

LEGAL RETALIATION TO INNOVATION: HOW EXISTING INDUSTRIES GREET NEW TECHNOLOGICAL DEVELOPMENTS WITH LITIGATION AND HINDER INDUSTRY SUCCESS IN THE PROCESS

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I. INTRODUCTION

Innovation requires the ability to collaborate and share ideas with other people. — Bill Gates.¹ But as “the pithy saying in the technology world” goes: *If you can’t innovate, litigate.*² This frame of mind has created a culture where litigation is often the first means used by companies to dissuade competitors from developing technological innovations that have the power to decentralize existing industries.

Over the past few decades, the Internet revolutionized the world and led to technological innovations that have in turn revolutionized a multitude of industries. Existing industry competitors greeted these new innovations with litigation, acting as an impediment to industry growth, until they eventually had to accept the innovations and adapt by designing business alternatives. If an industry embraced technological changes sooner by working *with* new, innovative companies, rather than *against* them, there would be more technological development with less time and money spent in litigation among companies. Increased technological development could lead to rapid industry advancement and create more opportunities for the worldwide market.

This Note will begin by looking at the background of intellectual property law, paying special attention to the American patent system and the debate over whether or not this system supports innovation. It will then discuss major technological developments in various industries and examine how innovative companies are initially met with a barrage of litigation aiming to slow industry advancement. This Note will focus, in particular, on recent developments in three areas: the music industry, the lodging industry, and the ground transportation industry. It will conclude by encouraging established companies to prepare for and support disruptive innovations that fundamentally change their respective industries.

¹ Mia Mastandrea, *30 of Our Favorite Quotes on Innovation*, WORKSPACE DIGITAL, <http://www.workspace.digital/30-favorite-quotes-innovation/> (last visited Apr. 4, 2020).

² Tim Culpán, *This Is Where Litigation Is Flattery*, CRAIN’S CHI. BUS. (Apr. 7, 2016, 7:00 AM), <https://www.chicagobusiness.com/article/20160407/NEWS08/160409858/tech-innovation-vs-litigation>.

II. BACKGROUND

Intellectual property has been called “the foundation of innovation” in the American economy.³ Intellectual property rights provide inventors with opportunities to profit from their discoveries and creative works. These works are then made public, enabling others to build on the original works and create new innovations that further benefit and progress society.⁴ The strength of intellectual property rights matter a great deal, as it determines the course of action that companies can take to protect their work and prevent others from piggybacking on their ideas.⁵

Intellectual property law is designed to promote innovation, yet it is often the tool used to do the opposite.⁶ In a recent battle over smartphone technology, Apple and Microsoft led a frenzy of patent and copyright litigation against the makers of smartphones that use Google’s Android operating system with the hope that courts worldwide would force their rivals to pay license fees, remove features from their devices, or leave the market altogether, thereby reducing further innovation.⁷ Apple and Microsoft even bolstered their case by spending billions of dollars to acquire the patent portfolios of old technology companies.⁸ To support Android device makers, Google purchased Motorola Mobility and its thousands of patents for \$12.5 billion.⁹ Each company effectively used its intellectual property rights to hinder innovative advancements made by its competitors. These “smartphone patent wars” reduced competition in mobile computing, which could knock technologies out of the market for good and thus defeat the supposed purpose of intellectual property law.¹⁰

Patents, which require full disclosure of the inventions they protect, grant creators a monopoly to profit from their novel creations for a limited period of time.¹¹ If a patent is too weak, it can lead to suboptimal innovation because the potential payoff may not be worth the amount of time and resources necessary to develop an invention.¹² Additionally, a weak patent for an invention is more expensive to protect from copycats. On the other hand, if a patent is too strong, subsequent innovative activity becomes more costly. Succeeding inventors either have to seek permission from all related patent holders or risk being sued for patent infringement. Overly-strong intellectual property laws stop innovators from building on earlier inventions and serve as a barrier for new technologies to reach the market. Therefore, unless intellectual property rights are the perfect balance between these two extremes, they reduce incentives for innovation.¹³

³ Jason Wiens & Chris Jackson, *How Intellectual Property Can Help or Hinder Innovation*, EWING MARION KAUFFMAN FOUND. (Apr. 6, 2015), <https://www.kauffman.org/what-we-do/resources/entrepreneurship-policy-digest/how-intellectual-property-can-help-or-hinder-innovation>.

⁴ *Id.*

⁵ *See id.*

⁶ *See* Eduardo Porter, *Tech Suits Endanger Innovation*, N.Y. TIMES (May 29, 2012), <https://www.nytimes.com/2012/05/30/business/economy/tech-lawsuits-endanger-innovation.html>.

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² Wiens & Jackson, *supra* note 3.

¹³ *Id.*

Companies known as “non-practicing entities” strategically use their intellectual property ineffectively when they obtain patents solely either to “troll” potential infringers from encroaching on any part of their patents or to build up “patent thickets” that make further innovation by other companies a more challenging and expensive process.¹⁴ These non-practicing entities have the reputation of being costly impediments to innovation and economic growth.¹⁵ Additionally, technological giants in various industries delay innovation by frequently filing lawsuits to protect their intellectual property from what they describe as “blatant copying” by rival companies.¹⁶ Regardless of the legitimacy of their claims, aggressive litigation likely prevents innovators from pursuing new technological developments and thus has a devastating effect on industry growth.

The belief that stronger intellectual property protection encourages innovation has proven to be false.¹⁷ For example, the passage of the Plant Patent Act of 1930 allowed for new rose hybrids to be patented, leading to a subsequent decline in the number of new rose varieties registered by American nurseries.¹⁸ When new gene sequences began receiving copyright protection, scientists experimented much less with them, even if the decoded genes were later placed in the public domain.¹⁹ Survey data adds further support, finding that “the risk of patent litigation deters firms from pursuing innovations.”²⁰ While some level of intellectual property protection is necessary, overly-strong rights endanger innovation, slowing the creative process and serving as a barrier for new technological developments to reach the market.

