishers have chosen to license and collect these rights directly.[45] When it comes to performance rights, many publishers use one of the performing rights organizations ("PROs")—the American Society for Composers, Authors, and Publishers ("ASCAP"), Broadcast Music, Inc. ("BMI"), or the Society of European Stage Authors and Composers ("SESAC")—to license rights and collect royalties. Competing entities such as RightsFlow (acquired by Google), Music Reports, and RoyaltyShare have emerged to serve licensees, pursuing either compulsory or direct licenses covering the reproduction, distribution, and/or performance rights in musical works on behalf of these clients.

Record labels usually exercise their reproduction and distribution rights by contracting directly with retailers, whether online (like Apple or Amazon) or in brick and mortar stores (like Best Buy or Wal-Mart). Some record labels and some independent recording artists without a label have also chosen to contract with what are known as rights aggregators, such as IODA, CD Baby, and Tunecore. The aggregators then license the resulting pools of rights and collect royalties. A collective rights organization called SoundExchange is the legally designated agent for the collection of performance royalties resulting from the statutory license for digital performances of sound recordings.[46] That said, the owners of sound recordings can go outside the bounds of the compulsory license framework and license these same performance rights directly.[47]

The stakeholders in music copyrights are often scattered across overlapping organizations. One must distinguish among composers and

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44. *See*, *e.g.*, Joseph P. Liu, *Owning Digital Copies: Copyright Law and the Incidents of Copy Ownership*, 42 WM. & MARY L. REV. 1245, 1247–48 (2001) (describing the bundle of rights metaphor).

45. *Cf.* Kristelia A. García, *Private Copyright Reform*, 20 MICH. TELECOMM. & TECH. L. REV. 1, 41 (2013) (referring to trend toward music publishers opting out of collective rights organizations).

46. Terms for Making Payment of Royalty Fees and Statements of Account, 37 C.F.R. § 261.4(b) (2013) (designating SoundExchange as the "Receiving Agent" for royalty payments under § 114); *see* 17 U.S.C. § 106(6) (2012) (describing the digital performance right in sound recordings)

47. *See* García, *supra* note 45, at 22–26 (describing one such private deal between the record label Big Machine and the media company Clear Channel). A label dealing outside the statutory license may collect digital performance royalties itself or designate an agent other than SoundExchange.

songwriters, recording artists, session musicians, publishers, record labels, and various licensing intermediaries. In some cases, however, two or more of the persons or institutions on that list are in fact the same person or institution; a composer might record her own song, own her own publishing company, and release her own record on iTunes. Other times, the rights are fragmented and spread across multiple entities. For example, the PROs' repertories have overlapping populations of works; any single work might actually have rightsholders who are members at ASCAP, BMI, and SESAC (for example, the publisher is a BMI member while the songwriter is an ASCAP member). Meanwhile, the population of copyrights and copyright holders is continually expanding.[48] All this makes for a complicated landscape for would-be licensees of music copyrights.

In sum, several types of intermediaries are important within the music industry. Each institution administers particular exclusive rights for particular subject matter. In recent years, these intermediaries (especially the PROs) have been celebrated by law-and-economics scholars for their efficiency in reducing transaction costs between a large number of copyright owners and a large number of licensees.[49] Other commentators within the industry have chastised the PROs for their lack of efficiency.[50] The existence of these intermediaries, however, does not guarantee that the intermediaries will retain their business. As we have noted, publishers and record labels can do direct deals. Recent developments suggest a growing trend of circumventing traditional intermediaries.[51] The publishers and record labels might seek direct deals to garner greater leverage, larger licensing fees, more flexibility, lower administrative costs, or other reasons. So, despite their longevity, the role of the traditional intermediaries in licensing is dynamic and contingent rather than static and permanent.

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48. According to a 1979 decision of the Supreme Court, in 1979 ASCAP represented the performing rights of three million compositions while BMI represented those of one million compositions. *See* Broadcast Music, Inc. v. Columbia Broadcasting System, Inc., 441 U.S. 1, 5 (1979). By 2013, BMI represented greater than 7.5 million compositions on behalf of greater than 500,000 songwriter, composer, and publisher members. *See About*, BMI, http://www.bmi.com/join/ (last visited Mar. 6, 2014). By that same year, ASCAP claimed greater than 460,000 members, representing over nine million compositions. ASCAP, 2012 ANNUAL REPORT 11 (2012), *available at* http://www.ascap.com/~/media/files/pdf/about/annual-reports/2012-annual-report.pdf. These membership numbers may be an overestimate because they could count the songwriter and their own self-publishing entity as two stakeholders even though only a single individual is truly involved.

49. *See*, *e.g.*, Merges, *supra* note 15, at 1327–28.

50. *See* Mike Masnick, *Do We Really Want an ASCAP for News?*, TECHDIRT.COM (Jul. 9, 2010, 5:42 PM), http://www.techdirt.com/articles/20100707/01071110095.shtml ("Operations like ASCAP lead to massive inefficiencies in the market, greater protectionism and a never-ending quest for more control over perfectly reasonable free uses.").

51. *See* García, *supra* note 45, at 41.

D. *Secondary Liability and the Safe Harbors*

The aspects of copyright law that we have described so far set out the rights of copyright owners. In the music industry, this allocation usually means rights that publishers, record labels, or some specialized intermediary may exercise. Copyright law also includes statutory provisions and judicially created doctrines that regulate what users, including distribution-technology firms, may do without infringing copyright law and thus without needing a license. These provisions have been among the most hotly contested issues in the recent history of the entertainment sector, including the music industry. This section will briefly describe the statutes and case law that help define the boundaries of technology companies' legal responsibility for their or their customers' use of music.

Some technologies would directly infringe the exclusive rights of copyright owners if they were not licensed. For example, the act of traditional radio broadcasting would infringe the performance rights of the owners of musical works in the absence of licenses from the PROs. Other technology firms might not reproduce, distribute, or perform copyrighted music themselves; rather, they arguably facilitate their customers in doing so. Legal responsibility for the actions of third parties—here, ordinary consumers of music-related products and services—is known as secondary liability.

Under U.S. copyright law, secondary liability gives rise to the same penalties as primary copyright infringement.[52] The Copyright Act alludes to the existence of secondary liability,[53] but the key doctrines come from case law. Secondary liability essentially comes in three varieties: contributory infringement, vicarious liability, and inducement. The basic notion of contributory infringement is giving knowing assistance to infringement.[54] Vicarious liability, on the other hand, means operating a forum that profits from infringement.[55] Inducement, meanwhile, refers to advertising in a way that explicitly encourages infringement.[56]

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52. *See* 17 U.S.C. § 504 (2012) (making no distinction between direct and secondary liability for purposes of determining the available remedies).

53. *See id*. § 106 (granting exclusive rights "to do and to authorize").

54. The actual two-prong test for contributory infringement requires (1) knowledge of the infringing activity and (2) material contribution to the infringing activity. *See* Fonovisa, Inc. v. Cherry Auction, Inc., 76 F.3d 259, 264 (9th Cir. 1996).

55. The actual two-prong test for vicarious liability requires (1) the right and ability to control the infringing activities and (2) a direct financial benefit from the activities. *See id*. at 262.

56. This is the newest theory of secondary liability, announced in *Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd*., 545 U.S. 913 (2005). It is arguably just a species of contributory infringement, but the Court at points implied that it is a new doctrine for copyright, imported from patent law. *See* WILLIAM F. PATRY, 6 PATRY ON COPYRIGHT § 21:41 (2014) (discussing the uncertainty about how to characterize inducement). The specific language of the test for inducement is that "one who distributes a device with the object of promoting its use to infringe copyright, as shown by clear expression or other

A digital music service that sought to go without licensing yet avoid copyright liability would need to steer clear of direct infringement as well as all three flavors of secondary liability. A typical lawsuit involves a copyright-owning plaintiff making arguments under multiple theories of infringement. Technology firms have, at times, found a way to negate the arguments of copyright owners. One legal tool at their disposal is the *Sony* doctrine. That case operates as a kind of safe harbor for technologies for which a substantial fraction of the uses are legitimate, perhaps because they fall into an exception like fair use.[57]

In the digital realm, the other main legal tools in the face of possible secondary liability are the safe harbors of § 512. Internet technologies have the benefit of four safe harbors that appear in the copyright statute.[58] They are another example of technology specific legislation. Qualifying for one of the safe harbors means immunity from secondary liability, as the name suggests. Case law over the past decade or more has generally taken an expansive view of the safe harbors. One could have imagined the safe harbors being restricted to Internet service providers, more or less passive conduits for data packets. But the safe harbors have been found to protect other types of online platforms, such as YouTube[59] and Veoh.[60] Today, it appears that the safe harbors have become the strongest weapon for technology-firm defendants allegedly liable for secondary infringement.

This discussion of the legal minefield for unlicensed digital music services is a necessary prelude to our discussion of licensed digital music services. It is essential to remember that copyright law may have enough play in the joints to allow some music-distribution technologies to operate without obtaining a license from copyright owners. Moreover, the burden rests on copyright-owning plaintiffs to prove secondary liability. As a result a technology firm might be able to operate for some time and build up a user base before copyright owners pursue relief in the courts. In other words, enforcement is imperfect even when application of the law would almost certainly generate liability.[61]

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affirmative steps taken to foster infringement, is liable for the resulting acts of infringement by third parties." *Grokster*, 545 U.S. at 936–37.

57. *See* Sony Corp. of America v. Universal City Studios, Inc. 464 U.S. 417, 447–56 (1984).

58. *See* 17 U.S.C. § 512(a)–(d) (2012).

59. Viacom Int'l, Inc. v. YouTube, Inc., 676 F.3d 19, 38–39 (2d Cir. 2012) (affirming the District Court's holding that the § 512(c) safe harbor applies to YouTube).

60. UMG Recordings, Inc. v. Veoh Networks, Inc., 718 F.3d 1006, 1015–20 (9th Cir. 2013) (holding that the § 512(c) safe harbor applies to Veoh's online video platform).

61. *See* Greg Sandoval, *Grooveshark Settles EMI Publishing Lawsuit, Still Faces Uncertain Future,* THE VERGE (Aug. 6, 2013, 8:30 AM), http://www.theverge.com/policy/2013/8/6/4592346/grooveshark-settles-emi-publishing-lawsuit-still-faces-uncertain (describing the protracted legal difficulties of the on-demand streaming service Grooveshark).

Although the law outlines the set of rights granted to copyright owners, in practice these rights are simply options to sue someone or some firm—particularly at the boundary of legal precedent. Technology firms choose whether to pursue or forgo a licensing effort. When a technology firm makes no effort to obtain a license, the burden is on copyright owners to pursue the allegedly infringing firm, primarily through litigation. The next section discusses the landscape for music-technology firms that make a different choice, opting for a statutory or voluntary license instead.

E. *Webcasting and Streaming: The Landscape of § 114*

In this section we focus on the part of music copyright that deals with performances that occur as digital transmissions.[62] The media that have been defined as conveying digital transmissions of music include Internet streaming, satellite radio broadcasts, and music channels on cable television services. New technology firms that wish to deliver recorded music over these distribution media must obtain licenses from the copyright owners of both musical works and sound recordings.

During the 1990s, in anticipation of digital distribution technologies becoming prevalent, Congress designed a highly technology-specific regime to regulate digital performances. This regime brought several new features to U.S. copyright law. This Subpart will explain the complicated statutory provisions that set the background for such licensing transactions.

First, Congress expanded the range of subject matter that enjoys the exclusive right of performance. Sound recordings, for the first time, received a performance right, albeit one limited to digital transmissions.[63] As mentioned above, SoundExchange was created and became the Copyright Office's designated agent to collect the new, statutory digital performance royalties.[64] Since its founding, SoundExchange has sought out recording artists, owners, or their agents to register to receive their share of these royalties.[65]

Second, beyond the expansion of subject matter eligible for a performance right, is the existence of a statutory licensing scheme for certain kinds of digital performances but not others. Here, the copyright code creates a new distinction

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62. For excerpts of the relevant statutory definitions, see *supra* note 36.

63. This is the right created by the Digital Performance Right in Sound Recordings Act of 1995, 17 U.S.C. § 106(6) (2012).

64. *See supra* note 46 and accompanying text.

65. SoundExchange also remits royalties to the two music unions, AFM and what is now SAG-AFTRA. *See* 17 U.S.C. § 114(g)(2) (2012). Statutory royalties are paid to SoundExchange regardless of whether the relevant artists or owners/agents are, in fact, members of or registered with the organization. As a result, SoundExchange has been unable to distribute the full proportion of royalties it has collected. *See About Digital Royalties*, SOUNDEXCHANGE, http://www.soundexchange.com/artist-copyright-owner/digital-royalties/ (last visited Mar. 6, 2014) (acknowledging existence of "unclaimed royalties").

between "non-interactive" and "interactive" digital transmissions.[66] The non-interactive category has the option of a statutory license, whereas the interactive category does not.[67] To qualify as non-interactive, a digital transmission must meet several detailed statutory requirements. The usual name for this kind of conforming service is Internet radio, or webcasting. The requirements are focused on making sure that non-interactive digital performances do not allow listeners to enjoy music "on demand."[68] Examples of the requirements include avoiding pre-announcement of what music will be played and refraining from playing music by the same artist or from the same album within a given time period.[69]

Third, Congress decided who would determine the statutory licensing rate for the digital performance of sound recordings and by what standard. Rather than set royalty rates itself, Congress has set up an administrative body called the Copyright Royalty Board ("CRB") to determine royalty rates.[70] Importantly, the rates chosen in a given proceeding have a quick expiration date, only applying for a few years at a time, at which point another rate proceeding must occur. The CRB uses different rate-setting standards for webcasting and any new services as opposed to incumbent satellite radio or cable music services. Statutory licensees in the latter category face a multi-factor, balancing-test standard and pay much lower rates.[71] On the other hand, rates for webcasters and any new digital services are determined under the "willing buyer/willing seller" standard.[72] This distinction between standards connects the statutory licensing process for non-interactive services to any voluntarily negotiated licenses for similarly non-interactive services. Specifically, the CRB will look to the voluntary rates (which involve a willing buyer and willing seller) to inform their choice of statutory rate.[73]

The statutory license of § 114 and the associated rate-setting proceedings allow webcasters a way to obtain licenses for sound recordings. Direct deals are also possible. On the musical works side—just to keep track of all the licenses a non-interactive service needs—the generally defined performance right

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66. *See* Arista Records, LLC v. Launch Media, Inc., 578 F.3d 148, 153–57 (2d Cir. 2009) (discussing the legislative history of this distinction).

67. § 114(2)(A)(i).

68. *See Arista Records*, 578 F.3d at 154 (discussing Congress's concern that "interactive services were likely to have an impact on record sales").

69. For a more detailed narrative about the § 114 requirements for non-interactivity, see DiCola, *supra* note 14, at 1853–55.

70. Originally, the administrative body that served this function was the Copyright Arbitration Royalty Panel, or CARP. Despite its amusingly fishy name, the CARP was replaced by the CRB after years of tumult over rate determinations. For the entire sordid tale of webcasting rate negotiations since the DPRSRA see DiCola & Sag, *supra* note 5.

71. *See* 17 U.S.C. § 801(b) (2012); *see also* DiCola, *supra* note 14, at 1849–50.

72. § 114(f)(2)(B).