Patents that are written too broadly can hinder innovation by giving dominant businesses the ability to stop future inventions that *could* interfere with their market monopoly. More troubling, the U.S. Patent and Trademark Office regularly issues patents that are broadly written for inventions that are obvious or not novel.²¹ For example, Apple holds a patent on the *concept* of moving objects around on a mobile device’s screen using multiple touches.²² If actively enforced, Apple could foreclose a substantial amount of further innovation that builds on this same concept. Broadly-written patents prevent later innovators from building on preexisting concepts to make further technological developments that the original inventor and patent holder never envisioned. Companies that focus on using patents and other intellectual property rights to protect their business models and market share significantly delay future technological developments.

¹⁴ *Id.* Patent thickets are defined as “a dense web of overlapping intellectual property rights that a company must hack its way through in order to actually commercialize new technology.” Stefan Wagner, *Are ‘Patent Thickets’ Smothering Innovation?*, YALE INSIGHTS (Apr. 22, 2015), <https://insights.yale.edu/insights/are-patent-thickets-smothering-innovation>.

¹⁵ Wiens & Jackson, *supra* note 3. Non-practicing entities generally do not make anything except money. They are driven by a business model that favors owning patents purely for licensing and litigating purposes. Culpan, *supra* note 2.

¹⁶ Porter, *supra* note 6.

¹⁷ *See id.*

¹⁸ *Id.*

¹⁹ *Id.*

²⁰ *Id.*

²¹ *Id.*

²² *Id.*

The original intent of the American patent system to serve as a catalyst and a conduit for innovation has been lost. Ninety-five percent of over two million active patents today are not licensed or commercialized.²³ Over the past twenty years, more than \$5 trillion has been spent to fund research and development (“R&D”) in the United States—much of which went to the creation of patents that remain unlicensed.²⁴ According to Forrester Research, \$1 trillion each year is wasted in underused intellectual property assets because companies fail to extract their full value through partnerships.²⁵ Consequently, businesses and their R&D teams are “actually *incentivized* to avert their eyes to potentially helpful innovations” because prior knowledge of a patent could result in increased penalties if companies are later sued for patent infringement.²⁶ As a result, new businesses ignore “a goldmine of technologies, products and processes that could launch entirely new industries, generate trillions of dollars in new wealth, create millions of jobs and strengthen U.S. economic vibrancy and competitiveness, all in the name of reducing litigation risk.”²⁷ The current system also dissuades patent holders from licensing useful ideas that could be subsequently improved upon to further industry growth.

Innovation should be a cumulative process, with each new idea building on ones that came before it. Inspiration is a crucial component of industry advancement, yet industry giants are quick to label inspiration as “infringement” and file lawsuits against innovators whose ideas even remotely resemble preexisting ones. Yahoo used its patented social networking technology as a foundation to sue Facebook—a website that allows its users to create profiles and connect with other individuals and businesses—for patent infringement shortly before Facebook’s initial public offering, despite the fact that the idea for Facebook merely drew inspiration from previously-existing concepts.²⁸ Lawsuits have become the de facto mechanism for resolving intellectual property disputes. However, requiring a federal judge to determine the strength and breadth of each intellectual property right is an expensive and lengthy way to conduct business.²⁹ Therefore, intellectual property rights can and should be improved to better serve their original purpose—encouraging innovation.

²³ Daniel Fisher, *The Real Patent Crisis Is Stifling Innovation*, FORBES (June 18, 2014, 8:45 AM), <https://www.forbes.com/sites/danielfisher/2014/06/18/13633/>.

²⁴ *Id.*

²⁵ *Id.*

²⁶ *Id.*

²⁷ *Id.*

²⁸ Porter, *supra* note 6.

²⁹ Fisher, *supra* note 23.

III. ANALYSIS

A. THE MUSIC INDUSTRY

1. Napster & Peer-to-Peer File Sharing

In 1999, two teenagers revolutionized the music industry by creating Napster, a free peer-to-peer (“P2P”) file sharing service on the Internet.³⁰ Its technology allowed users to easily upload and share their digital audio files with other people around the world. It also enabled illegal downloads of copyrighted music that previously had to be paid for, provoking the music industry to retaliate with a number of lawsuits.³¹ Hoping to suppress innovative technology in its infancy, the music industry often responded to disruptive innovations with lawsuits; the December 1999 suit against Napster was no different.³²

The Recording Industry Association of America (“RIAA”), a collection of record labels, sued Napster only months after its site launched for indirect copyright infringement.³³ In *A&M Records, Inc. v. Napster, Inc.*, the Ninth Circuit determined that Napster was vicariously and contributorily liable for the copyright infringement that occurred by users through its platform; thus, an injunction against Napster was necessary.³⁴ Following court proceedings, Napster shut down; however, when the company went bankrupt, the RIAA targeted its financial backer Bertelsmann, the transnational German media conglomerate that loaned Napster about \$85 million.³⁵ Bertelsmann Chairman Thomas Middelhoff believed that Napster “pointed the way for a new direction for music distribution . . . [that would] form the basis of important and exciting new business models for the future of the music industry.”³⁶ However, this excitement to support creative innovations in the music industry was not shared by the RIAA, and Bertelsmann ultimately settled the lawsuits by paying \$130 million to the National Music Publishers Association, \$60 million to Universal Music Group, \$110 million to Warner Music Group, and an undisclosed amount to EMI, the now defunct British music company.³⁷ Following this lawsuit, the recording industry similarly sued other major P2P technology companies, including Scour, Aimster, AudioGalaxy, Morpheus, Grokster, Kazaa, iMesh, and LimeWire.³⁸

³⁰ Tom Barnes, *16 Years Ago Today, Napster Changed Music as We Knew It*, MIC (June 1, 2015), <https://mic.com/articles/119734/16-years-ago-today-napster-changed-music-as-we-knew-it#.TCJ14OFJm>.

³¹ *Id.*

³² *RIAA v. The People: Five Years Later*, ELECTRONIC FRONTIER FOUND. (Sept. 30, 2008), <https://www.eff.org/wp/riaa-v-people-five-years-later>.

³³ *Id.*

³⁴ *A&M Records, Inc. v. Napster, Inc.*, 284 F.3d 1091, 1099 (9th Cir. 2002).

³⁵ David Kravets, *Dec. 7, 1999: RIAA Sues Napster*, WIRED (Dec. 7, 2009, 12:00 AM), <https://www.wired.com/2009/12/1207riaa-sues-napster/>.