73. *See*, *e.g.*, Digital Performance Right in Sound Recordings and Ephemeral Recordings, 76 Fed. Reg. 13,026, 13,042 (Mar. 9, 2011) (codified at 37 C.F.R. pt. 380).

covers digital performances by non-interactive services. In other words, non-interactive performances of musical works are treated just like analog performances in concert halls and on traditional AM and FM radio have been.[74] The PROs—ASCAP, BMI, and SESAC—have traditionally collected the digital performance royalties just as they have collected the analog monies.[75]

Section 114 is a music-industry-specific privilege available to certain kinds of digital music services—certain webcasters, satellite radio firms, and cable music services—but not others. We have already discussed the legal landscape for unlicensed services, that is, the doctrines of secondary liability as well as the safe harbor defenses.[76] This leaves a residual category under copyright law. What remains are digital music services that: (a) at least arguably implicate copyright owners' exclusive rights, (b) do not seek to escape primary or secondary liability, (c) do not qualify for the § 114 statutory license, and (d) choose instead to pursue a privately negotiated license.

This residual category—the on-demand streaming services—is the focus of the empirical findings in this Article.[77] For interactive music services seeking a licensed kind of legitimacy, both the legal fate of unlicensed services and the terms of § 114 will operate in the background to shape choice. The roads not taken inform the value of the services' outside option or threat point when planning their business and negotiating their license with the copyright owners. Streaming services obtain their licenses in the shadow of copyright.

Interactive digital transmissions are defined as the obverse of the non-interactive ones.[78] The usual name for this kind of service is on-demand streaming. Because such services do not qualify for the § 114 statutory license, they must directly negotiate voluntary licenses with the sound recording copyright owners. Meanwhile, the musical work side is more complicated for interactive streaming services than for non-interactive webcasters. Under its § 115 authority,[79] the CRB adopted a rule that interactive streams of musical works implicate both the performance and reproduction rights of musical works.[80] In other words, on-demand streaming services must obtain licenses from two different institutions with respect to musical works. The performance

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74. *See* 17 U.S.C. § 106(4) (2012).

75. See *supra* Section I.C for a discussion of publishers making direct deals and thus circumventing the PROs.

76. *See supra* Subpart I.D.

77. *See infra* Part IV.

78. *Compare* § 114(d)(2)(C) (outlining the requirements for non-interactive services that are eligible for the statutory license), with § 114(j)(7) (defining an "interactive service," which is not eligible for the statutory license).

79. This section provides a compulsory license for musical works. 17 U.S.C. § 115 (2012).

80. The CRB essentially adopted a private settlement that publishers and streaming services reached. *See* Mechanical and Digital Phonorecord Delivery Rate Determination Proceeding, 74 Fed. Reg. 4510 (Jan. 26, 2009) (codified at 37 C.F.R. pt. 385).

rights usually come from the three PROs. The obligation to obtain mechanical rights in the absence of any formal and established collective through which to obtain these rights created a challenge for interactive music services, an issue we discuss below.[81]

With the DPRSRA, Congress created a new regulatory scheme that creates property rights for a specific type of subject matter (sound recordings) with respect to uses by specific music-distribution technologies (webcasting, satellite radio, and cable music services).[82] The regulatory scheme includes a brand-new statutory license, which limits the new property right in digital performances. To define the boundary between the non-interactive services that qualify for the statutory license and the interactive services that do not, Congress included in the statute itself a set of highly detailed strictures on webcasters' programming decisions and technological design.

Section 114 is the apotheosis of the technology-specific approach to copyright legislation discussed above.[83] It has shaped the path of licensing for both (non-interactive) webcasting and (interactive) on-demand streaming. Therefore, the empirical examination of the licensing of on-demand streaming services that we undertake in this Article is a partial evaluation of the success of the technology-specific approach to copyright legislation.

II. TECHNOLOGICAL INNOVATION AND LEGAL INNOVATION

Because music copyright is a statutory creation, and because the institutions of the music industry track the complexities of the statute, the would-be innovators of digital music services face a complicated licensing environment. Thus, copyright law casts a shadow—at times ominous, at other times benevolent—over the choices available to music-distribution firms. This Part of the Article addresses the economic and sociological aspects of launching a new music-technology venture.

A. *Defining Technology and Innovation*

Definitions of technology often emerge from a fascination with shiny metal objects. Most often, technology is considered as a tool: an artifact—material or virtual—with which some task is accomplished. At other times, one might

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81. *See infra* Part IV.

82. Sometimes, the statute is even more specific than the type of distribution, effectively singling out specific companies for special treatment. *See* 2 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 8.22[D][1][b] (Matthew Bender ed., rev. ed. 2013) (discussing legislative history indicating that Congress intended for the companies CD Radio and American Mobile Radio Corporation to receive preferential treatment as preexisting satellite radio services); *see also* 17 U.S.C. § 114(j)(10) (defining "preexisting satellite digital audio radio service").

83. *See supra* Subpart I.A.

speak of technology as if it were more than an artifact developed by a person or a corporation, but in fact a corporate entity itself. For example, one might say that the law stifled "Napster." Technology is also a technique; it is the way in which some task is accomplished, or, alternatively, the method for converting inputs into outputs. In fact, technology-as-technique was the lens through which economists and sociologists first studied the so-called "technology" of organizations.

Investigations of technology within organizations during the last quarter of the twentieth century favored a conception of technology as tool, by which we mean the apparatus, artifacts, or applications with which work gets done. What matters about these apparatus can range from qualities objectively inherent in these tools (e.g., the presence of four buttons) to qualities infused into these tools by way of social meaning (e.g. the social control imposed on end users by limiting these users to only those choices available through four buttons). These qualities have been characterized in various ways, such as: properties,[84] affordances,[85] constituting structures,[86] identities,[87] or spirit.[88]

Certain "classics" of organizational research conducted during the middle decades of the twentieth century view technology as technique, essentially the methods for getting things done. Examples of this conception of technology as technique would include: "the mechanisms or processes by which an organization turns out its product or service"[89]; "the work performed by an organization"[90]; and "the nature of work activities."[91] Law suggested technology "is a method, one method, . . . for the construction of a system of related bits and pieces."[92] Perrow argued that technology involved "the actions that an individual performs upon an object, with or without the aid of tools or

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84. *See* George Huber, *A Theory of the Effects of Advanced Information Technologies on Organizational Design, Intelligence, and Decision Making*, 15 ACAD. MGMT. REV. 47, 50 (1990).

85. *See* DONALD NORMAN, THE DESIGN OF EVERYDAY THINGS 10 (rev. ed. 2013); Raymond F. Zammuto et al., *Information Technology and the Changing Fabric of Organization*, 18 ORG. SCI. 749, 752–53 (2007); Donald Norman, *Affordance, Conventions, and Design*, 6 INTERACTIONS 38, 39 (1999).

86. *See* Wanda Orlikowski, *Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations*, 11 ORG. SCI. 404, 405 (2000).

87. *See* Philip Faulkner & Jochen Runde, *On the Identity of Technological Objects and User Innovations in Function*, 34 ACAD. MGMT. REV. 442, 452 (2009).

88. *See* Gerardine DeSanctis & Marshall Scott Poole, *Capturing the Complexity in Advanced Technology Use: Adaptive Structuration Theory*, 5 ORG. SCI. 121, 126 (1994).

89. Edward Harvey, *Technology and the Structure of Organizations*, 33 AM. SOC. REV. 247, 247 (1968).

90. W. RICHARD SCOTT, INSTITUTIONS AND ORGANIZATIONS: IDEAS AND INTERESTS 125 (3d ed. 2007).

91. Richard Daft & Norman MacIntosh, *A New Approach to Design and Use of Management Information*, 21 CAL. MGMT. REV. 82, 83 (1978).

92. John Law, *On the Social Explanation of Technical Change: The Case of the Portuguese Maritime Expansion*, 28 TECH. & CULTURE 227, 233 (1987).

mechanical devices, in order to make some change in that object. The object, or 'raw material,' may be a living being, human or otherwise, a symbol or an inanimate object."[93]

A focus upon firm-level technologies has also been common within both organizations[94] and economics research.[95] For example, Weber conceived of bureaucracy as a technology for organizing social systems—placing the decision-making power in the position, or the "bureau,"" rather than the person.[96] Fry saw technology as "the organizational process of transforming inputs into outputs."[97] Rousseau conceptualized technology as the broad process of transforming inputs into outputs.[98] By way of this transformation, "value is added by transforming inputs . . . or by maintaining inputs . . . . The transformation of inputs such as raw materials or people adds value by altering their form or structure (physical or mental) in some desired way."[99]

Recognizing that there is more to technology than shiny metal objects allows for a broader understanding of the relationship between law and technology. The features of copyright law certainly affect the business models through which music is released or otherwise made available to the public. Copyright also influences the design of the tools through which music is distributed or transmitted.[100] At times, the law might chill the emergence of a particular technology, but more often the law shapes technology in subtle but important ways.

Technology and innovation are often joined at the hip. While innovation is the object of our attention in business and in policy circles, the term often lacks

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93. Charles Perrow, *A Framework for the Comparative Analysis of Organizations*, 32 AM. SOC. REV. 194, 195 (1967)

94. *See generally* Robert MacIntosh & Donald MacLean, *Conditioned Emergence: A Dissipative Structures Approach to Transformation*, 20 STRATEGIC MGMT. J. 297 (1999); Robert M. Grant, *Toward a Knowledge-Based Theory of the Firm*, 17 STRATEGIC MGMT. J. 109 (1996); Raghu Garud & Praveen R. Nayyar, *Transformative Capacity: Continual Structuring by Intertemporal Technology Transfer*, 15 STRATEGIC MGMT. J. 365 (1994).

95. *See generally* JAMES D. THOMPSON, ORGANIZATIONS IN ACTION: SOCIAL SCIENCE BASES OF ADMINISTRATIVE THEORY (1967); JOAN WOODWARD, INDUSTRIAL ORGANIZATION: THEORY AND PRACTICE (1965); ROBERT BLAUNER, ALIENATION AND FREEDOM: THE FACTORY WORKER AND HIS INDUSTRY (1964); Randy Hodson, *Dignity in the Workplace Under Participative Management: Alienation and Freedom Revisited*, 61 AM. SOC. REV. 719 (1996); Robert S. Billings et al., *The Impact of a Change in Technology on Job Characteristics: A Quasi-Experiment*, 22 ADMIN. SCI. Q. 318 (1977).

96. *See generally* MAX WEBER, ECONOMY AND SOCIETY (1922).

97. Louis W. Fry, *Technology-Structure Research: Three Critical Issues*, 25 ACAD. MGMT. J. 532, 533 (1982).

98. Denise M. Rousseau, *Assessment of Technology in Organizations: Closed Versus Open Systems Approaches*, 4 ACAD. MGMT. REV. 531, 531 (1979).

99. *Id.* at 532.

100. *Cf.* LAWRENCE LESSIG, CODE – VERSION 2.0 120–25 (2006) (discussing the interdependence between law and code, among other forces, in regulating behavior).

clear definition.[101] Innovation is the commercial preparation of new technologies that transform economic inputs into economic outputs. Innovation goes beyond invention to bring a new product or service to market.[102] It is also helpful to distinguish between innovation and invention because innovations need not be patentable. Rather than referring to a legal status, innovation refers to an economic, if not also a societal impact. Commercialization is an aspect of innovation that is often used to distinguish it from the creativity of authors and artists.[103] Innovation is construed as the product of investment in research and development.[104] That said, creative works are often the result of an investment effort and are later commercialized. Moreover, some innovations may never follow clearly commercial paths.

Prototypically, innovation is imagined as a rebel. Having no known origin, the rebel arrives in town unexpectedly and swaggers into the first saloon, showing little concern for whatever might have previously been the rules. At the first sign of conflict, innovative firms "often shoot first and ask questions later."[105] While this raw conception of innovation makes for great television, the rebel prototype may be far less common in reality than we are led to believe. Instead, innovation is more commonly cumulative, and innovators often negotiate their way to the market. Furthermore, the more distant the phenomenon of innovation may be from this rebellious loner prototype, the more aware the law must be to a form of innovation that is more connected and contingent.

Research suggests that rather than having no known origin, any innovation is likely a function of prior innovations.[106] Breakthrough ideas and innovators stand on the shoulders of other ideas and the people behind them. The size of the increments between innovations may seem wider or narrower, but the

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101. Gaia Bernstein, *In the Shadow of Innovation*, 31 CARDOZO L. REV. 2257, 2271 (2010) ("[I]nnovation rhetoric has a fuzzy quality to it. Users of innovation rhetoric do not confine themselves to the term innovation. Instead, they often use it interchangeably with related terms, such as creativity, invention, and diversity.").

102. *See* Jonathan M. Barnett, *Intellectual Property as a Law of Organization*, 84 S. CAL. L. REV. 785, 787 n.2 (2011) ("By 'innovator,' I refer broadly to any individual, entrepreneur, firm, or other entity that is involved in generating and commercializing new technologies. This definition encompasses but extends beyond the traditional category of the inventor, who is not involved in commercialization.").

103. Brett M. Frischmann, *An Economic Theory of Infrastructure and Commons Management*, 89 MINN. L. REV. 917, 1013 n.370 (2005) (discussing the distinction between innovation, creativity, and other socially productive activities not covered by those two terms); *see also* Bernstein, *supra* note 101, at 2271–72 (noting and criticizing the failure of scholars to adhere to the distinction).

104. *See* SUZANNE SCOTCHMER, INNOVATION AND INCENTIVES 39 (2004).

105. Ameet Sachdev, *When Online Upstarts Rattle the Playing Field*, CHI. TRIB., Oct. 13, 2013, at C1, *available at* http://articles.chicagotribune.com/2013-10-13/business/ct-biz-1013-disruptive-tech—20131013_1_uber-playing-field-taxi.

106. *See*, *e.g.*, SCOTCHMER, *supra* note 104, at 127–35 (discussing cumulative innovation).

bridges exist. Each innovation is connected to another. Our understanding of sub-atomic particles like quarks is a function of our prior conception of atomic particles like protons, neutrons, and electrons. Apple's mouse was an adaptation of the one presented in 1968 by Doug Englebart in what is known among technologists as "The Mother of All Demos."[107]

Furthermore, most innovations we encounter are a function of compromises—explicit or implicit—which have emerged through negotiation over or adaptation to external factors. Those factors might have many sources: legal, technical, cultural, or political. Because of our "rebel without a cause" prototype, however, innovation is seen as either wholly independent from or an ingenious workaround of these dynamics. When these boundaries around innovation are studied, they are often seen—by default—as constraints upon rather than instigators of such innovation.

Twitter is a prime example of the sort of innovation that results from a hidden compromise at the edge of two (or more) industries. The innovation of Twitter occurred within the box rather than outside of it. Messaging among mobile devices and, therefore, Twitter "tweets," are not limited to 140 text characters because of a decision made by mobile device manufacturers or decrees of Twitter executives. This restriction on message length is, in fact, heavily constrained by decisions made nearly three decades ago. The GSM standard for short messages services ("SMS") was established and adopted in the 1980s, limiting the data in these transmissions to 128 bytes and, eventually, 160 bytes.[108] Since these SMS standards were previously developed and adopted by carriers, any potential negotiation between the messaging platform that would be Twitter and these carriers was moot—the standard was already coded into the infrastructure. If tweets were to pass through the SMS data channel, they would be restricted in character length. Twitter chose 140 characters as their limit to allow twenty characters for the user's name and still stay within the 160-character limit of SMS.[109]

Interactive music services are another example of a more explicit sort of compromise forming between two or more industries. In this case, services and copyright holders negotiate over not only the license terms (e.g., costs, advances, rights), but also the feature set of the service itself (e.g., subscription tiers and prices). By creating through copyright law the legal properties that are the musical work and the sound recording, Congress set up constraints but also created opportunities.

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107. *Doug's 1968 Demo*, DOUG ENGLEBART INST., http://www.dougengelbart.org/firsts/dougs-1968-demo.html (last visited Mar. 6, 2014).

108. *See* Mark Milian, *Why Text Messages Are Limited to 160 Characters,* L.A. TIMES TECH. NOW (May 3, 2009, 1:28 PM), http://latimesblogs.latimes.com/technology/2009/05/invented-text-messaging.html.

109. Lauren Dugan, *Twitter Basics: Why 140-Characters, and How to Write More*, ALL TWITTER (Nov. 11, 2011, 5:00 PM), http://www.mediabistro.com/alltwitter/twitter-basics-why-140-characters-and-how-to-write-more_b1124.

B. *Technological Innovation in New Distribution Media*

Before radio technology, performances of musical works occurred in concerts, theatrical productions, and other in-person venues. But ever since the advent of AM radio, the music industry has included new-technology firms that developed new methods of performing music for audiences—from FM radio to satellite radio to Internet radio. A similar sequence of technologies exists for the sale of recorded music, ranging from the piano roll to the digital music file. In this way, we can think of a time sequence of technological innovations in the distribution media for music.

Sometimes, a successor technology nearly completely supplants a progenitor. Other times, the new and old technologies come to coexist. For example, by the 1990s the compact disc had supplanted the audiocassette, but the vinyl record had begun to recover enough to coexist with compact discs. Because there is no guarantee at all that the new technology will surpass the old, let alone eradicate it, the music industry often features long time periods—rather than just momentary or transitional ones—of competition among distribution technologies. We can think of competition between compact discs, cassettes, and vinyl much as we can think of competition between traditional, satellite, and Internet radio. Going further, the technologies that convey performances compete with the technologies for encoding recorded music, vying for consumers' time spent listening to music.

An economic model of this process might start by simplifying this complex process to just two technologies, old and new. We will focus on technologies that convey performances, like radio, but the approach is general across downloads and streams. Each technology defines a production process in which copyrighted works are a notable input, alongside labor and capital.[110] Conveyances of recorded music to listeners are the output.

Competition between the old and new technologies takes place in part along a number of dimensions that correspond to features of the two methods of distributing music. For example, on the dimension of convenience, radio receivers are more accessible to some listeners—in their cars or offices, say—than Internet-enabled devices that can stream webcasts.[111] On the dimension of programming personalization, however, some webcasts offer a great deal of customization by personal preferences. In fact, mass customization has become a plausible production scheme by way of these technologies.[112] Traditional

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110. One can think of musical works and sound recordings as an intermediate good.

111. This is changing over time. More people have mobile access in cars, and many people have Internet access at work—although IT departments at some workplaces may block some websites or music-streaming methods.

112. *See generally* Suresh Kotha, *Mass Customization: Implementing the Emerging Paradigm for Competitive Advantage*, 16 STRATEGIC MGMT. J. 21 (1995); Andrew C. Boynton et al., *New Competitive Strategies: Challenges to Organizations and Information Technology*, 32 IBM SYS. J. 40 (1993).

radio offers programming formats like "Adult Contemporary," "Alternative Rock," and "Top 40," a rough differentiation for matching consumer preferences. Each product characteristic is a dimension of a space in which the two technologies compete. Firms will have flexibility to change some aspects of their services, but other aspects will be constrained by the nature of the distribution medium—or by government policy. Firms will also compete in terms of costs and consumer prices, just like any competing firms.

So far, this section has outlined an economic framework to analyze how music-technology firms emerge and compete against each other. This economic framework is useful in several ways. It makes it easier to see how two technologies, new and old, could coexist in the marketplace for a substantial period of time. It also presents a way to study the effect of copyright law on business decisions.

The next piece of the puzzle is to consider the relationship between new technology firms and copyright owners. The nature of copyright as a form of intellectual property, when interacted with the nature of information technologies and networks, results in an undeniable complexity at the intersection of these two industries. Four primary factors come together to present technologists and copyright holders with wicked circumstances for negotiating any sort of innovation.[113]

First, key inventions common to our daily lives could be used—out of the box—to infringe upon the rights granted to copyright holders, and the evolution of these inventions is not abating. And so it would seem that technologists and copyright holders might continually find themselves making sense of the opportunities associated with these inventions. In other words, there is not a clear stopping point to this challenge.

Second, once a service provider for a new distribution technology decides to engage in a copyright licensing effort, the exact nature (and therefore cost) of the license often requires ad hoc negotiation. Moreover, the appropriate source for directly negotiating a license for those rights may be unclear—an authoritative list of copyright owners and claims for which licenses must be obtained simply does not exist.[114] The problem is not only unbounded, but subject to "good or bad" rather than "true or false" assessment.

Third, in almost all cases, a copyright holder cannot reasonably and technically restrain any service provider, or individual for that matter, from infringing upon copyrights. Technological measures and other forms of self-

113. For a broad introduction to wicked problems see generally Horst W. J. Rittel & Melvin M. Webber, *Dilemmas in a General Theory of Planning*, 4 POL'Y SCI. 155–69 (1973).

114. While projects such as the Global Repertoire Database (GRD) and the International Music Registry (IMR) are underway, these projects at too nascent at this time to connect a potential licensee with the population of copyright owners from which licenses must or might be obtained.

help are unlikely to succeed in any attempts at private copyright enforcement. As a result, copyright holders may have no clear path to pursue remuneration given some act of infringement, whether in fact or in perception, other than through the legal system. Resolution of an infringement claim may require a court decision—even if the assertion of infringement is based in legal precedent.

Finally, while Internet-based technologies are often global in their reach, the terms of copyright are predominantly national. The rules of copyright law as well as the actors in the market can change with each country or region within which a new service will be released or employed by end users. As a result, licenses covering the same repertoire of recordings and works may face different licensing terms in different countries leading to different service characteristics to match these terms.

With these sets of rights, rights holders, licensing entities, schemes and pathways in place, the complex negotiations over new music services take form. The next section addresses the legal constraints that shape new technologies' product characteristics and cost structure.

C. *Legal Constraints*

The interface between copyright law and technological innovation is of high priority for many legal scholars. To make our usage clear, "copyright law" in this context most often refers to the Copyright Act and associated case law as outlined in Part I. At times, the phrase also refers to the language and interpretation of legal agreements formed within the boundaries of the statute and the cases. More rarely, the phrase signifies the legal and professional practices within which these policies or agreements are framed.

Copyright law may have no clear and direct effect upon innovation. Innovators may proceed on a path of their own direction, in search of new knowledge or perhaps only imagined opportunities. We think of the law as affecting the circumstances within which opportunity forms, impacting the adoption rather than the emergence of innovation. Given the complexity in the link between innovation and the law, we argue that the law shapes the circumstances of markets and market actors who rely upon some innovation rather than necessarily chilling or catalyzing innovation itself.

The foundational economic models of copyright law recognize that copyright law creates costs for distribution firms.[115] The relative strength or weakness of copyright law can be thought of as a parameter that increases or decreases the costs of firms that wish to use copyrighted works.[116] (Here, the

115. *See* WILLIAM LANDES & RICHARD POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 37–39 (2003) (discussing the "cost of expression").

116. *Id*. at 77–84 (describing a formal model with the parameter "*z*" capturing the level of copyright protection).

notion of strength or weakness is a description of the scope and enforceability of copyright protection from the perspective of the copyright owners.) Copyright is understood abstractly in this conception; copyright becomes a policy lever that, among other functions, increases and decreases distribution firms' costs.

In the setting of digital music services, however, the impact on costs need not be understood so abstractly. For firms operating under the § 114 statutory license, such as satellite radio and webcasters, the Copyright Royalty Board is setting the input price for copyright licenses directly. For interactive streaming services, which must obtain voluntary licenses, copyright's scope—the duration of the copyright term, the extent of the definition of a digital performance—affects costs in a fairly direct way, too. For example, by enlarging the catalog of music that must be licensed, because a greater number of works remain under copyright, the extension of the copyright term in 1998 increased the costs of streaming services to some degree.[117]

The impact of government policy does not stop with licensing fees. Input prices and licensing fees do not capture another crucial way that copyright law affects competition in the digital music marketplace. Copyright law also shapes and constrains the product characteristics, technical designs, and business models of music-distribution services. To take a particularly explicit example, the requirements for the § 114 statutory license define in detail the extent of personalization that services may allow and still qualify for the statutory rate.[118] Another example is the definition of the performance right and the subcategory of performances known as transmissions. Services might have an incentive to place their service's product characteristics outside the coverage of this definition.[119] This design would avoid copyright-licensing fees entirely.

Legal constraints on digital music services can come from sources other than U.S. copyright law. Other bodies of federal law, such as antitrust, may constrain the parameters of the licensing arrangements between copyright owners and distributors.[120] In media markets, moves toward vertical integration across production and distribution can be attractive to licensors and licensees but run afoul of antitrust or communications law.[121]

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117. Sonny Bono Copyright Term Extension Act §§ 102(a)–(d), 17 U.S.C §§ 302–04 (2012).

118. *See supra* Subpart I.D. The prime example is the performance complement.

119. A recent example in the video context is Aereo's ability to escape the burden of licensing. *See* WNET v. Aereo, Inc., 712 F.3d 676 (2d Cir. 2013) (holding that an Internet television service with one antenna per customer did not engage in infringing public performances), *cert. granted*, ABC v. Aereo, Inc., 134 S. Ct. 896 (Jan. 10, 2014) (No. 13-461).

120. One example of this possibility is Sirius XM's antitrust lawsuit against SoundExchange and the American Association of Independent Music ("A2IM") for colluding to thwart direct deals with record labels. Complaint, Sirius XM Radio, Inc. v. SoundExchange, Inc., No. 12-CV-2259 (S.D.N.Y. Mar. 27, 2012), 2012 WL 1031756.

121. This is a prominent feature of the video market; it has been less prevalent in music.

Geographic boundaries are a legal constraint that often requires services to obtain licenses on a country-by-country basis. Despite the existence of intellectual property treaties, such treaties do not provide for "one-country shopping." A service getting licensed in one country does not necessarily mean reciprocity will follow in other countries. Recent efforts in the EU tried to ameliorate the constraint of country boundaries by establishing so-called pan-European licensing hubs.[122] Unfortunately, these efforts also resulted in confusion over which rights could be licensed on a pan-EU basis and consternation among collectives who might represent more "local" music portfolios (e.g., as a result of language).

Existing contracts and institutions can also constrain music services. One could think about the PROs as legal institutions, creatures of private contracts but subject to antitrust supervision,[123] that shape the choice set of prospective music services. The PROs offer the prospect of blanket licenses, but those licenses are bound by their terms. In other words, the provisions of the blanket license might act as a stricture on what a new digital music service can offer to consumers. Some members might hold to the blanket license, but other members might be willing to circumvent it with a direct license.[124]

Recording artists' contracts with record labels and composers and songwriters' contracts with publishers can also present a sort of legal constraint on what licensing deals are possible for new music services. For example, a recording artist's contract might include a clause that requires artist approval of certain kinds of licenses, even though the record label owns the copyright.[125] The result of such "opt-out" choices can lead to service offerings that may be

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See Christopher S. Yoo, *Technological Determinism and Its Discontents*, 127 HARV. L. REV. 914, 929–33 (2014) (reviewing SUSAN CRAWFORD, CAPTIVE AUDIENCE: THE TELECOM INDUSTRY AND MONOPOLY POWER IN THE NEW GILDED AGE (2013)) (providing an overview of vertical integration of production and distribution in the video market).

122. Scheherazade Dabeshkhu & Andrew Edgecliffe-Johnson, *Europe's Music Services in Harmony*, FT.COM (Nov. 18, 2012, 11:47 PM), http://www.ft.com/cms/s/0/ef97f046-317c-11e2-92f0-00144feabdc0.html.

123. Both ASCAP and BMI operate under consent decrees. *See* DiCola & Sag, *supra* note 5, at 207 & n.187. SESAC does not; however, the Radio Music License Committee, which represents traditional AM and FM radio broadcasters, recently brought an antitrust suit against SESAC. Complaint, Radio Music License Comm., Inc. v. SESAC, Inc., No 2:12-CV-05807 (E.D. Pa. Oct. 11, 2012), 2012 WL 5193959; *see also Radio Industry Files SESAC Anti-Trust Complaint*, RADIO MUSIC LICENSE COMM. (Oct. 11, 2012), http://www.radiomlc.org/pages/6282116.php.

124. *See* Annie Johnson, *Radio Stations, Music Users Look to Bypass BMI, ASCAP*, NASHVILLE BUS. J., Mar. 25, 2011, *available at* http://www.bizjournals.com/nashville/print-edition/2011/03/25/music-radio-bypass-bmi-ascap.html.

125. Sample licensing is an example. *See* MCLEOD & DICOLA, *supra* note 38, at 171 (providing an example of recording artist Lauryn Hill retaining a right to approve samples through her contract); *see also id*. at 232 (discussing this as a more general phenomenon in recording contracts). This leaves aside the issue of termination of transfers. *See* 17 U.S.C. § 203 (2012); *see also* Larry Rohter, *Record Industry Braces for Artists' Battles Over Song Rights*, N.Y. TIMES, Aug. 16, 2011, at C1.

less compelling to the end consumer. Alternatively, such contractual restrictions might not affect approval of a license, but they could affect how a service must remit payments of licensing fees.

A final form of legal constraint comes from the law of secondary liability and the defenses available to certain types of Internet companies.[126] *Sony* and the DMCA safe harbors can benefit certain types of platforms, such as search engines, user-generated-content sites, and social networks.[127] Digital music services designed along these lines might try to comply with the requirements of *Sony* or the DMCA safe harbor for Internet service providers.[128] This could have implications for the design and features of a digital music. In terms of licensing strategy, even a colorable argument along these lines might provide some leverage in licensing negotiations.

The framework for cyberlaw that Lawrence Lessig described is capacious and flexible enough to address the feedback between law and innovation.[129] In brief, Lessig sets up a framework in which four categories of forces can shape behavior: law, the market, social norms, and technology.[130] Technology in this framework can include physical constructions like architecture as well as intangible creations like code, i.e., software. "Code is law" because code acts like law.[131] Law, the market, social norms, and code can regulate behavior—connoting a hard constraint—or at a minimum shape behavior—a softer constraint.

Outside of legal scholarship, the so-called "New Institutionalism" school of organization theorists also conceived of and investigated these constraints upon human and organizational behavior. Importantly, while traditional research into organizations pursued explanations for the difference among organizations (i.e., mesomorphism), the institutional school endeavored to understand similarities, or isomorphic shifts among organizations. Foundational to this institutional school was the work of DiMaggio and Powell who proposed three analytical domains within which those mechanisms impacting individual and organizational action might be described: coercive, normative, and mimetic.[132] Coercive mechanisms involve the hard constraints of law and politics. Normative mechanisms stem from educational and professional influences. Mimetic mechanisms are those that lead to imitation—following the successful

126. *See supra* Subpart I.D.

127. *See*, *e.g.*, Perfect 10, Inc. v. Amazon.com, Inc., 508 F.3d 1146, 1175 (9th Cir. 2007); *see also* Viacom Int'l, Inc. v. YouTube, Inc., 676 F.3d 19, 38–39 (2d Cir. 2012).

128. *See* 17 U.S.C. § 512(c) (2012).