³⁶ *Id.*

³⁷ *Id.*; Eamonn Forde, *EMI: The Sad Demise of a Very British Company*, GUARDIAN (Nov. 11, 2011, 1:49 PM), <https://www.theguardian.com/music/musicblog/2011/nov/11/emi-demise-british-music-company>.

³⁸ *RIAA v. The People: Five Years Later*, *supra* note 32.

Although these sites were capable of many non-infringing uses, the recording industry was sometimes successful in its legal actions.³⁹

Additionally, the RIAA sued an unprecedented number of individuals directly for sharing songs on P2P file sharing networks. In the 2000s, the recording industry sued or threatened legal action against over 30,000 individuals, including children, grandparents, unemployed single mothers, and college professors.⁴⁰ Two individual defendants who refused to settle and went to trial were liable for \$2 million combined in damages.⁴¹ In defense of this enforcement strategy, RIAA President Cary Sherman stated:

Nobody likes playing the heavy and having to resort to litigation, but when your product is being regularly stolen, there comes a time when you have to take appropriate action. We've been telling people for a long time that file-sharing copyrighted music is illegal, that you are not anonymous when you do it, and that engaging in it can have real consequences.⁴²

Attempting to curb the downloading of copyrighted material, the RIAA randomly targeted music consumers and pressured thousands of defendants to reach financial settlements before going to trial, but this was an ineffective response.⁴³ Christopher Jon Sprigman, co-author of *The Knockoff Economy: How Imitation Sparks Innovation*, said, "The individual lawsuits were unbelievably counterproductive. The record companies basically bought themselves a huge amount of bad publicity, a few settlements and no real impact on file-sharing."⁴⁴

Although industry insiders acknowledged that Napster's platform contributed to copyright infringement, they also recognized that Napster was an important technology that should continue to operate under delineated circumstances.⁴⁵ Former Vice President of Warner Music Paul Vidich said, "The attraction of Napster was not just that it was free, but more importantly, it gave people a way to connect with pretty much any piece of music."⁴⁶ Despite this technology's groundbreaking advances, the recording industry did not negotiate around its problems or create a solution to stop infringing uses and promote non-infringing ones. The RIAA associated the platform only with stealing, and its solution was simply to "sue and put Napster out

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ Kravets, *supra* note 35.

⁴² Donna Ross-Jones, *12 Years Ago Today, RIAA Sued Consumers for Illegal Downloads*, LINKEDIN (Sept. 8, 2015), <https://www.linkedin.com/pulse/12-years-ago-today-riaa-sued-consumers-illegal-donna-ross-jones/>.

⁴³ *See id.*; *RIAA v. The People: Five Years Later*, *supra* note 32.

⁴⁴ Amanda Holpuch, *Minnesota Woman to Pay \$220,000 Fine for 24 Illegally Downloaded Songs*, GUARDIAN (Sept. 11, 2012, 5:10 PM), <https://www.theguardian.com/technology/2012/sep/11/minnesota-woman-songs-illegally-downloaded>.

⁴⁵ John C. Dvorak, *Understanding Napster*, FORBES (Oct. 6, 2000, 2:52 PM), <https://www.forbes.com/2000/10/09/1009dvorak.html#46014a7d6501>.

⁴⁶ Steve Knopper, *iTunes' 10th Anniversary: How Steve Jobs Turned the Industry Upside Down*, ROLLING STONE (Apr. 26, 2013, 6:45 PM), <https://www.rollingstone.com/culture/culture-news/itunes-10th-anniversary-how-steve-jobs-turned-the-industry-upside-down-68985/>.

of business.⁴⁷ However, the recording industry could not show any loss of revenue as a direct result of the increasing number of users on Napster.⁴⁸

Thus, in retrospect, the RIAA's litigation strategy was an egregious mistake. The case against Napster lasted for almost eight years.⁴⁹ Rather than embracing change, the recording industry hoped to stop the file sharing trend by suing file sharing platforms and consumers.⁵⁰ However, the publicity quickly made Napster a household name.⁵¹ One estimate suggests that Napster had about 100,000 users at the date of filing, but by October 2000, this number had grown exponentially to reach thirty-five million users.⁵² Further, the number of P2P software applications and their users continued to grow with one million new visitors per day.⁵³ When one P2P network agreed to filter infringing material from its site, new, unfiltered P2P network alternatives would quickly pop up and showcase their legitimate uses, providing endless opportunities for users to continue sharing music.⁵⁴ Favoring litigation, the RIAA failed to capitalize on the opportunities presented by these new technological innovations. Accordingly, its sales figures declined.⁵⁵

Napster had a decentralizing effect on the music industry because it took power away from record labels and gave artists and their fans a platform through which to create and share music.⁵⁶ It allowed for new music to be instantly and easily accessible from anywhere in the world. It forced the music industry to develop digital distributions and streaming technology.⁵⁷ It also created "hip hop's digital mixtape culture," which led to the popularity of rappers Young Thug, Future, and Chance the Rapper and now thrives on sites like DatPiff and LiveMixtapes.⁵⁸ Finally, it allowed for creative distribution breakthroughs and surprise marketing strategies, utilized by artists like Beyoncé and U2.⁵⁹ Ultimately, Napster was a disruptive technology that created positive space for innovation.⁶⁰

2. Apple & Digital Distributions

The technological developments of the late 1990s and early 2000s paved the way for Apple visionary Steve Jobs to capitalize on the music industry's move from analog to digital formats. In 2002, Jobs envisioned the creation of an online music store hosted by Apple that would be easy to use, reliable in performance, and complete in selection.⁶¹ Jobs hoped these factors would convince consumers to pay for content that they could otherwise obtain

⁴⁷ Dvorak, *supra* note 45.

⁴⁸ *Id.*

⁴⁹ Kravets, *supra* note 35.

⁵⁰ Ross-Jones, *supra* note 42.

⁵¹ *See* Dvorak, *supra* note 45.

⁵² *Id.*

⁵³ *Id.*; RIAA v. *The People: Five Years Later*, *supra* note 32.

⁵⁴ RIAA v. *The People: Five Years Later*, *supra* note 32.

⁵⁵ *See id.*

⁵⁶ Barnes, *supra* note 30.