129. *Cf.* LESSIG, *supra* note 100, at 127–28 (providing examples of how the framework can apply).

130. *Id.* at 120–25.

131. *Id.* at 5.

132. Paul J. DiMaggio & Walter W. Powell, *The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields*, 48 AM. SOCIOLOGICAL REV. 147, 150–54 (1983).

paths of others—but also include the concept of habits.[133] These categories suggest interesting connections and contrasts to Lessig's.

Whether seen within the domain of cyberlaw or those of institutional theory, the divergent approaches to innovation adopted by copyright holders and technologists might be understood by investigating the different frames of mind expressed by the individuals involved. These expressed frames are then analyzed as reflections of underlying mechanisms that impact these negotiations, whether as constraints or catalysts.

D. *Transaction Costs*

The previous section showed that legal constraints, based in copyright and other sources of law, affect the licensing fees paid by and the product characteristics of digital music services. Copyright law, by virtue of its creation of property rights, requires some users to acquire a license. Commercial digital music services fall pretty clearly into this category. Any time a firm needs a license to operate, this requires some process, usually a licensing negotiation or an administrative filing (e.g., for a statutory license). The expense of this process, in terms of money and time, becomes a cost for distribution-technology firms that layers on top of licensing fees and other costs of production. In short, licenses generate transaction costs for digital music services.

There can be ambiguity in how law and economics scholars define the concept of transaction costs.[134] We are thinking of transaction costs of three sorts: search and information costs, negotiating costs, and monitoring and enforcement costs.[135]

Proliferation of intellectual property rights can arguably stifle technological innovation and business development.[136] Empirical investigations of the matter have produced mixed reports as to whether a thicket of property rights has created a licensing burden too large to carry.[137] Although the anti-commons or royalty-stacking problem is not the same as the issue of transaction costs, the two inefficiencies can exacerbate each other.

One major focus of this Article is to characterize the nature of the

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133. Walter W. Powell, *The New Institutionalism*, *in* 3 THE INTERNATIONA'L ENCYCLOPEDIA OF ORGANIZATION STUDIES 975, 976 (2008)

134. *See* Lee Anne Fennell, *The Problem of Resource Access*, 126 HARV. L. REV. 1471, 1483–90 (2013) (describing the problem of conflicting usage across different scholars).

135. This tracks very closely the formulation of Carl J. Dahlman, *The Problem of Externality,* 22 J.L. & ECON. 141, 148 (1979). *See also* Fennell, *supra* note 134, at 1484, 1488 (discussing the relationship between Coase's and Dahlman's views).

136. *See generally* HELLER, *supra* note 17.

137. *Compare* Walsh et al., *supra* note 17, at 297–305 (finding no thicket in the biomedical context of patent law) *with* MCLEOD & DICOLA, *supra* note 38, at 212–16 (finding a thicket in the sample-licensing context of copyright law).

transaction costs faced by digital music services. It is nearly impossible to access the kind of information that would allow a full, quantitative accounting of licensing-transaction costs. Such an undertaking would require data on employees' time use, a firm's legal expenditures, the opportunity costs of delaying launch until the licensing is done, and so on. But the perfect data will never exist. So in this Article we attempt to pin down some quantitative measures about licensing transactions.

As we explain below in Part III, we asked our interviewees about the cost of learning how many negotiations are necessary, the cost per negotiation, and the number of negotiations necessary. We asked how long, in total, licensing negotiations tend to take in order to launch a new digital music service. We asked for comparisons between different types of licenses—sound recordings versus musical works, domestic versus international, and so on.

The study of transaction costs allows us to learn about the impact of the legal regime, particularly copyright, on new technology firms. Together with the costs of licensing fees and making changes to product characteristics, licensing-transaction costs are part of the barrier to entry into the digital music business. But rather than benefiting copyright owners, transaction costs merely escape the system as the friction generated by deal-making. The design of the legal and institutional environment affects the amount of resources lost to transaction costs. Reducing transaction costs is costly in itself,[138] but it is possible that some changes in the design of the legal environment would reduce transaction costs in a worthwhile manner.

E. *Innovations and Opportunities in Licensing*

To this point, we have discussed the complicated legal environment for digital music services as a constraint. Innovators in music technology find themselves facing licensing fees and transaction costs. A new service might fall on the wrong side of a regulatory line, creating incentives to shape the service's characteristics to receive the most favorable regulatory treatment. But copyright law and other aspects of the music industry's legal environment do more than create constraints on business. They also present opportunities. The firm that comes up with an innovation in licensing—a new or better way to work within the music industry's legal thicket—can gain a valuable competitive advantage.[139] In fact, in the music industry, some innovations in licensing might create more value than some technological ones.

The innovations in licensing that we have in mind, in the context of digital music services, arise in the form of new kinds of licensing agreements, or new

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138. *See* Fennell, *supra* note 134 (discussing HAROLD DEMSETZ, FROM ECONOMIC MAN TO ECONOMIC SYSTEM 7, 109–10 (2008)).

139. *See* STUART MINOR BENJAMIN ET AL., TELECOMMUNICATIONS LAW AND POLICY 331–36 (3d ed. 2012) (discussing the history of AT&T).

terms within those agreements. Thus, we are focused on private-law innovations in this paper. An innovation in licensing might have its source on the copyright-owner side or the distribution-technology side of the licensing negotiation, or it might come from the combination of the two. The key point is that we are thinking of contracts and private institutional arrangements. Sometimes these private arrangements will represent a circumvention of a statutory scheme; other times, they will supersede a previous licensing agreement; and still other times they will represent first-time deals.

It would be natural, however, to think of innovations in dealing with public licenses as well. (Indeed, we will argue below that the line between private and public is pretty well blurred in the copyright context.) New regulatory strategies—for example, within CRB rate proceedings—could count as licensing innovations that give firms an advantage. The same goes for the design of new legislation, which copyright owners and technology firms have long shaped with their lobbying efforts.[140] At this juncture we should make clear that our usage of the term innovation, despite its usually positive connotations, is descriptive rather than normative. A licensing innovation might benefit the private parties to a licensing negotiation, or it might benefit a regulated entity, but that does not guarantee that the innovation is socially desirable. Innovations in licensing might reduce consumer surplus or have other spillover effects.[141]

Getting back to the innovations in private licenses we have in mind with regard to digital music services, we think of these innovations as rooted in four goals. One category of innovation relates to fee structure. Sometimes an innovation simply seeks to increase (or reduce) licensing fees. The innovation comes in finding a way to negotiate a higher (or lower) rate. Other times, an innovation might changes the structure of fees, such as shifting from a flat fee to a per-play rate.

A second category of innovation seeks more flexibility in product characteristics, opening up a new feature that previous licenses did not allow. For example, Apple's new iRadio product may have functionality that previous digital music services did not have. That product feature has a technological aspect, but perhaps the bigger hurdle to rolling out the product was the legal innovation required to secure the licenses.[142]

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140. *See generally* LITMAN, *supra* note 4; Jessica D. Litman, *Copyright Legislation and Technological Change*, 68 OR. L. REV. 275 (1989); Jessica D. Litman, *Copyright, Compromise, and Legislative History*, 72 CORNELL L. REV. 857 (1987).

141. *Cf.* Brett Frischmann & Mark Lemley, *Spillovers*, 107 COLUM. L. REV. 257, 271–75 (2007) (discussing how transactions can have various kinds of positive spillovers). Positive spillovers from transactions are certainly possible, but so are negative spillovers.

142. *See* Glenn Peoples, *Business Matters: Apple iRadio's Licensing vs. Pandora's Licensing*, BILLBOARD BIZ (Jun. 3, 2013 6:30 PM), http://www.billboard.com/biz/articles/news/digital-and-mobile/1565657/business-matters-apple-iradios-licensing-vs-pandoras.

A third category of innovation involves reducing transaction costs.[143] This could mean setting up a more efficient administrative scheme for remitting licensing fees. For example, the administrative requirements of the § 115 compulsory license,[144] which governs the use of musical works that are reproduced in sound recordings sold as phonorecords,[145] are typically viewed as cumbersome.[146] Thus, publishers (the licensors) and record labels (the licensees) usually bargain around the statutory scheme.[147] Innovating to reduce transaction costs might mean developing a better database of rights holders, as YouTube has done to license user-generated videos.[148]

A fourth and final category involves finding new institutional arrangements, whether this means a new collective rights organization or a promotional arrangement. An example of the latter might be a license that includes special treatment for a particular copyright-owning firm on a new digital music services. Such promotions might even inch toward vertical integration. Thus, this type of licensing innovation derives some of its value from an understanding of how to promote or integrate while avoiding a violation of antitrust law. We would also put institutional arrangements that aim for favorable tax treatment into this category of innovation—anything where the goal is to create, combine, or contract among institutions in order to take advantage, but not run afoul of, a particular body of law.

Working within or against legal constraints creates an opportunity for new-technology firms. The negotiated form of the innovation is informed not only by the distinct perceptions held by both parties for where the opportunity resides, but also by the contributions made by the parties involved to this nexus of circumstances—regardless of whether opportunity is assumed to exist a priori or ad hoc.[149] At the level of the firm, interactions over innovation and opportunity development are often studied as if motivated by the costs of transactions[150] or the transfer of resources.[151] The resources in question could

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143. *See* Ronald Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239, 253–56 (1984) (outlining a theory of lawyers as "transaction cost engineers").

144. 17 U.S.C. § 115(a)(2) (2012).

145. *See supra* text accompanying notes 26–29.

146. *See* PASSMAN, *supra* note 10, at 213–18.

147. *Id*.

148. *See How Content ID Works*, YOUTUBE HELP, http://support.google.com/youtube/answer/2797370 (last visited Feb. 28, 2014).

149. *See generally* SCOTT SHANE, A GENERAL THEORY OF ENTREPRENEURSHIP: THE INDIVIDUAL–OPPORTUNITY NEXUS (2004).

150. *See generally* Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233 (1979).

151. *See generally* Kathleen M. Eisenhardt & Claudia Bird Schoonhoven, *Resource-Based View of Strategic Alliance Formation: Strategic and Social Effects in Entrepreneurial Firms*, 7 ORG. SCI. 136 (1996); Jay Barney, *Firm Resources and Sustained Competitive Advantage*, 17 J. MGMT. 99 (1991).

be tangible in nature or intangible, such as knowledge[152] or capabilities.[153]

The effect of the legal and institutional context within which opportunity discovery or development takes place also deserves attention. Perceptions of an imagined opportunity, resulting from broad institutional frames, may well affect the interpretation of, responses to, and development of opportunity. The potential of the innovation resulting from licensing negotiations is a function of not only what the parties take from the opportunity, but also what the parties contribute to the opportunity—perceptually and materially. If we imagine opportunity to consist of some set of circumstances somehow deemed desirable—whether in terms of profit potential, social impact, or organizational survival—there is reason to believe that the portfolio of desired circumstances may be defined differently for individuals working within different institutional fields.

The music industry's large set of rules, regulations, and specialized institutions opens up possibilities for innovations in licensing. Improvements to a statutory arrangement, updates to an existing agreement, and features of a newly designed license all count as licensing innovations. Either copyright owners or technology firms can develop innovations in licensing. The underlying goals that motivate these innovations include changes in fees or fee structure, permissible product characteristics, transaction costs, and methods of industrial organization. With this theoretical understanding of the stakes in licensing negotiations between copyright owners and digital music services, we can now turn to the specifics of the legal and institutional context in which those negotiations occur.

III. LICENSED AND UNLICENSED SERVICES: SOME RECENT HISTORY

At the intersection of copyright and technology, people must navigate the complex manner in which the law constrains, shapes, and otherwise influences innovation. The outcomes of this complexity can seem paradoxical, if not ironic. For example, Niklas Zennström and Janus Friis, investors in the music service Rdio that launched in 2010, were also owners of the Kazaa file-sharing network that was sued by the major record labels in 2001.[154] Similarly, Sean

152. *See generally* Wesley M. Cohen & Daniel A. Levinthal, *Absorptive Capacity: A New Perspective on Learning and Innovation*, 35 ADMIN. SCI. Q. 128 (1990).

153. *See generally* DAVID J. TEECE, DYNAMIC CAPABILITIES AND STRATEGIC MANAGEMENT: ORGANIZING FOR INNOVATION AND GROWTH (2009); Sidney G. Winter, *Understanding Dynamic Capabilities*, 24 STRATEGIC MGMT. J. 991 (2003); Kathleen M. Eisenhardt & Jeffrey A. Martin, *Dynamic Capabilities: What Are They?* 21 STRATEGIC MGMT. J. 1105 (2000); David J. Teece & Gary Pisano, *The Dynamic Capabilities of Firms: An Introduction*, 3 INDUS. & CORP. CHANGE 537 (1994).

154. Eliot Van Buskirk, *Kazaa, Skype Founders Launch Twitter-like Music Service Rdio*, WIRED.COM (June 3, 2010, 12:01 AM), http://www.wired.com/business/2010/06/kazaa-skype-founders-launch-twitter-like-music-service-rdio/.

Parker, an early founder of the file-sharing service Napster that was sued by the record labels in 1999, was an early investor in and advisor to Spotify, which would launch in Europe in 2008 and in the US in 2011.[155] These individuals and their firms chose to forgo licensing at the beginning of the music industry's transition to digital but ended up seeking (and successfully obtaining) licenses a decade later.

In this section, we will first provide three vignettes that collectively exemplify the public's view of music licensing in the shadow of copyright. We will then provide a brief review of the history of file-sharing networks developed during and after the litigation over the file-sharing service Napster. This history of file sharing suggests that decisive conclusions regarding the link between court decisions and innovation—particularly when that link is categorized in terms of either a chilling or a catalyzing effect upon innovation itself—are difficult to construct.

The closure of Napster and similarly designed, centralized peer-to-peer services preceded, or at least coincided with, greater rather than less diversity in file-sharing clients, protocols, and users. If the law indeed chilled innovation-at-large in the land of file sharing, then the citizens of this territory seem to prefer a cold climate. Rather than a pure chilling effect, the evidence supports a more temperate view. The law certainly shaped the opportunities generated by developers' rather persistent, loosely organized, and even inspiring pursuit of what is technologically possible in the domain of networked search and file transfer. The language of judicial decisions seemed to be directly reflected in the design of subsequent file-sharing venues. In this way the law can trigger unexpected if sometimes unwieldy forms of innovation.

A. *Three Vignettes*

In May of 2012, Sean Parker, an investor in and board member of Spotify, claimed the firm's U.S. licensing efforts required upwards of two-and-a-half years before completion.[156] Spotify is an on-demand streaming service made possible in part by a peer-to-peer architecture. Reuters previously reported Spotify had spent at least eighteen months attempting to license the service in the U.S.[157] Forbes reported Spotify spent two years licensing the service across

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155. Jennifer Sullivan, *RIAA Suing Upstart Startup*, WIRED.COM (Nov. 15, 1999), http://archive.wired.com/techbiz/media/news/1999/11/32559.

156. Mike Isaac, *Sean Parker: Why Did Spotify Take So Long to Get Stateside? It Could Have Been Apple*, ALL THINGS D (May 30, 2012, 2:53 PM), http://allthingsd.com/20120530/sean-parker-whyd-spotify-take-so-long-to-get-stateside-it-could-have-been-apple.

157. Yinka Adegoke, *Spotify to Launch in US After Long Wait*, REUTERS (July 14, 2011, 7:08 PM), http://www.reuters.com/article/2011/07/14/us-spotify-idUSTRE76D02E20110714.

Europe.[158] In aggregate time, Spotify may have spent between forty-two and forty-eight months licensing the service for availability in the EU and US. For comparison, Napster operated for fourteen months, Grokster for forty-eight months, and Limewire for sixty-one months, while their respective copyright infringement cases worked their way through the courts—from the first cease-and-desist letter to the final court decision.

In March of 2012, the founders of Turntable.fm announced at the SXSW conference that their music service would be covered by licenses from the set of major record labels.[159] The service offers users a chance to remix songs and act as DJs within a social network. Turntable.fm had launched (in beta) in late May of 2011. According to Peter Kafka of All Things D, Turntable.fm executives previously claimed their use of music nested within the terms of the DMCA and, therefore, did not require direct licenses from music owners.[160] Within the first two months of operations, while still an invitation-only service, Turntable.fm announced licenses from Sound Exchange (for the § 114 sound recording performance), as well as ASCAP and BMI (for the public performance of musical works).[161] Eight months later, however, the firm announced direct licenses from EMI, Sony, Universal, and Warner Music.

On December 30, 2011, the Financial Times reported that Beyond Oblivion would close shop before its music service, dubbed "Boinc," would ever launch.[162] Boinc would have offered streamed and downloaded music files to its users. Four months earlier, the Financial Times had reported that licensing negotiations between record labels and Beyond Oblivion, while nearing conclusion, had been going on for upwards of eighteen months.[163] Then, in October 2011, Music Week reported that two of the four major labels had agreed to terms, and it was hoped that deals with the remaining labels would

158. Steven Bertoni, *Spotify's Daniel Ek: The Most Important Man in Music*, FORBES.COM (Jan. 4, 2012, 9:37 AM), http://www.forbes.com/sites/stevenbertoni/2012/01/04/spotifys-daniel-ek-the-most-important-man-in-music.

159. Elliot Van Buskirk, *Turntable.fm Goes 'Legit' With Licenses from All 4 Major Labels*, WIRED.COM (Mar. 13, 2012, 7:31 PM), http://www.wired.com/underwire/2012/03/turntable-fm-goes-legit.

160. Peter Kafka, *Turntable.fm Really Is Awesome. Is It Legal?*, ALL THINGS D (June 21, 2011, 4:00 AM), http://allthingsd.com/20110621/turntable-fm-really-is-awesome-is-it-legal.

161. *See* Angela Watercutter, *Group Listening Rooms Turn Up the Volume on Web Music*, WIRED.COM, (Aug. 19, 2011, 3:00 PM), http://www.wired.com/underwire/2011/08/group-music-listening-rooms/; *see also* Anthony Bruno, *Turntable.fm Scores ASCAP, BMI Licensing*, BILLBOARD.COM (July 21, 2011, 5:25 PM), http://www.billboard.com/biz/articles/news/publishing/1177014/turntablefm-scores-ascap-bmi-licensing.

162. Richard Waters & Matthew Garrahan, *Beyond Oblivion Crashes Before Launch*, FT.COM (Dec. 30, 2011, 11:45 PM), http://www.ft.com/cms/s/0/32af873c-3335-11e1-8e0d-00144feabdc0.html#axzz2tQt951pU.

163. Tim Bradshaw, *Beyond Oblivion Reveals Its Boinc Service*, FT.COM (Aug. 23, 2011, 4:27 PM), http://www.ft.com/intl/cms/s/2/cf315abe-ca93-11e0-94d0-00144feabdc0.html#axzz2tQt951pU.

conclude in the following few weeks.[164] The firm would shut down, however, before these additional licenses were fully negotiated. Bankruptcy filings later disclosed Beyond Oblivion's liabilities to be in excess of $100 million, according to Reuters, including two $50 million notes for which Sony Music and Warner Music Group were listed as creditors.[165]

The brief histories of the three music startups described above suggest very different versions of the music licensing challenges faced by nascent music services. Beyond Oblivion, with roughly $100 million in (apparent) royalty commitments made to two major record labels, failed to officially launch its services after nearly two years of discussions with music rights holders. By contrast, Turntable.fm first launched without licenses, then obtained licenses for music rights under compulsory or blanket terms within sixty (if not thirty) days, and later negotiated direct licenses from major music rights holders within ten months of the service being available. For its part, Spotify would spend an aggregate time of nearly four years licensing is service across Europe and the U.S.

B. *The Controversy Over Napster*

In *A&M Records, Inc. v. Napster, Inc*. the Ninth Circuit Court of Appeals affirmed the ruling of the United States District Court for the Northern District of California. The appellate court determined that the copyright-owner plaintiffs had demonstrated a likelihood of success on the merits of their claim of vicarious liability for copyright infringement.[166] Napster's service was therefore subject to an injunction. The Ninth Circuit did limit the scope of the injunction, writing that "we place the burden on plaintiffs to provide notice to Napster of copyrighted works and files containing such works available on the Napster system before Napster has the duty to disable access to the offending content."[167] The court added, "Napster, however, also bears the burden of policing the system within the limits of the system."[168] Even with that sharing of the infringement-policing burden, the result was not a positive one for Napster.

The Ninth Circuit Court of Appeals' decision set in motion of series of subsequent machinations. Perhaps the most serious of these plot twists emerged through the expectations of Judge Patel (of the District Court), articulated in

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164. *Sony and Warner Sign to Another Spotify Rival*, MUSICWEEK.COM (Oct. 19, 2011, 11:23 AM), http://www.musicweek.com/news/read/sony-and-warner-sign-to-another-spotify-rival/047017.

165. Yinka Adegoke, *Murdoch-Backed Music Startup Bankrupt Before Launch*, REUTERS (Jan. 25, 2012, 12:31 EST), http://www.reuters.com/article/2012/01/25/us-newscorp-beyondoblivion-idUSTRE80O1UG20120125.

166. A&M Records, Inc. v. Napster, Inc., 239 F.3d 1004, 1024 (9th Cir. 2001).

167. *Id*. at 1027.

168. *Id*.

chambers, for Napster to implement the Ninth Circuit's determination that the company must police the file-sharing system within its means.[169] In this case, "its means" would come to mean, in the opinion of the judge, an error-free capacity to identify and remove copyrighted files on the network. To this day, no major search company headquartered in the U.S. (e.g., Google, Yahoo!, or Bing) operates under a similar expectation for a perfect capacity to filter copyrighted works from search results, largely because those platforms qualify for DMCA safe harbors under case law subsequent to the Napster litigation.[170]

Unsurprisingly, Napster's executives determined they could not live up to the court's expectations for infallibility. In the context of these expectations and the price of legal settlements, the Napster file-sharing network was shut down and the firm would eventually file for bankruptcy protection. In the minds of many executives, scholars, and pundits, the Ninth Circuit Court's decision would have (and has had) a chilling effect; not only would Napster be shut down, but also, in the words of an amicus brief filed by a number of legal scholars, the court chose to "ban a new technology in order to protect existing business models, and would invoke copyright to stifle innovation, not to promote it."[171] In the end, the corporate entity that was Napster would indeed freeze to death. But, did innovation in file-sharing technologies unequivocally catch the same chill?

The assessment of any impact a law or legal decision might have upon innovation is usually constructed in binary fashion: Does policy X or a court decision Y chill or catalyze the emergence of innovative outcomes? In this binary interpretation, zero means chilled, while one means catalyzed. When the measure for impact upon innovation is not of binary construction, then these two nodes are treated instead as extreme ends on some Likert scale. One means chilled, five means catalyzed, while assessments in between these extremes suggest some complex mixture of both chilled and catalyzed. The shortcoming with the chilled-or-catalyzed approach to innovation policy is that the perceived outcomes of legislation or legal agreements rarely fit so neatly into one of two bins, or even into one of five bins. When the outcomes do fit into the bins, the count of beans within each bin may not generate an accurate understanding of the subtle link between the law and innovation.

In the next section, we review the long sequence of file-sharing technologies that preceded, accompanied, and followed Napster. The lessons we draw from this history do not fit easily into a binary or Likert-scale conception.

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169. KAREN DONOVAN, V. GOLIATH: THE TRIALS OF DAVID BOIES 260 (2005).

170. *See* 17 U.S.C. § 512(c)–(d) (2012); *see, e.g.*, Perfect 10, Inc. v. Amazon Inc., 508 F.3d 1146, 1175 (9th Cir. 2007); Viacom Int'l v. YouTube, Inc., 676 F.3d 19, 38–39 (2d Cir. 2012).

171. Amended Brief Amicus Curiae of Copyright Professors in Support of Reversal at 4, Napster, Inc. v. A&M Records, Inc., 239 F.3d 1004, 1024 (9th Cir. 2001) (No. 00-16401), *available at* http://www-personal.umich.edu/~jdlitman/briefs/Amicus.pdf.

C. *Innovation Before, During, and After Napster*

Michael Carrier has recently suggested, based on careful interview research, that the Napster litigation chilled innovation and venture capital funding.[172] Based on the historical review in this section, and coupled with our own interview research described in Part IV below, we add some complications to Carrier's story about the stifling of innovation. There is no reason to doubt the finding that licensing and financing a file-sharing service, particularly the Napster service, became extremely daunting in the wake of the litigation.[173] Yet, as this section will show, technological innovation around peer-to-peer designs continued throughout the Napster era. Other business models emerged. Innovations in licensing eventually emerged as well. Carrier's story of stifled innovation has considerable purchase—particular developments may have been slowed or shaped by the Napster story—but, complementary to Carrier's story, we would add that innovation did not halt due to frostbite.[174]

Mapping the history of file-sharing networks and protocols is akin to mapping the design of the Internet itself: a series of central paths (that is, networks, applications, or protocols) from which branch out further series of connections and new paths.[175] Importantly and contrary to popular mythology, which often identifies Napster as the first file-sharing network, a small set of file-sharing clients and networks were already operating prior to or concurrent with Napster. Hotline (previously Hotwire) was first developed by Australian developer Adam Hinkley in 1996 and officially released in 1997.[176] Scour launched sometime during 1997, the result of a project developed by five

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172. *See* Michael A. Carrier, *Copyright and Innovation: The Untold Story*, 2012 WIS. L. REV. 891 (2012).

173. *Id*. at 910–11 ("One respondent thought the decision made the labels 'more entrenched' and 'more difficult to deal with in terms of any kind of reasonable licensing scheme' since they 'won in court' and thus decided to 'suck everybody dry as much as' they could.").

174. To be clear, Carrier discusses "lost innovation" and "lost opportunity" but never claims that the loss was total or permanent. *Id*. at 950–53. Again, we read our findings as complementary to his careful research.

175. For a comprehensive background on the history of file sharing as aggregated for this article, see generally JAMES ALLEN-ROBERTSON, DIGITAL CULTURE INDUSTRY: A HISTORY OF DIGITAL DISTRIBUTION (2013); MATTHEW DAVID, PEER TO PEER AND THE MUSIC INDUSTRY: THE CRIMINALIZATION OF SHARING (2010); JOHN ALDERMAN, SONIC BOOM: NAPSTER, MP3, AND THE NEW PIONEERS OF MUSIC (2008); Ty McCoormick, *The Darknet: A Short History*, FOREIGNPOLICY.COM, (Dec. 9, 2013), http://www.foreignpolicy.com/articles/2013/12/02/the_darknet; Diana Sterk, *P2P File-Sharing and the Making Available War*, 9 NW. J. TECH. & INTELL. PROP. 495 (2011); Felix Oberholzer-Gee & Koleman Strumpf, *File Sharing and Copyright*, in 10 INNOVATION POLICY AND THE ECONOMY 19 (Josh Lerner & Scott Stern eds., 2010). For a detailed timeline of file-sharing services, see *Timeline of File Sharing*, WIKIPEDIA, http://en.wikipedia.org/wiki/Timeline_of_file_sharing (last modified Feb. 15, 2014).

176. Andrew Cockwell, *Street Cred: Hot Connection*, WIRED (Sept. 1997), http://archive.wired.com/science/discoveries/news/1997/09/6945.

UCLA undergraduates. Michael Ovitz and Ron Burkle's Yucaipa holding company invested in Scour in the spring of 1999. Audiogalaxy, built by Michael Merhej, was released as early as 1998 (sued by the major record labels on May 24, 2002). In November of 1999, one month prior to the cease and desist issued to Napster, the iMesh file-sharing network and client were released.

Timing is everything. And so we will now focus our attention on activity among file-sharing client and protocol developers amidst the wake of legal actions taken against the initial set of applications and networks introduced above. The major record labels filed the initial lawsuit against Napster on December 9, 1999. In May of 2000, venture capital firm Hummer Winblad invested $15 million in Napster. On July 20, 2000 the major record labels and movie studios sued Scour.[177] By November of 2000, Scour had declared bankruptcy and shut down. During this same month, Bertelsmann Media Group ("BMG") structured a loan to Napster. On July 26, Judge Patel issued an injunction on the Napster service.[178] On February 12, 2001, the Ninth Circuit affirmed the decision of the district court. The record labels and music publishers filed a copyright lawsuit against Audiogalaxy on May 24, 2002, and the parties reached an out-of-court settlement before the end of June. What was the effect of this litany of lawsuits, legal decisions, lost investments, bankruptcies, and out-of-court settlements upon the broad-yet-still-nascent file-sharing market?

Coincident with the legal actions taken against Napster, independent developers were releasing new versions of the service's own architecture. In late 1999, as the legal case against Napster was building, an independent group of developers released an "open" version of the Napster server protocol, dubbed OpenNap. Throughout 2000 and until roughly 2002, developers built a number of file-sharing clients upon the OpenNap architecture (e.g., audioGnome, FileNavigator, FileShare, Lopster, MyNapster, Napigator, Rapigator, SunshineUN, TekNap, Utatane, WinMX, and XNap). However, the most famous of the early OpenNap clients were Morpheus and Grokster, whose operators not only switched underlying file-sharing protocols more than once, but also faced lawsuits from both music and movie copyright owners that eventually led all the way to the Supreme Court.

In addition to the tinkering that occurred with the Napster designs, developers also began to imagine and release protocols and clients based upon very different approaches to file search and transfer. On March 14, 2000, in the midst of the legal mine field described and depicted above, the developers of

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177. Matt Richtel, *Movie and Record Companies Sue a Film Trading Site*, NYTIMES.COM (July 21, 2000), http://www.nytimes.com/2000/07/21/business/movie-and-record-companies-sue-a-film-trading-site.html.

178. John Borland, *Judge Issues Injunction Against Napster*, CNET NEWS (July 26, 2000, 8:10 PM PDT), http://news.cnet.com/2100-1023-243698.html.

Nullsoft (operating within AOL) released version 0.48 of a Gnutella client. Gnutella was expressly designed not only to be an open-source project, but also to avoid the anticipated liability ascribed to the central search server design of Napster through a fully distributed search architecture. As a result of this distributed design, the Gnutella network did not require a centralized network of servers cataloging the location and name of files on the network. Instead, searches conducted through client applications on end-user machines were resolved by a swarm-like response from the broad network of these same client applications.[179]

The Gnutella protocol was adopted by a range of new and pre-existing file-sharing clients, many of which were released during 2000 (during the Napster trials) and 2001 (after the Circuit Court's decision). The most notable of these Gnutella clients were Limewire, Bearshare, and Ares (which would later release its own protocol). The Open Directory Project lists the following additional clients built upon Gnutella: Acqlite, Acquisition, Cabos, Fusteeno, GPU, Gnucleus, Gnufu, Gtk, Mutella, Phex, Qtella, Symella, and Zultrax.