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ Brian X. Chen, *April 28, 2003: Apples Opens iTunes Store*, WIRED (Apr. 28, 2010, 12:00 AM), <https://www.wired.com/2010/04/0428itunes-music-store-opens/>.

through illegal means for free.⁶² The following year, Apple opened the iTunes Music Store, which allowed users to purchase a single song for ninety-nine cents. The iTunes Music Store gave the recording industry a legitimate chance to compete with online piracy. Despite these benefits, convincing record labels to allow customers to purchase music a la carte was a difficult task. In *The Perfect Thing: How the iPod Shuffles Commerce, Culture, and Coolness*, Jobs admitted:

When [Apple] first approached the labels, the online music business was a disaster. Nobody had ever sold a song for 99 cents. Nobody really ever sold a song. And we walked in and we said, ‘We want to sell songs a la carte. We want to sell albums, too, but we want to sell songs individually.’ They thought that would be the death of the album.⁶³

Eventually, Warner Music and Universal agreed to restricted terms: (1) songs purchased through iTunes could be played on only three authorized Mac computers and (2) playlists could be burned to only seven CDs.⁶⁴ EMI, BMG, and Sony later followed suit before the restrictions were gradually lifted.⁶⁵ Downloading music was “a crucial new way of doing business.”⁶⁶

The iTunes Music Store was an instant revolution: over one million songs were downloaded in the first week alone.⁶⁷ The digital store found success largely because of Napster.⁶⁸ By late 2002, Napster’s eighty million users could no longer use the shut-down site, giving Apple a prime target consumer base.⁶⁹ Consumers had demonstrated their readiness for a format change, and Apple’s iPod and cool advertisements attracted music lovers of all ages.⁷⁰ By 2010, iTunes had sold over 10 billion songs, 200 million TV shows, 2 million films, and 3 billion apps.⁷¹

Because record label executives failed to realize the size of technological innovations in the music industry, they did not negotiate to receive revenue from sales on iTunes.⁷² Labels also did not receive a cut of the lucrative iPod or later iPhone, both of which served as innovative music players.⁷³ As CD sales and revenues declined, the music industry spiraled out of control, continuing to fight numerous legal battles and creating a free iPhone game called Music Inc., where users attempted to manage a band but always failed because of online piracy.⁷⁴ After suing more than 18,000 people in the mid-2000s for illegally sharing music, the RIAA developed a new strategy to

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ Knopper, *supra* note 46.

⁶⁷ *Id.*; Chen, *supra* note 61.

⁶⁸ See Knopper, *supra* note 46.

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ Chen, *supra* note 61.

⁷² See Knopper, *supra* note 46.

⁷³ *Id.*

⁷⁴ Sam Wolfson, ‘We’ve Got More Money Swirling Around’: How Streaming Saved the Music Industry, *GUARDIAN* (Apr. 24, 2018, 8:13 AM), <https://www.theguardian.com/music/2018/apr/24/weve-got-more-money-swirling-around-how-streaming-saved-the-music-industry>.

combat piracy.⁷⁵ Internet service providers, on behalf of the RIAA, would send gentle reminders to users they suspected of engaging in copyright infringement.⁷⁶ If users did not stop downloading music illegally, the providers could cut off their Internet service.⁷⁷ A Copyright Alert System was eventually implemented for a few years, but it was not successful in deterring online piracy.⁷⁸ When iTunes first debuted, the global record industry was making \$38 billion in revenue, but ten years later, industry revenue had shrunk to \$16.5 billion.⁷⁹ Meanwhile, Apple's vision, strategy, and openness to change helped it become one of the world's largest companies.

3. Spotify & Streaming Services

In recent years, the rapid decline of the recording industry has changed with streaming innovations. Upon its launch in 2008, digital music service Spotify "pledged to defeat music piracy and ensure that artists got paid for their music – but it quickly emerged that what they were willing to pay artists was a couple of thousandths of a penny for each stream."⁸⁰ Unsurprisingly, some artists, including Taylor Swift and Thom Yorke, retaliated by removing their albums from Spotify, while others like Beyoncé and Adele delayed their albums being released on the site.⁸¹ Spotify also faced class action lawsuits from songwriters and publishers that were eventually settled.⁸²

Despite these setbacks, Spotify and other streaming services have emerged as the music trend of the future. In 2017, streaming music revenues surpassed income from the sales of traditional music formats.⁸³ Artists and labels also began to receive large dividends from streaming. Famous artists, such as Ed Sheeran and Drake, received more than \$50 million from Spotify alone, while Warner Music received in excess of \$1.3 billion from streaming in 2017.⁸⁴ Atlantic Records admitted that it now has more money to invest in Artists and Repertoire ("A&R") and development and even searches for unsigned talent that performs well on streaming platforms.⁸⁵ Less mainstream artists that appeal to smaller fanbases have also found success on streaming services. English singer-songwriter Little Boots has found new life on Spotify after being dropped from her record label when her second album underperformed in sales. Little Boots commented:

Before, I might have sold a ton of records, but none of that money went to me after I got my advance and I had very little say in how the

⁷⁵ Holpuch, *supra* note 44.

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Darren Murph, *ISP's Agree on Copyright Alert System, Plan to Notify You to Death for Piracy Infringements*, ENGADGET (July 8, 2011), <https://www.engadget.com/2011-07-08-isps-agree-on-copyright-alert-system-plan-to-notify-you-to-dea.html>; Jon Fingas, *US Internet Providers Stop Sending Piracy Warnings*, ENGADGET (Jan. 28, 2017), <https://www.engadget.com/2017/01/28/internet-providers-stop-copyright-alerts/>.

⁷⁹ Knopper, *supra* note 46.

⁸⁰ Wolfson, *supra* note 74.

⁸¹ *Id.*

⁸² Daniel Kreps, *Wixen's \$1.6 Billion Spotify Lawsuit: What You Need to Know*, ROLLING STONE (Jan. 3, 2018, 5:40 PM), <https://www.rollingstone.com/music/music-news/wixens-1-6-billion-spotify-lawsuit-what-you-need-to-know-202532/>.

⁸³ Wolfson, *supra* note 74.