Coincident with Gnutella's release, Ian Clarke released the Freenet file-sharing system in March of 2000. Freenet, which added an encryption layer to a distributed search and transfer design, may have been the first p2p system to which the moniker "darknet" was attached. Six months later, and less than two months after Patel's injunction of the Napster service, Jed McCaleb released eDonkey2000, a file-sharing system. The same developer later released Overnet in 2004. In October of 2000, MojoNation was released—a file-sharing platform that included a digital currency, dubbed "mojo," to encourage sharing. In March of 2001, less than one month after the Ninth Circuit decision that would eventually shutter Napster, Niklas Zennstrom and Janus Friis formally released both the FastTrack platform and the Kazaa file-sharing client (originally developed by and acquired from Bluemoon Interactive).[180] Grokster abandoned its own Swaptor protocol and adopted the FastTrack protocol in late spring of 2001. Morpheus adopted FastTrack as well, and continued to operate.

Perhaps the most disruptive innovation in file-sharing design separated search from transfer. This meant that users could acquire the full contents of a single file from multiple sources. Moreover, the management of this file

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179. Imagine a file-sharing network were like a party. In the Napster design, any guest in search of another guest named "George Washington" would ask the host of the party for that information. The host, who kept a record of all the guests and their locations, would connect the guest in question with George W. (were he, in fact, at the party). In the Gnutella design, any guest in search of George Washington would ask nearby guests for information. These guests would in turn ask guests near them, and so on. Once George were located (if at all), that information would ping pack through the network of requesting guests, eventually making it back to the initial entrant in search of George. The host of the party would never need to know that the search for George ever took place.

180. BLUEMOON, http://www.bluemoon.ee/bluemoon/index.html (last visited Feb. 15, 2014).

distribution was distributed across the network. OpenCola, originally founded by Grad Conn, Cory Doctorow, and John Hensen as a multi-source search platform (i.e., web, databases, and peers), released a p2p design called "Swarmcast" in May of 2001. This group also released an open-source soda under the same OpenCola name. In July of 2001—the same month during which Napster shuttered its file-sharing service—Bram Cohen, one of the developers from MojoNation, released BitTorrent. Over time, the BitTorrent protocol found adoption in greater than fifty file-sharing clients, the most notable of which were uTorrent and Azureus (now Vuze). The protocol also led to adoption by an even larger number of "tracker" websites—the most infamous of which have been The Pirate Bay (various domains), IsoHunt.com, Mininova.com, and Demonoid.com.

By July of 2002, the Recording Industry Association of America ("RIAA") and Motion Picture Association of America ("MPAA") had sued the operators of Kazaa, Grokster, and Morpheus. The software companies actually won the first two rounds in federal court.[181] Oral arguments at the Supreme Court began on March 29, 2005. The Court provided its decision on June 27, 2005, reversing the Ninth Circuit and introducing (or at least newly highlighting) the theory of inducement as a species of secondary liability.[182]

The final decision of the U.S. Supreme Court introduced a broad measure for inducement—so broad in fact that many felt this decision would introduce the greatest level of uncertainty leading to the coldest climate for innovation in file sharing. What happened instead was a dramatic shift in the development of and consumer behavior towards a large set of file-hosting and link-sharing sites operated outside the United States. Innovation was not truly shaken, it simply moved house.

On March 21, 2005, eight days prior to the oral arguments in *Grokster*, Kim Schmidt (aka "Kim Dotcom") launched Megaupload.com, a site that would later become the poster child for file hosting and sharing websites (alternatively known as one-click hosts or cyberlockers).[183] In the years after the Grokster decision, the community of cyberlockers expanded dramatically, both in terms of sites and traffic: Rapidshare (launched as early as 2002), Hotfile, Mediafire, and Fileserve.

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181. *See* Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 380 F.3d 1154 (9th Cir. 2004); Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 259 F. Supp. 2d 1029 (C.D. Cal. 2003).

182. Metro-Goldwyn-Mayer Studios, Inc. v. Grokster, Ltd., 545 U.S. 913 (2005); *see also supra* Subpart I.D.

183. Press Release, Dep't of Justice, Justice 'Department Charges Leaders of Megaupload with Widespread Online Copyright Infringement (Jan. 19, 2012), *available at* http://www.justice.gov/opa/pr/2012/January/12-crm-074.html.

D. *Innovation, Shaped But Not Shaken*

Within five years of the final Napster decision, file-sharing technology traveled further than full-circle—from search results presented on the pages of early search engines (e.g., Lycos MP3 search), to centrally managed search protocols, then fully distributed search protocols, then fully distributed and encrypted search/transfer protocols (managed by companies domiciled outside the U.S.), and finally file-hosting websites (some domiciled outside the U.S.) whose hosted files could be found either through third-party search engines or only through access via private "lockers" for files. A trend toward avoiding the specifications for and requirements of the DMCA reversed dramatically as operators chose to operate as DMCA-compliant, inviting and responding to (whether in fact or only in appearance) takedown requests from copyright holders.[184] However, with music and movie files placed within password-protected and even encrypted folders on the file hosts' servers, locating the sort of infringement that would trigger a takedown request became increasingly difficult.

The Napster decision appears to have both chilled and catalyzed innovation. On the one hand, the expressed design underlying Napster's file-sharing service and the corporate actor that was the Napster entity would shut down. On the other hand, a wave of new file-sharing applications emerged, alongside a new set of underlying designs and corporate entities, some leading to their own eventual legal showdowns in the courts while others still thrive today. Technological innovation, commercial innovation, and innovations in licensing in response to legal constraints continued, and even proliferated.

Given the apparent chill in the air, why did a massive wave of file-sharing applications surface in the wake of the decision of the Ninth Circuit Court of Appeals? In fact, if the purpose of the lawsuits was to limit the spread of technology that threatened the commercial interests of copyright owners, then the plaintiffs may have suffered the exact opposite result. A greater number of file-sharing networks were operating in the U.S. within twenty-four months of the Napster decision than operated before the Napster decision, offering a more diverse array of designs for file search and transfer. The link between a decision such as that in *A&M v. Napster* and subsequent innovation may require further investigation.

What if the language of legal decisions and copyright policies, rather than either chilling or catalyzing innovation, neither chills nor catalyzes innovation? Instead these decisions shape (intentionally or unintentionally) the contours of opportunity within which any innovation might emerge or prosper. Legal scholars and policy makers should recognize that, as with our understanding of emotion—where researchers would eventually come to the conclusion that

184. *See* 17 U.S.C. § 512(c) (2012) (describing the notice-and-takedown procedure).

happiness and sorrow co-exist and interact[185]—the mechanics of innovation may be more nuanced than conventionally imagined. In addition, one cannot always treat the law as the cause and innovation as the effect, because on many occasions the impact may be in reverse.

IV. LICENSING NEGOTIATIONS OVER DIGITAL MUSIC SERVICES

In this section, we proceed to an investigation designed to understand the role played by formal and informal legal, financial, and social dynamics in shaping those circumstances impacting interactive music services.[186] We seek to explain the dynamics that frame the negotiation over innovation at the intersection of copyright and technology. Without a reasonable understanding of the underlying legal, economic, and even social mechanisms at work, policy makers may find themselves pulling any number of levers to no effect regardless of whether innovation were seen—in the eye of the beholder—as "held up," "sped up," or something else altogether.

A. *Methodology*

The purpose of this research was to understand the process of opportunity development at the edge of two industries—the intersection of copyright and technology. Specifically, the investigation focused on the process of opportunity development in licensing negotiations over new music services. We sought not only to uncover raw facts related to this challenge, but also to gain insights into the process through which opportunity unfolds at this complex intersection.

We focused our empirical study on those music services that would reside outside the non-interactive classification under § 114 and also would not be considered storefronts (for music downloads).[187] Instead, the services pursued for this project provide, provided, or intended to provide an interactive, on-demand streaming service. These interactive services allow their users to select, or at least have a reliable understanding of, whatever track might next be heard.

Importantly, this focus upon interactive services also enabled a more direct study of the process through which innovation—considered as a contextual and tailored phenomenon rather than a standardized one—might emerge. Interactive services cannot avail themselves of statutory licensing schemes,

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185. *See* Jeff T. Larsen et al., *Can People Feel Happy and Sad at the Same Time?*, 81 J. PERSONALITY SOC. PSYCHOL. 684, 686–87, 692 (2001) (discussing the evaluative space model of psychology, which allows for positive and negative emotions to coexist, and finding experimental evidence to support that model).

186. An interactive music service, in its most basic construction, is nothing more than an Internet-connected server with music stored in various folders to which any number of people have been granted access.

187. *See supra* Subpart I.E.

which through congressional action or legal decisions, might dramatically decrease the licensing complexity. As a result, each interactive music service must directly obtain a license—whether through negotiation or notice of intent—from a broad range of owners of musical copyrights, or the legal representatives of these owners, covering those rights contained in both the sound recordings and the musical works.

We collected relevant data for more than twenty music services in total, resulting in a representative sample whose lifecycles spanned more than a decade of licensing efforts.[188] Our sample included: (a) services that launched and still operate, (b) services that launched but have since closed down, and (c) services that failed to ever launch. The result of this effort was a large set of comparable case studies that could be analyzed to understand the process of innovation and opportunity development.

Our research comprised both qualitative and quantitative components. We used a combination of publicly available and privately obtained data. The public sources included news accounts, press releases, and financial statements. We conducted private, semi-structured interviews with greater than thirty individuals who had been directly involved in the licensing activities for new music services launched or attempted to be launched in the United States. Our interviewees participated in licensing negotiations as technology-firm executives, legal counsel, advisors, or rights holders. These public and private inquiries produced a set of general licensing stories and a set of service-specific case studies, consisting of licensing timelines, process maps, and business logics.[189]

We could not investigate the dollar value of license payments or the terms of direct deals—both of which are dimensions of these negotiations that should not be disclosed (and were not disclosed to us in our data gathering). Instead, we aimed to learn about more subtle measures of the negotiating process that interviewees were freer to discuss. These measures included: the time required for license negotiations, the number of deals necessary before launch, the number of iterations of contracts during negotiations, and the pathways through which the deals unfold. Furthermore, due to the competitive nature of this research topic, we have taken significant steps to guarantee the privacy of the individuals involved, that of their respective organizations, and that of their

188. To put this sample in perspective, the "RIAA", the industry trade group for the record labels, presently lists only eleven licensed interactive music services on its website. The remaining services listed on the site—either download stores or non-interactive services whose efforts are covered by compulsory licenses that would not require direct negotiation—would not have been considered part of the population for this research. While the RIAA presents this list as "partial," most readers would be hard-pressed to name a service that does not appear. *See Find Music*, MUSIC MATTERS, http://whymusicmatters.com/find-music (last visited Apr. 14, 2014).

189. In software development, business logics are the parts of the underlying computer code that reflect rules about what data will be displayed and what data the user can enter.

respective licensing efforts.[190]

B. *Time to Market*

What we find is that for those interactive music services that have obtained direct licenses from music owners it has taken as little as nine months and in excess of twenty-four months to obtain those licenses. At the median, licensing activities have required about eighteen months of effort. The majority of this time period, roughly five-sixths, is spent in discussions with major rights holders, those "major labels" that are also major publishers. The remaining proportion, about one-sixth of the period, is spent negotiating with major rights collectives and other aggregators.

The opportunity cost of this time frame could be measured in both the real costs of legal and other fees as well as revenues foregone throughout license negotiations. However, without a clear sense of the alternative license structures first discussed (yet not licensed), the value of these terms/characteristics in the marketplace (if licensed upon arrival), and the possible impact of these alternatives upon existing sources of revenue, a holistic picture of opportunity cost is difficult to construct.

We find a slight decrease of approximately three months over the last decade in terms of the time it has taken to obtain licenses from the set of sound recording owners considered crucial for launch. For example, public data suggests that from the date upon which Sony and Universal announced their partnership to license and form Duet (which became Pressplay) it would be twenty-one months before the final major label partner, WMG, licensed the PressPlay service. Similarly, MusicNet, the other major label affiliated music service being licensed at the time, required an estimated nineteen months to license the set of major rights holders.

What has increased dramatically over the last decade is the number of sound recordings with which services launch. Pressplay and MusicNet, both of which first offered their services in December 2001, each launched with approximately 100,000 tracks—just a portion of the recordings contained in the catalogs of the then five major labels. In contrast, Rdio launched its service in 2010 claiming greater than seven million tracks available. The most significant factor that increased the number of tracks available was the emergence of large aggregators of independent rights.[191]

In most cases, licensees can obtain blanket licenses from the appropriate

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190. At no time while collecting data did we request or were we provided with access to legal contracts or live negotiations. We will only speak of personally collected data in aggregate and without attribution. Any data discussed in this paper that is directly attributed to any service was accessible and obtained from public sources. The direct mention within this paper of any service does not imply that anyone affiliated with that service provided private data for this project.

191. *See supra* text accompanying notes 45–46.

collectives covering the right of public performance for musical works in less than forty-five days if not less than a few weeks. Substantial outliers do exist, however. The licensing efficiency of collectives can occur without ongoing negotiations over the appropriate rates if either a service's characteristics match those defined for a statutory rate (under a compulsory scheme) or a similarly situated service with a previously established rate can be identified and agreed upon by the parties involved (under a consent decree). If either of these conditions is not met, however—even in the context of compulsory licenses and consent decrees—services and collectives can experience a sort of licensing purgatory. This leaves the service in an uncomfortable state within which the service can operate legally, as if licensed; yet both parties lack clarity over the cost or value of that license. An example comes from the non-interactive domain. Although Congress enacted the DPRSRA in 1995, the relevant statutory rates for performances under the statutory license under this legislation were not set until 2002.[192]

The consent decrees that guide the licensing actions of ASCAP and BMI set in motion a situation within which a service can operate as licensed even if the rates for that license have not been wholly agreed upon.[193] Simply stated (perhaps far too simply stated for readers expert in the practice), a service need only request a non-exclusive license, in writing, in order for this process to begin.[194] Once a service has submitted this request, BMI (for example) has ninety days to respond to a license request with a fee that the rights organization believes to be reasonable. If the service and the PRO disagree over whether the requested fee is reasonable, then either or both parties can file in federal district court for a determination of a reasonable rate.[195] Once a party triggers a rate-setting proceeding, the time until a rate has been set for any particular licensing scenario has varied significantly—from months to nearly a decade.

In the case of SESAC and the works represented by this private collective, no purgatory resulting from a consent decree or a compulsory exists—a service is either licensed or it is not.[196] As such, services must either license the necessary performance rights directly from the underlying agent/publisher or

192. *See* DiCola & Sag, *supra* note 5, at 226–27.

193. ASCAP and BMI operate under consent decrees supervised by the U.S. District Court for the Southern District of New York. *See* U.S. v. ASCAP, No. 41-1395, 2001 WL 1589999, at *6–7 (S.D.N.Y. June 11, 2001), *available at* http://www.ascap.com/~/media//Files/Pdf/members/governing-documents/ascapafj2.pdf (the most recent version of the ASCAP consent decree, modifying earlier judgments); U.S. v. BMI, No. 64 CIV. 3787, 1994 WL 901652, (S.D.N.Y. Nov. 18, 1994), *available at* http://blog.tunecore.com/wp-content/uploads/2011/09/BMI-Consent-decree.pdf (the most recent version of the BMI consent decree, modifying an earlier judgment).

194. *ASCAP*, 2001 WL 1589999 at *4.

195. *Id*. at *6–8.

196. Recall that SESAC does not, as of this writing, operate under a consent decree. *See supra* note 123.

from SESAC. A similar dynamic emerges when copyright owners opt for direct deals. For example, the rights recently withdrawn from ASCAP by Sony (covering certain works in their repertoire) must now be licensed directly before performed to the public online.

We find a significant decrease over the last decade in the amount of time it has taken to obtain a sufficient collection of licenses covering the use of musical works for interactive services—as long as that use fits a discrete set of qualifications. What once was a prolonged operation requiring not months but years of ongoing negotiations can now, at least in large part, be accomplished in as short a timeframe as under ninety days. To be clear, this abbreviated licensing process is only possible through a combination of three factors: (1) the notice of intent ("NOI") to obtain a compulsory license covering interactive services process, under § 115 of the Copyright Code;[197] (2) the service's characteristics clearly fall within one of the categories for which rates were agreed upon via a settlement among the industry trade groups for the record labels, music publishers, and technology companies;[198] and (3) the emergence of firms that amassed databases of point-of-contact information for thousands of publishing entities.[199]

When this compulsory scheme was not part of the licensing pathway for streaming services, licensing the rights to the population of musical works necessary to launch a competitive service has required a period of time in excess of five years. Furthermore, in the absence of the rates and terms agreed to by the parties involved, services could previously obtain licenses through the NOI process, but the obligations (financial or reporting) under those licenses were unknown.

C. *Scope of Market*

By scope of market, we mean the number and range of rights holders with which any new services must negotiate. We find that deals with between ten and fifteen aggregators of sound recording rights are believed to be necessary before launch in order to offer upwards of eight to ten million recordings. The licensors on the sound recording side typically include the major labels, a set of larger indie labels, and a set of major aggregators (e.g., IODA, IRIS, Merlin, Tunecore, and CD Baby). That said, some services have conducted direct licensing negotiations with greater than 500 record labels and aggregators—reflecting a licensing a process that is, quite essentially, ongoing today. But this is only one side of the licensing equation. Recall that a license to use a

197. 17 U.S.C. § 115 (2012). We describe the NOI process in more detailed below. *See infra* Subpart IV.D.

198. The three trade groups in question are the RIAA, the National Music Publishers' Association ("NMPA"), and the Digital Media Association ("DiMA").

199. *See supra* text accompanying notes 45–46.

particular sound recording generally does not include a license to use the underlying musical work—even in cases where the same parent company controls both copyrights.

The number of potential direct deals in the market for musical works can be staggering. Estimates for the number of principals (alternatively, agents, parents, or points of contact) in the market for musical works range from 500 to 30,000, with a median estimate being roughly 6000 points of contact employed for licensing musical works in the most recent years. These figures include licenses based on either negotiating agreements or utilizing the NOI process.[200] The total number of license negotiations required for a service to launch will vary based on many factors, two important ones being: (a) how the distinct publishing entities are aggregated into points of contact for negotiation or notice, and (b) diminishing marginal returns in the licensing effort.

The owners or representatives of musical work copyrights can be aggregated in different ways for negotiating licenses and/or for the notice of intent process. For example, the Harry Fox Agency currently claims to represent approximately 46,000 affiliated publishers.[201] These thousands of publishers reside within some smaller set of umbrella entities. This reduces the total number of contact points for negotiation or notice—the minimum number being a single entity (for this set of publishers) when HFA can in fact negotiate and execute a license on behalf of all affiliated publishers. Pursuing the NOI process can shorten the time to market but increase the number of entities from which licenses would be pursued, as these notices ought be sent to the underlying entities (and not aggregators such as HFA).

Despite these complexities in ownership and administration on the publishing side, the size of the catalog of musical works pursued by a service does correlate with the total number of licenses required. For example, a service looking to obtain licenses covering the underlying musical copyrights to one million tracks would need to pursue a significantly smaller set of entities than a service looking to license those copyrights existing in ten million unique tracks.

As the size of the licensed catalog increases, each additional deal leads to a weaker correspondence between the effort required to license that additional catalog, user demand for that increase in available tracks, and the increase in legal certainty. Once licenses from the largest aggregators of rights have been negotiated, and as the catalog expands, each new set of negotiations may take place over increasingly smaller pools of copyrighted works and recordings. At some point, the additional cost of identifying and locating the owners of a work or recording may exceed the benefits of adding that work or recording to the

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200. *See supra* Subpart IV.B.

201. Press Release, Harry Fox Agency, HFA to Provide Rights Management Solution to MusiXmatch (Mar. 2, 2012), http://www.harryfox.com/public/userfiles/file/PressReleases/20120302.musiXmatch.pdf.

catalog. This dynamic between catalog size and transaction costs is difficult to manage, as the service may have licenses for one set of rights but not the other.

Producing a reliable estimate for the size of the total population of musical and sound recording copyright holders and the number of copyrighted works and recordings is a truly impossible task. The root cause of this difficulty is that creators of copyrighted works and recordings are not required to register those musical works and sound recordings with the U.S. Copyright Office.[202]

Impossibilities aside, estimates of the total number of unique publishing entities required to cover the rights contained within the catalogs of major commercial sound recording owners range from 75,000 to in excess of 130,000. (This includes the stand-alone publishers and administrators as well as sub-publishers and self-publishers.) This number quickly expands as the aggregators of what are colloquially classified as independent musicians and songwriters are considered. CD Baby presently claims 300,000 artists behind three million tracks.[203] Tunecore claims approximately 849,000 artist and label accounts.[204] Each of these artists and customers of these aggregators could be not only a sound recording owner and performing artist, but also an author, composer, and publisher of musical works.

As far as a reasonable estimate of the number of underlying works these authors and publishers might represent worldwide, a recent study by Francois Nuttall, prepared for WIPO, found greater than forty-five million musical works currently registered with collective rights organizations globally.[205] Each of these works may not be truly unique, however, as the publishing rights to these works might be sold to different agents in different countries or regions, each of whom then registers their claim(s) to the work with a collective in their own country or region.

By our estimate, the relatively small set of points of contact (ten to fifteen) for sound recording licenses mentioned earlier in this section could easily represent greater than one million distinct labels and artists in the US alone. The RIAA presently claims nearly 1000 labels as members. SoundExchange now claims greater than 28,000 sound recording copyright owner and label accounts (with 90,000 performer accounts). And, as noted earlier, independent

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202. *See* 17 U.S.C. § 408(a) (2012) (making copyright registration optional for ownership of copyright). Some benefits of copyright ownership do depend on registration. *See*, *e.g.*, *id.* § 411(a) (conditioning domestic copyright owners' ability to file a lawsuit on registration).

203. *About Us*, CD BABY, http://www.cdbaby.com/about (last visited Feb. 19, 2014).

204. *Tunecore Hits Billion Mark in Artist Downloads & Streams*, TUNECORE.COM (Feb. 6, 2013), http://blog.tunecore.com/2013/02/tunecore-hits-the-billion-mark-in-artist-downloads-streams.html.

205. François Xavier Nuttall, Private Copyright Documentation Systems and Practices: Collective Management Organizations' Databases 25 (Sept. 2011) (unpublished manuscript), *available at* http://www.wipo.int/export/sites/www/meetings/en/2011/wipo_cr_doc_ge_11/pdf/collective.pdf.

sources such as CD Baby and TuneCore claim populations of recording artists in the hundreds of thousands. Scaling any service from the eight to ten million recordings usually deemed necessary to launch to the twenty-eight million tracks now found in iTunes globally requires direct licensing efforts of an additional and somewhat unclear order of magnitude.

Furthermore, the licensing conundrum only expands in scope over time. The total population of music stakeholders, whether as labels or artists, publishers or writers, is continually changing and expanding. Interviewees communicated that ownership, affiliation (e.g., amongst the PROs), or representation of the various music catalogs shifts on a monthly, if not weekly basis. As such, the licensing efforts around music services will continue indefinitely through subsequent and ongoing renegotiation.

D. *Path to Market*

The pathway through which innovation unfolds is largely similar across the services studied. Within the direct licensing process, an initial "getting to know you" stage is usually followed by stages involving product descriptions (maybe even demos), technical descriptions (and even formal white papers), licensing negotiations, and finally the delivery and ingestion of media files and metadata. New services arrive at the first stage in this process at varied levels of completeness—some a rough idea, others as developed prototypes, a small set of others as already launched. Once at the license stage, the negotiations may lead to a number of contract revisions (between four and eight were reported), and a variety of contract lengths (between 50 and 150 pages were reported).

For periods of time, two to three law firms have been most the most central legal brokers of directly negotiated licensing transactions. While many lawyers have represented the various music services launched over the last decade, a rather small set of individuals were the most common participants in the licensing conversation. Thus, one of the more important factors plausibly leading to any bottleneck in the licensing marketplace would be the small number of people in position at any one time to facilitate these transactions. As record labels reduced the size of their staff, licensing throughput decreased. At the same time, personal connections have existed between the executives at major rights holders and certain law firms, leading the actors involved to pursue very narrow doorways in the hopes of being best positioned for deals.

The most common licensing pathway through the network of sound recording copyright owners begins first in negotiations with what are considered the "major labels," including their associated major publishers. This set of rights owners does not represent the largest total number of works and recordings, compared to other aggregators of rights. But participants in the music industry believe that, for most services, the major labels' catalogs represent the collection of recordings that account for the largest collective proportion of what users will want to hear. There was some variation within this strategy, however, as certain actors chose to single out a particular label

while others began coincident discussions across a small set of labels.

The reasoning for this ordering of the licensing negotiation seemed primarily grounded in beliefs regarding momentum, necessity, and gating. Gaining a major license "on board" is thought to lead to forward momentum in the subsequent series of licensing discussion. Furthermore, certain catalogs are perceived as necessary in order to either launch a compelling music service from scratch (given anticipated user demand), or mitigate liability (in the case of services that first launched without a license). Finally, this licensing pathway also entails a gating process—the most stringent rights owners ultimately vet the minimum and maximum specs for service characteristics. These negotiated service characteristics are later licensed, at times as given, by copyright owners that may or may not have less stringent expectations for licensable service characteristics.

Publicly available data suggest that, at least in the past, certain service offerings that were not licensed by the quorum of major labels and publishers were voluntarily licensed by other sets of rights owners. An example from the music-download context illustrates the point. From August 2000 to November 2003, eMusic adopted a service model of (nearly) unlimited downloads for a single monthly fee. During the period, the service claimed to have roughly 200,000 tracks available from in excess of 900 independent labels.[206] By 2008, after shifting in 2003 from an unlimited downloads model to one offering a limited number of downloads for a fixed fee, the service grew to include three and a half million tracks from greater than 27,000 independent labels.[207] Sony did not license eMusic until 2009, and included only a subset of all subsidiary labels while also excluding tracks released within a rolling window of the prior two years.[208] The eMusic site now claims greater than thirteen million tracks, less than one-half the twenty-eight million catalog now available through iTunes.

When navigating the community of musical work stakeholders, services only experience the shortened time frame for licensing described above when willing and able to operate under the terms of a compulsory scheme.[209] Over the decade from 2001 to 2011, this compulsory pathway became the prominent path through which licenses covering musical works were obtained. Importantly, this pathway is not altogether straightforward, and requires the

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206. *About EMusic*. EMUSIC, (June 15 2002), http://web.archive.org/web/20020614113143/http://www.emusic.com/about/facts.html (accessed by searching http://www.emusic.com/about/facts.html in the Internet Archive index).

207. *EMusic About Us*. EMUSIC, (May 9, 2008) http://web.archive.org/web/20080509122324/http://www.emusic.com/about/index.html (accessed by searching http://www.emusic.com/about/facts.html in the Internet Archive index).

208. Daniel Kreps, *eMusic Adds Big Artists from Sony Catalog to Mostly Indie Service*, ROLLINGSTONE.COM (June 1, 2009), http://www.rollingstone.com/music/news/emusic-adds-big-artists-from-sony-catalog-to-mostly-indie-service-20090601.

209. *See supra* Subpart IV.B.

following:

- The service exhibits characteristics that fit within one of the categories defined in the 2008 (and now the recent 2012) agreement between the RIAA, NMPA, and DiMA establishing mechanical royalty rates for certain interactive services;
- The service chooses to avail itself of the specific rates and terms for the license;
- The service (or its representative) is able to determine the correct contact information for the necessary set of owners to which NOIs must be sent, and successfully serves those owners or agents, or, in the event that the names and addresses of the copyright owners are unknown, the service is willing to pay the statutory filing fee for each title or some bulk of titles to the Licensing Division of the U.S. Copyright Office; and
- The service continues to comply with the rates and terms prescribed by the compulsory licensing agreement.[210]

Taking advantage of this compulsory pathway can shorten the time spent pursuing licenses. But, perhaps surprisingly, services will not necessarily choose this pathway. For one thing, some interviewees believed that not all publishers were content with this compulsory pathway. Under that view, a private deal might seem more stable and predictable than reliance on the compulsory scheme, which publishers might seek to undo or revise. And so while services are well within rights to avail themselves of the compulsory scheme, doing so may also introduce friction into the relationship between the services and the owners and agents of musical works. Furthermore, the terms for compliance with the compulsory license are stringent and may seem like an unattractive choice. The terms require not only monthly payments and statements, but also annual statements of account for each owner (or authorized agent), each certified by a certified public accountant. Additionally, a service must either have access to records with contact information of all relevant copyright owners (or their chosen representatives for the mechanical license); partner with a firm that has such records (e.g., Music Reports, RightsFlow, NMPA, and a short list of others); or be willing to file a notice with the Licensing Division of the Copyright Office and pay the fees for each title—which can be cost prohibitive when you need to license millions of titles.[211]

The particular terms of licensing deals were not disclosed and are,

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210. *See* 37 C.F.R. pt. 201 (2013).

211. According to data from the U.S. Copyright Office website, greater than 8000 titles were identified in notices of intent to obtain a § 115 compulsory license filed with the Licensing Division between January 2010 and February 2014. This list of titles includes "Amazing Grace" and "In the Still of the Night." *See* U.S. COPYRIGHT OFFICE, *Listing of NOI Received by the Licensing Division* (Feb. 18, 2014), *available at* http://www.copyright.gov/licensing/115.pdf.

therefore, outside the boundaries of this research. This meant that we could not directly determine what factors influenced economic factors like royalty rates and consumer pricing. As such, we don't know whether certain features that interactive services may have proposed initially were too costly to include in the final service offerings (given the potential cost of a license), outside the bounds of what copyright owners or representatives would license at all, or simply not part of what developers would chose to incorporate into their final service offering.

We could, however, infer some things about how the path to market influences factors like rates and pricing. We made these inferences by combining public information about the features of interactive services with findings from our interviews about how the licensing process works. New services describe an expectation to be novel on their way to the licensing table, which might derive from investors' or copyright licensors' expectations. Yet core service characteristics among competing services after launch display a significant degree of homogeneity. At each stage of the licensing discussion, copyright owners provide their feedback on a range of service characteristics, such as pricing, design, and security. Much of this feedback leads to revisions in the design of services that can require any stage of the licensing process to be repeated before moving to the next stage. Importantly, the service characteristics that arrive at the table to be licensed are, more often than not, at least somewhat different from the service characteristics that leave the table as licensed.