⁸⁴ *Id.*

⁸⁵ *Id.*

money was spent. Now, when I release something, I have to pay a percentage to my distributor, but most of it ends up with me. It's not a huge amount, and I think it should be higher, but I have control and I have transparency.⁸⁶

Artists like Chance the Rapper and Stormzy have also been able to successfully release music without being signed to a label.⁸⁷

Streaming has changed the way that music is made. Song intros have been shortened in hopes of stopping listeners from skipping songs with slow buildups.⁸⁸ Albums have been lengthened to include more tracks because "listening to a 20-track album generates twice as much revenue as listening to a 10-track one."⁸⁹ Music that is suitable for activity-based playlists has been successful because people like to stream background music while completing other tasks, and Spotify determines which tracks make the cut for each promoted playlist.⁹⁰ Spotify and other consumer-friendly streaming services now highlight rising talents, support unique forms of original live and recorded content, and develop innovations in music curation and playback.⁹¹

Over the past five years, music piracy has fallen, and studies suggest this trend will continue as streaming services replace the need for music piracy sources.⁹² In 2014, music critic Carl Wilson commented, "The industry losing some of its control has been positive . . . the wide-open way music is discovered today has broken down barriers between genres, between the 'commercial' and the 'artistic,' between audience niches."⁹³ Streaming has created a more democratic music industry where artists can make money with or without a record label and the spending power of a genre's audience does not affect how much money can be made.⁹⁴ The music industry proved once again that its pattern is to resist technological innovation until it is forced to adapt to changes that admittedly increase its success.

Although illegal music downloads through Napster and other P2P file sharing networks were the foundation of the traditional music industry's slow decline, the industry's insane policing tactics were also a major contributor.⁹⁵ If the industry had supported the development of digital distributions and streaming technology sooner, record labels and their artists may not have suffered the massive economic fallout that they did.⁹⁶ The decentralizing effect of Napster transferred power from labels to the artists themselves, who now receive an increasing amount of pay from streaming services like

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ Barnes, *supra* note 30.

⁹² Jack Shepherd, *Music Piracy Fallen Dramatically Over Last Five Years Thanks to Streaming Services such as Spotify and Tidal, Survey Reveals*, INDEP. (Aug. 2, 2018, 12:35 PM), <https://www.independent.co.uk/arts-entertainment/music/news/music-piracy-uk-spotify-tidal-streaming-services-yougov-survey-a8474436.html>.

⁹³ Barnes, *supra* note 30.

⁹⁴ Wolfson, *supra* note 74.

⁹⁵ Barnes, *supra* note 30.

⁹⁶ *Id.*

Spotify.⁹⁷ The music industry's litigation tactics proved unsuccessful in stopping the digital music evolution and represent a missed opportunity to partner with the technological innovations of the future.

B. THE LODGING INDUSTRY

1. Airbnb & the Sharing Economy

Airbnb's success in travel accommodation is another example of a disruptive innovation that took an established market by storm. In 2007, roommates Joe Gebbia and Brian Chesky struggled to afford their San Francisco apartment rent.⁹⁸ When a design conference was happening nearby and hotels were already booked, they hoped to earn extra money by turning their place into a "designer's bed and breakfast"—complete with complimentary Internet access, a small desk space, a sleeping mat, and breakfast each day.⁹⁹ They created a simple website, titled *Air Bed and Breakfast*, to offer their own air mattresses to three visitors.¹⁰⁰ The guests paid eighty dollars each and enjoyed their stays, which included personalized tours of the city from their hosts.¹⁰¹ Inspired after this experience, Gebbia and Chesky had an idea for a new business to pitch investors. They said:

We want to build a website where people publicly post pictures of their most intimate spaces—their bedrooms [and] bathrooms—the kinds of rooms you usually keep closed when people come over. And then, over the Internet, they're going to invite complete strangers to come sleep in their homes. It's going to be huge!¹⁰²

Despite their enthusiasm, the idea took a little while to gain traction. In 2009, with a rebranded design and review system, Airbnb.com was born.¹⁰³ People could easily list and rent out their spare rooms or entire homes online.¹⁰⁴ By 2011, Airbnb reached eighty-nine countries and had over one million nights booked on the platform.¹⁰⁵ However, legal battles and regulatory issues soon plagued the company.

The hotel industry, presumably envious of Airbnb's success and fearful of losing business, fueled the challenges that Airbnb faced. In 2014, the city of New York threatened to ban Airbnb and fine every host on its site.¹⁰⁶ The following year, Airbnb spent \$8 million to combat a citizen-led ballot

⁹⁷ *Id.*

⁹⁸ Rebecca Aydin, *How 3 Guys Turned Renting Air Mattresses in Their Apartment into a \$25 Billion Company, Airbnb*, BUS. INSIDER (Sept. 20, 2019, 7:27 AM), <https://www.businessinsider.com/how-airbnb-was-founded-a-visual-history-2016-2>.

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² Joe Gebbia, *How Airbnb Designs for Trust*, TED (Feb. 2016), https://www.ted.com/talks/joe_gebbia_how_airbnb_designs_for_trust.

¹⁰³ Aydin, *supra* note 98.

¹⁰⁴ Katie Benner, *Inside the Hotel Industry's Plan to Combat Airbnb*, N.Y. TIMES (Apr. 16, 2017), <https://www.nytimes.com/2017/04/16/technology/inside-the-hotel-industrys-plan-to-combat-airbnb.html>.

¹⁰⁵ Aydin, *supra* note 98.

¹⁰⁶ *Id.*

initiative meant to limit Airbnb rentals in San Francisco.¹⁰⁷ Other cities enacted laws making it illegal to rent out a unit for less than thirty days without the owner being present.¹⁰⁸ In early 2016, the American Hotel and Lodging Association (“AHLA”), a trade group with members including Marriott International, Hilton Worldwide, and Hyatt Hotels, launched two initiatives to thwart Airbnb’s successes.¹⁰⁹ Their plans detailed the progress already made against the start-up company and described a “multipronged, national campaign approach at the local, state and federal level.”¹¹⁰ That summer, three senators requested to investigate how short-term rental companies affect soaring housing costs, which made Airbnb a Federal Trade Commission target.¹¹¹ Then, the New York governor signed a bill in October that imposed steep fines on Airbnb hosts who broke local housing rules.¹¹² At the end of the year, the AHLA described the federal investigation and New York bill as “notable accomplishments.”¹¹³ The AHLA also claimed legal and regulatory victories in Virginia, Tennessee, Utah, Illinois, and California, where legislatures enacted laws to restrict Airbnb activity.¹¹⁴ The hotel industry viewed Airbnb as a significant threat and swiftly used legal action to try to quash its success.

Publicly, hotel executives downplayed Airbnb’s impact on the \$1.1 trillion American hotel industry. For example, a Marriott executive conspicuously dismissed Airbnb for not being able to entertain the corporate environment.¹¹⁵ However, privately, the hotel industry “encouraged officials not to collect taxes from Airbnb hosts so as not to legitimize short-term rentals.”¹¹⁶ Even though Airbnb rentals are distinct from hotels, the AHLA complained to many state legislators and attorneys general about Airbnb’s failure to comply with rules that are imposed on hotels, which include anti-discrimination legislation, local tax collection laws, and safety and fire inspection standards.¹¹⁷ Several cities, including Los Angeles, New York City, and Paris, previously saw high numbers of Airbnb listings but are now heavily regulated, making most listings in these cities illegal.¹¹⁸

There is no doubt that Airbnb has become a viable hotel alternative around the world. By 2020, 150 million travelers had stayed in seven million Airbnb listings in more than 220 countries and regions.¹¹⁹ The company has a \$35 billion valuation and plans to go public by late 2020.¹²⁰ In preparation, Airbnb has raised almost \$4.8 billion in funding and secured a \$1 billion line

¹⁰⁷ *Id.*

¹⁰⁸ *Id.*

¹⁰⁹ Benner, *supra* note 104.

¹¹⁰ *Id.*

¹¹¹ *Id.*

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *See id.*

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ *Airbnb Statistics*, IPROPERTY MGMT., <https://ipropertymanagement.com/research/airbnb-statistics> (last updated Mar. 2020).

¹¹⁹ *Id.*

¹²⁰ *Id.*; Ingrid Lunden & Romain Dillet, *Airbnb Aims to Be ‘Ready’ to Go Public from June 30, 2019, Creates Cash Bonus Program for Staff*, TECHCRUNCH (June 29, 2018, 3:44 AM), <https://techcrunch.com/2018/06/29/airbnb-ipo/>. In contrast, Hilton Worldwide had a \$19 billion valuation, and Marriott International had a \$35 billion valuation. Benner, *supra* note 104.

of credit.¹²¹ Airbnb's presence lowered hotel prices in many places during holidays, conventions, and other big events, which are typically the occasions that draw the highest room rates and generate a significant portion of hotel profits.¹²² In at least ten American cities, Airbnb's success led to 1.3 percent fewer hotel nights booked and a 1.5 percent loss in hotel revenue.¹²³ The hotel industry loses approximately \$450 million in direct revenues per year to Airbnb.¹²⁴ According to Goldman Sachs, users who try the service once are less likely to prefer hotels for their next vacation.¹²⁵ With over half a billion stays hosted on the site, Airbnb is an undeniable success.¹²⁶

The AHLA says its attack against Airbnb is not about the newcomer's financial impact on the industry but rather its failure to play by the same rules as the rest of the hotel industry.¹²⁷ It still hopes to limit the private company's growth by lobbying politicians and state attorneys general to reduce the number of Airbnb hosts, by funding studies to show that Airbnb hosts quietly-run hotels out of residential buildings, and by spotlighting tax and safety regulation differences between hotels and Airbnb homes.¹²⁸ The AHLA has a \$5.6 million annual budget for its regulatory work.¹²⁹ It even funded a Pennsylvania State University professor's research, hoping to show that many Airbnb hosts were breaking the law, and started a testimonial campaign featuring people hurt by home sharing.¹³⁰ Focusing on key markets in Los Angeles, San Francisco, Boston, Washington, and Miami, the hotel industry formed alliances with politicians, affordable housing groups, neighborhood associations, and hotel labor unions in hopes of "dealing with Airbnb."¹³¹

Overall, however, Airbnb has positively impacted the lodging industry. With the idea that anyone can be a host, Airbnb allows people to earn additional revenue by renting out their homes and gives consumers greater availability and choices for their lodging, resulting in reduced prices.¹³² Showing its commitment to operating fairly, Airbnb has created over 250 government partnerships.¹³³ The company effectively leveraged the Internet to grow from a small start-up to a hotel industry titan worth billions.¹³⁴ After researching Airbnb's model, Professor Sara Dolnicar, a tourism expert at the University of Queensland Business School, deduced, "Disruptive innovations radically change the market. Businesses that have traditionally

¹²¹ Benner, *supra* note 104; *Airbnb Statistics*, *supra* note 118.

¹²² Benner, *supra* note 104.

¹²³ Dina Gerdeman, *The Airbnb Effect: Cheaper Rooms for Travelers, Less Revenue for Hotels*, FORBES (Feb. 27, 2018, 12:25 PM), <https://www.forbes.com/sites/hbsworkingknowledge/2018/02/27/the-airbnb-effect-cheaper-rooms-for-travelers-less-revenue-for-hotels/>.

¹²⁴ *Airbnb Statistics*, *supra* note 118.

¹²⁵ Aydin, *supra* note 98.

¹²⁶ *Airbnb Statistics*, *supra* note 118.

¹²⁷ Benner, *supra* note 104.

¹²⁸ *Id.*

¹²⁹ *Id.* (as of Apr. 2017).

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² Aydin, *supra* note 98; John C. Roach, *How Airbnb Has Affected the Hotel Industry*, U.S. BUREAU LAB. STAT.: MONTHLY LAB. REV. (May 2018), <https://www.bls.gov/opub/mlr/2018/beyond-bls/how-airbnb-has-affected-the-hotel-industry.htm>.

¹³³ Benner, *supra* note 104.