A reasonable example of similarities in core service characteristics can be seen in the tight dispersion of service pricing within the market. While a range of interactive music services presently operates in the US, each with distinct interfaces and licensing efforts, the predominant pricing scheme across these distinct services is $4.99 for streaming access, and $9.99 for portable device access. Any shift in these tiers seems to happen in brief shocks, after which a new pricing scheme becomes established and generally applied. The only long-term deviations from this pricing scheme are the result of settlements between the recorded music industry and the owners of what previously were file-sharing applications.[212]

E. *Shadows of Law, Practice, and Perception*

It is tempting to blame copyright law as the sole or primary culprit when friction exists between copyright owners and technology firms. Along these

212. The outliers are BearShare and iMesh, two older services that still reflect the price points that were previously most common in the market for "on demand" music services: $9.95 for streaming-only access and $14.95 for portable device access. *See How to Purchase Subscription*, IMESH HELP DESK, http://support.imesh.com/index.php?/Troubleshooter/Step/View/3 (select the "How to purchase subscription" option; then select the "Next" button) (last visited Feb. 19, 2014).

lines, it is appealing to think that copyright could be constructed to minimize, if not fully resolve, conflict, and ensure a competitive-yet-calm landscape for innovation. Our findings complicate this picture somewhat. To some degree, copyright law can be a hindrance or a catalyst to innovation. But copyright alone cannot ameliorate the complex way in which multiple factors influence licensing.

At the boundary of copyright and technology a co-production is taking place, during which the owners and representatives of music copyrights and on-demand streaming services negotiate over a range of issues. If a deal is reached, a tangible innovation takes shape—the music service itself.[213] This co-production is not an as-is process, through which any willing startup throws its ideas against the wall of the consumer marketplace and finds out what sticks. Instead, this is an as-negotiated process, through which innovation that gets to the marketplace is not raw but rather negotiated along the way to its final form.

These negotiations do not operate under a single shadow of copyright law. We find instead that the individuals involved describe a number of factors that influence licensing discussions, the most significant of which were related to law, practice, and perception. The presence and nature of these sorts of shadows have been the subject of organizations research for many decades, often classified within the domain of institutional theory.[214] One can apply the insights of DiMaggio and Powell, in particular, to classify these shadows as coercive (signally a formal obligation to abide, such as under the law); normative (emerging from professional best practices); and mimetic (the result of uncertainty over success, and leading to a follow-the-leader approach).[215]

The shadow of law can come from assigning rights to the market actors; defining the contours of specific uses of these rights; or settling disputes through litigation, administrative proceedings, or private contracts. For example, we have emphasized the way that § 114's definition of "non-interactive" determines the licensing process that a music service will pursue, if any.[216] On the one hand, the copyright statute sends certain technologies that qualify as "non-interactive" on the path of statutory licensing. On the other hand, the statute sends other, non-conforming technologies on the path of voluntary negotiations. Our empirical findings show that while the voluntary-licensing path for interactive services differs from the statutory-licensing path in terms of timing, scope, and administrative tools, copyright law still profoundly influences the experience of rights holders and technology firms on

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213. *See supra* Part II (discussing the concepts of innovation and opportunity).

214. *See generally* SCOTT, *supra* note 90; W. RICHARD SCOTT & GERALD F. DAVIS, ORGANIZATIONS AND ORGANIZING: RATIONAL, NATURAL, AND OPEN SYSTEMS PERSPECTIVES (2006); DiMaggio & Powell, *supra* note 132; John W. Meyer & Brian Rowan, *Institutionalized Organizations: Formal Structure as Myth and Ceremony*, 83 AM. J. SOC. 340, 348-352 (1977).

215. *See supra* text accompanying notes 132–133.

216. *See supra* Subparts I.E, IV.D.

this voluntary path.

But the border of law's shadow is not sharp. Despite the differences between statutory licensing and voluntary licensing, there are important similarities across the two processes. For instance, both include advocacy, bargaining, and deal-making, albeit in different forums (i.e., CRB proceedings versus private deals). Moreover, the players in both types of licensing games are similar. The sets of rights holders that interactive and non-interactive services deal with, respectively, overlap. In fact, the two types of services themselves overlap, as when an on-demand streaming service offers non-interactive Internet radio as well. These common aspects of statutory licensing and voluntary licensing reflect the law's influence just as much as the differences do. Copyright creates property rights—some clear, some uncertain—that cast a shadow over the entire music industry.

The shadow of practice emerges from organizational or professional standards, and may cover behavior (e.g., scheduling patterns), decision-making (e.g., protocol), or even format. One influence of this shadow could be described as rhythm—not only the pace but also the temporal spacing of organizational action. This dimension has significant effects on the licensing process. Key decision makers, who manage a wide range of operational and strategic issues at major rights-holding entities, tend to meet on standard schedules to discuss deals that are in process—these schedules at times reflecting the quarterly schema of financial markets. Simply stated, licensing efforts take time, in part because these efforts are only moments in the broader schedule of large organizations. Startup ventures operate under much less standardized schedules than established organizations, often with a single focus upon service launch. Whichever party has the more influential rhythm could dominate the pacing of the licensing.

Business practices about research and analysis can also influence licensing negotiations. The inputs used to make decisions about licensing can expand or be refined dramatically within mature organizations, which employ internal checks and balances. For example, interviewees described (in general, not in detail with respect to any service) expansive spreadsheets considering a range of market factors and white papers offering technological descriptions, alongside other deal inputs. Regardless of whether using such detailed data in a nascent market setting is appropriate or not, these methods can become protocol—a process of research, analysis, and approval that both takes time and requires rather specific and grounded information inputs that describe a truly uncertain future. In this setting, the precision of the decision-making process in mature organizations contrasts with the more experimental and adaptive approach of nascent ventures.

Relatedly, the attitudes and approaches to risk held by the negotiating parties can be in conflict during licensing discussions. Technology startups and their investors often adopt a staged, experiment-driven approach. Within this rubric, the goal is to keep initial investment low, while addressing key points of uncertainty. Greater levels of investment and the formalization of the venture

arrive later, if and when these uncertainties are resolved (at least in part). More mature organizations, however, may be in the practice of addressing risk through formal procedures if not the receipt of advance payments, to compensate for the perceived risk. These two approaches to risk can be at odds, with each party wishing to resolve risk early, but choosing different vehicles for that resolution.

The shadow of perception is perhaps the most subtle and difficult to fully render from our findings on licensing discussions. A long history of research suggests that the perceptual framing of a decision (e.g., whether in the context of a loss or a gain, the influence of organizational identity) affects both the decision path and the outcome.[217] Certain perceptual frames of the past decade can seem quite concrete in nature. Record labels have seen top-line revenues fall by upwards of forty percent; this context of perceived financial loss has probably shaped at least some aspects of licensing decisions. Additionally, certain licensing negotiations take place alongside settlement agreements (as a result of a services prior, unlicensed use of music copyrights), which account for a perception of a service's liability before the license.

Other perceptual frames can be more abstract. For example, back in 1999, Chuck D of the group Public Enemy claimed, "Major record labels are like dinosaurs."[218] Legal scholar Eben Moglen echoed this view two years later, writing about the experimental business models the music industry would see "once the dinosaurs are gone."[219] This framing of the recorded music industry as an antiquated if not inevitably extinct species persisted for years thereafter. Against this backdrop, major rights organizations may have had to shift their own identities and purposes in order to advance licensing efforts. Nearly a decade after Chuck D's comments the International Federation of Phonographic Industry would speak of the future record label as based "not just on selling music but on 'monetising' consumer access to it."[220] Even the definition of this future label reflects a shift in perceptions toward those more commonly associated with nascent digital music services.

Law, practice, and perception influence licensing. These factors may interact with each other in complex ways. The web of social factors we have described is quite important. It is well understood among legal and social-

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217. *See*, *e.g.*, Amos Tversky & Daniel Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453, 454–55 (1981) (discussing how the framing of choices in terms of gains or losses affects people's choices experimentally).

218. Jesse Freund, *Listen up: Chuck D Has some Choice Words for the Pimps in the Music Industry*, WIRED.COM (Mar. 1999), http://www.wired.com/wired/archive/7.03/chuckd.html.

219. Eben Moglen, *Liberation Musicology*, THENATION.COM (Feb. 22, 2001), http://www.thenation.com/article/liberation-musicology.

220. *Digital Music Report 2009: New Business Models for a Changing Environment*, INT'L FED. OF THE PHONOGRAPHIC INDUS. 3 (2009), http://www.ifpi.org/content/library/dmr2009.pdf.

science scholars that factors other than law influence behavior. We have applied this general insight to the licensing marketplace and identified some specific ways in which law, practice, and perception influence the negotiating parties.

CONCLUSION

This Article has described hard-to-come-by empirical evidence on the licensing marketplace for digital music services. Our interviews with key players from all sides of licensing transactions suggest that the deal-making process has complex and contradictory features. Copyright licensing takes place in the shadow of copyright law as well as business practices and perceptions. The many factors that influence licensing can interact in complex ways that we have attempted to trace and describe.

Because the copyright statute so heavily influences industries like the music industry, evaluating the state of private licensing negotiations amounts to evaluating the state of the copyright statute. To consider the merits of copyright reform in one direction or another, policy makers should be gathering all the empirical evidence they can. This Article has aimed to contribute to deliberations over copyright reform by describing the nature of the licensing negotiations for digital music services. Secrecy and private information render it infeasible to construct a large, quantitative data set consisting of both successful and failed attempts at licensing. Studies like ours, however, based on interviews with individuals directly involved in licensing negotiations, shed important light on the realities of the marketplace.

The free-market machinations involved in privately negotiating licenses for interactive services provide a colorful counterfactual for the supposedly unfree market of compulsory licensing. Our findings suggest that the direct licensing process can require a surprisingly similar amount of time (at the median) to the time it takes a rate-setting proceeding to reach its resolution. In both cases there are the extremes—when the rate-setting process drags for years, or the direct licensing process never succeeds. But we do need to understand whether and why these two very different paths to market—each determining service features, royalty rates, and consumer pricing in different ways—may actually require quite similar periods of time.

We know from recent history that, rather than providing administrative ease and standardization, the statutory license of § 114 has required ongoing negotiation and lobbying in various forums, ranging from private deals to royalty board arbitrations to Congressional legislation.[221] Yet private ordering of similar underlying copyrights has not resulted in any lesser quantity of negotiation, lobbying, deal-making, and calls for legislation. Alternatively, one

221. *See* DiCola & Sag, *supra* note 5, at 221–40.

might think that the licenses for digital music services, being voluntarily negotiated in the private market, are models of dynamism and flexibility. Instead, at least from the perspective of the consumer, these services offer similar features in the same pricing tiers with largely similar catalogs of copyrighted works. The degree of homogeneity in the features and pricing of interactive services contradicts an idealized vision of what happens in the free market. How might private ordering have resulted in a seemingly standardized, if not stagnant set of product features in online music? Perhaps the major labels and the music publishers view the policy as a success—dampening technological change has bought them time to adjust to a digital world. But that delay may have also cost copyright owners and creators revenue.

Our explanation for this equifinality of private and public ordering is twofold.[222] First, we would argue that a concrete and binary labeling of the negotiated order, in the context of copyright, is misleading. In areas of intellectual property law like copyright, where proper rights are creatures of complicated federal statutes, there is no such thing as purely private or purely public ordering. Lobbying and professional deal-making influence statutes, just as the law and statutory schemes influence direct licenses. Furthermore, actors in both markets are looking over their shoulder. This tension that plays out between the public and private markets for ordering is far too important to be ignored.

For example, consider the language of a publicly available contract, attributed to Apple, Inc., which suggest the licensing terms for the iTunes Radio service. The language of this document includes a set of pricing floors, or protections, for the licensor. The document also contains three additional pricing provisions—per stream, percentage of revenue, and per listening hour.[223] Although the iRadio license is a direct license, and appears to offer features beyond those that would conform to the statutory license for webcasting, each of these additional provisions in the license matches conditions that have previously been included in the language of the statutory license.

Second, since neither of these markets offers the minimum specifications for a perfectly competitive market (e.g., perfect knowledge of price, free entry and exit, identical products, large number of firms) then neither market should be expected to lead to economically efficient outcomes. Essentially, both markets will be in a constant state of competitive frustration. While such a

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222. In biology, equifinality refers to two or more open systems converging to the same final state. Social science scholars have borrowed the concept. *See*, *e.g.*, Christopher Gresov & Robert Drazin, *Equifinality: Functional Equivalence in Organization Design*, 22 ACAD. MGMT. REV. 403, 403 (1997) (citing Austrian-born biologist Ludwig von Bertalanffy).

223. *See Digital Music Download Sales Agreement* 441, *available at* http://www.digitalmusicnews.com/wp-content/uploads/2013/11/iTunes_Americas_-Music_v16.pdf (last visited Feb. 28, 2014). Note that this document, when located on another website, was subject to a takedown notice.

revelation may be disappointing, it may be important for Congress to free itself of the expectation that its members can design copyright policy that settles these inherent definitively. Instead, Congress may be wise to design policy that seeks a measure of stability and increases the competitiveness of markets for the distribution, performance, and transmission of copyright works.

Our study suggests that technology-specific terms in statutes have pernicious effects downstream. For example, Congress's technology-specific approach to copyright law in the major legislation of the 1990s (i.e., the DPRSRA and the DMCA) put in place a differentiation between interactive and non-interactive services. This legislation defined a very specific sort of webcasting service, limited in terms of its content programming, such that a near commodity might have formed—a statutory-compliant performance of a recording. Without all the other features of a competitive market, however, there was little reason to expect that this commoditized product could trade efficiently. When guessing the future course of technology, Congress risks drawing arbitrary lines between distribution technologies that are, in fact, substitutes for each other. The detailed specifications of who qualifies for what regulatory treatment will affect the development of innovation—constraining it, shaping it, and in some rare cases even stifling it.

This is not to say that the legal environment is without opportunities for growth. The legislative morass of § 114 does create opportunities for digital music businesses. The digital music marketplace has made significant strides in the last five years as a major webcaster (Pandora) finally took off and several streaming services finally launched with major- and indie-label music. Some licensing puzzles have been solved, enormous transaction costs have been borne, and some small innovations in licensing have continued. One policy question, however, is whether the innovations in copyright licensing that we are seeing are optimal. Has § 114 generated an efficient marketplace in its shadow?

In future designs of the copyright statute, the goal should be efficient resolution of conflicts between copyright owners and firms with new distribution technologies. Congress must understand that unless they choose to make certain arrangements mandatory (i.e., unless Congress forbids contracting around the copyright statute in various ways) their statutory scheme is merely one constraint in a complex private negotiation.[224] Copyright law, along with business practices and perceptions, determines each side's bargaining position in private licensing negotiations. Congress, along with the other government institutions that make copyright policy, should aim to give both sides some leverage. Ideally, copyright law can help create incentives for parties to reach

224. For example, the §§ 114 and 115 compulsory licenses are not mandatory; parties can contract around them. *See* Kristelia A. García, *Penalty Default Licenses* (working paper) (on file with authors); *see also* Ian Ayres & Eric Talley, *Solomonic Bargaining: Dividing a Legal Entitlement to Facilitate Coasean Trade*, 104 YALE L.J. 1027, 1053–58 (1995) (discussing the general issue of bargaining in the shadow of liability rules).

deals that are more flexible, less costly to negotiate, and more responsive to technological innovation.

Understanding the link between the language of copyright law and the emergence of truly innovative new music services requires an awareness of the complex dynamics that play out in licensing negotiations. Whether copyright frustrates or facilitates licensing, or some of both, our goal is to bring this broader view of law, practice, and perception to the debate over copyright reform. Frankly, the law does have a direct effect upon certain dimensions of this marketplace. In other dimensions, however, the law has a far more indirect and nuanced effect. Effective copyright policy will not be possible without a holistic consideration of these effects. We hope our findings will support a more comprehensive discussion of the context within which copyright licensing operates.