¹³⁴ Aydin, *supra* note 98; Roach, *supra* note 132.

dominated the market need to adapt and many new businesses have the opportunity to develop, grow and prosper as a consequence of the disruptive innovation.”¹³⁵

Some hotel chains have begun to adapt by buying companies that specialize in the “sharing economy.” Hyatt Hotels invested in Oasis, an international room-sharing service that is described as “a more upscale Airbnb alternative,” and Wyndham Worldwide invested in several sharing-economy partners in Europe.¹³⁶ Bjorn Hanson, a New York University professor who studies the hospitality industry, summarized this trend: “For many of the hotel companies, it’s about an investment in not missing out on an opportunity, and seeing if these companies can grow into a newer, stronger form of competition.”¹³⁷ Large hotel chains can better serve the needs of all types of clients when there is a convergence between traditional and innovative aspects of the lodging industry. By adopting the nimbleness of room-sharing competitors like Airbnb and offering a greater range of services, hotels can attract new customers and increase their growth. Marriott International, the world’s largest hotel chain, has tried to remain competitive by implementing a mobile app that suggests dining and activities personalized for guests and even concierge robots that deliver amenities requested by guests.¹³⁸ It has also added home rentals to its portfolio of offerings.¹³⁹ Airbnb’s decentralization of the lodging industry forced hotel chains to strategically partner with room-sharing services and to create more personalized and accessible ways to serve consumer needs.

C. THE GROUND TRANSPORTATION INDUSTRY

1. Uber & Ride-Sharing Apps

In May 2010, San Francisco was the birthplace of another revolutionary technological innovation: UberCab.¹⁴⁰ The founders of UberCab envisioned a timeshare limo service that consumers could order via an app.¹⁴¹ Consumers could download an app on their smart phones, program their desired locations into the app, and order private cars and drivers to pick them up and take them to their destinations. The cost of the ride was preconfigured and automatically charged to the user’s account on the app, so riders had no need to carry cash or credit cards. The ease and simplicity of ordering a ride led to the app’s rising popularity, and the ground transportation industry took notice. In October 2010, UberCab received a cease-and-desist order from the

¹³⁵ *How Airbnb Created a New Business Model – and What You Can Learn from It*, U. QUEENSL. AUSTL. BUS. SCH., <https://future.business.uq.edu.au/how-airbnb-created-new-business-model-%E2%80%93-and-what-you-can-learn-it> (last updated 2016).

¹³⁶ Patrick Sisson, *Hotel Chains Are Experimenting with Airbnb-Like Services*, CURBED (Oct. 12, 2017, 5:49 PM), <https://www.curbed.com/2017/10/12/16466882/hotel-airbnb-hyatt-oasis-collection-hospitality>.

¹³⁷ *Id.*

¹³⁸ Melia Robinson, *The World’s Biggest Hotel Chain Is Making Big Changes to Defy the Threat of Airbnb*, BUS. INSIDER (Sept. 27, 2017, 7:23 AM), <https://www.businessinsider.com/marriott-wants-to-be-the-next-airbnb-2017-9>.

¹³⁹ *Airbnb Statistics*, *supra* note 118.

¹⁴⁰ Dan Blystone, *The Story of Uber*, INVESTOPEDIA, <https://www.investopedia.com/articles/personal-finance/111015/story-uber.asp> (last updated June 25, 2019). The company was founded in March 2009, but the official launch took place in May 2010. *Id.*

¹⁴¹ *Id.*

San Francisco Municipal Transportation Agency, which took issue with the company's name.¹⁴² In response, the startup company changed its name to Uber and bought the domain name uber.com.¹⁴³

The idea behind Uber was not novel. In 1914, a car salesman from Los Angeles watched people wait in long lines to ride trolleys through the city.¹⁴⁴ He decided to use his car to help transport people where they wanted to go for a *jitney*, or nickel.¹⁴⁵ Across the country, the jitney bus grew in popularity, and by 1915, there were 150,000 rides per day in Los Angeles.¹⁴⁶ Trolley companies, the existing transportation monopoly at the time, were unhappy with the jitney's success, so they lobbied for city regulations around the country that would slow the growth of the jitney.¹⁴⁷ Many cities added expensive licenses necessary for drivers to operate jitneys; some cities forced jitney drivers to remain in their vehicles for sixteen hours per day; other cities required each jitney to be equipped with two drivers; still others mandated that each jitney have a backseat light to dissuade "spooning" between couples—an apparently pernicious display of affection.¹⁴⁸ By 1919, the jitney was regulated out of business, and consumers turned to private car ownership in the following decades.¹⁴⁹ However, if the jitney had survived, the future of transportation would probably already be here.

Uber quickly expanded to New York, Seattle, Boston, Chicago, Washington D.C., and Paris. In 2012, the company launched UberX, which provided a more affordable hybrid car as an alternative to its black car service.¹⁵⁰ Former Uber CEO Travis Kalanick also imagined a ride option, similar to the jitney, that would help solve the problems of congestion, pollution, and parking in metropolitan areas by getting more people into fewer cars.¹⁵¹ Kalanick believed Uber had the potential to launch a "smoothly functioning instant-gratification economy, powered by the smartphone as the remote control for life."¹⁵² Two years later, a carpooling option called UberPOOL was added to the Uber app.¹⁵³ Consumers could request a cheaper ride by committing to share their car service with another person traveling along a similar route in urban areas. Uber also expanded to more countries around the world and created new practical services uniquely suited to different markets.¹⁵⁴ UberEATS, for example, is a food delivery service where users can order from their favorite restaurants and have their meals

¹⁴² *Id.*

¹⁴³ *Id.*

¹⁴⁴ Travis Kalanick, *Uber's Plan to Get More People into Fewer Cars*, TED (Feb. 2016), https://www.ted.com/talks/travis_kalanick_uber_s_plan_to_get_more_people_into_fewer_cars.

¹⁴⁵ *Id.*

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

¹⁴⁸ *Id.*

¹⁴⁹ *Id.*

¹⁵⁰ Blystone, *supra* note 140.

¹⁵¹ Kalanick, *supra* note 144.

¹⁵² Kara Swisher, *Man and Uber Man*, VANITY FAIR (Nov. 5, 2014), <https://www.vanityfair.com/news/2014/12/uber-travis-kalanick-controversy>.

¹⁵³ Avery Hartmans & Paige Leskin, *The History of How Uber Went from the Most Feared Startup in the World to Its Massive IPO*, BUS. INSIDER (May 18, 2019, 11:42 AM), <https://www.businessinsider.com/ubers-history>.

¹⁵⁴ *See id.*

delivered to them in minutes.¹⁵⁵ By July 2016, Uber completed its two-billionth trip, solidifying its place as a viable transportation alternative.¹⁵⁶

Despite its swift rise into the global economy, Uber faced a nonstop barrage of lawsuits from governments, drivers, and competitors. During its expansion, Uber met “fierce resistance from the taxi industry and government regulators.”¹⁵⁷ Cab drivers joined labor unions, and cab companies began lobbying against Uber.¹⁵⁸ Rival taxi executives filed complaints and lawsuits to collectively resist the ride-sharing industry that they felt threatened their livelihood.¹⁵⁹ Taxi companies wanted Uber to abide by the same rules and regulations that they had to follow and claimed that Uber was unfair competition because it could bypass local laws and avoid paying expensive license fees.¹⁶⁰ In 2014, taxi drivers in London, Berlin, Paris, and Madrid staged large-scale protests against Uber.¹⁶¹ Parisian cab drivers even slashed Uber cars’ tires and smashed their windows in protest.¹⁶² As a result of widespread backlash, Uber faced temporary bans in London, Hong Kong, Hungary, and Australia, among other places.¹⁶³ In an attempt to stifle innovation by imposing a sweeping new tax on transportation in New York, the city’s Taxi and Limousine Commission recently issued new mandates forcing ride-share companies to pay their drivers exponentially more per hour, which will inevitably raise prices.¹⁶⁴ In essence, the Commission is trying to destroy the ride-sharing app-based business model in New York because Uber has become too successful.¹⁶⁵ In August 2018, the New York City Council voted to stop issuing new licenses to ride-sharing services for the next twelve months.¹⁶⁶

Cab companies eventually realized that they must modernize and develop speedier dispatch systems to remain competitive. Some cab companies began using a taxi-hailing app called Curb, but there are mixed reviews as to its effectiveness.¹⁶⁷ The Taxicab, Limousine and Paratransit Association sponsored a national “Who’s Driving You?” campaign to warn passengers about inadequate insurance coverage among ride-sharing companies.¹⁶⁸ Bhairavi Desai, executive director of the newly-created National Taxi Workers Alliance, said, “There is a lot of vulnerability and anger that [taxi] drivers feel over the ride-share program,” which created a

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ Blystone, *supra* note 140.

¹⁵⁸ Luz Lazo, *Cab Companies Unite Against Uber and Other Ride-Share Services*, WASH. POST (Aug. 10, 2014),

https://www.washingtonpost.com/local/trafficandcommuting/cab-companies-unite-against-uber-and-other-ride-share-services/2014/08/10/11b23d52-1e3f-11e4-82f9-2cd6fa8da5c4_story.html.

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ Blystone, *supra* note 140.

¹⁶² Swisher, *supra* note 152.

¹⁶³ See Blystone, *supra* note 140; Karen Hao, *Map: All the Places Where Uber Is Partially or Fully Banned*, QUARTZ (Sept. 23, 2017), <https://qz.com/1084981/map-all-the-places-where-uber-is-partially-or-fully-banned/>.

¹⁶⁴ *New York’s War on Uber, Lyft and Other Ride-Sharing Companies*, INV. BUS. DAILY (Dec. 7, 2018, 3:36 AM), <https://www.investors.com/politics/editorials/ride-sharing-uber-lyft-new-york/>.

¹⁶⁵ *Id.*

¹⁶⁶ Blystone, *supra* note 140.

¹⁶⁷ See Brett Helling, *What Is the Curb App (and How Does It Work)?*, RIDESTER.COM, <https://www.ridester.com/curb-app-work/> (last updated Mar. 23, 2020).

¹⁶⁸ Lazo, *supra* note 158.

sense of urgency to organize lobbying efforts for the regulation of ride-sharing.¹⁶⁹

To be fair, when entering into new markets, Uber often capitalized on a city's lack of regulation for noncommercial drivers by quickly enlisting UberX drivers and letting them begin work before local regulators could stop them.¹⁷⁰ As a result, city officials often issued costly tickets to Uber drivers or impounded their vehicles before agreeing to develop a legal framework for the low-cost service.¹⁷¹ For example, Uber began operating in Portland without seeking permission from the city, who subsequently declared the service illegal.¹⁷² Kalanick maintained that Uber is "totally legal" and spearheaded a pattern of "principled confrontation" where the company fought against governments that tried to shut them down.¹⁷³ In fact, the main conference room in Uber's San Francisco headquarters is called the "War Room."¹⁷⁴ Because the company lost significant revenue in each of its legal battles, it developed a "Greyball" program to identify and circumvent officials who tried to lead sting operations against it.¹⁷⁵ The program utilized techniques that included drawing perimeters around government offices on its digital city maps, determining if a user's credit card was tied to an institution, and searching social media profiles and other online information to see if the user was linked to law enforcement.¹⁷⁶ When users were "greyballed," Uber tagged their accounts and made the app show either no available cars or fake "ghost cars" that would be cancelled immediately after confirmation.¹⁷⁷ The company also used this program to protect its drivers in France, India, and Kenya where taxi companies and workers targeted and attacked new Uber drivers.¹⁷⁸ Although successful, this technologically-advanced program was likely controversial.

Proving to be real competition for Uber, Lyft entered the ride-sharing scene in 2012 and became another popular transportation alternative.¹⁷⁹ Co-founder John Zimmer described the vision for Lyft as "providing a full alternative to car ownership and allowing people to use their existing car to make money."¹⁸⁰ At the time of the Lyft app launch, Uber only provided black car and limo services.¹⁸¹ Lyft thus became an attractive option for its accessibility and lower prices. The company employed several techniques, later adopted by Uber, that helped it to live out its motto of "finding a friend with a car."¹⁸² First, to convince riders to trust their drivers, the app provided

¹⁶⁹ *Id.*

¹⁷⁰ Mike Isaac, *How Uber Deceives the Authorities Worldwide*, N.Y. TIMES (Mar. 3, 2017), <https://www.nytimes.com/2017/03/03/technology/uber-greyball-program-evade-authorities.html>.

¹⁷¹ *Id.*

¹⁷² *Id.*

¹⁷³ Swisher, *supra* note 152.

¹⁷⁴ *Id.*

¹⁷⁵ Isaac, *supra* note 170.

¹⁷⁶ *Id.*

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ Alyson Shontell & Shana Lebowitz, *Lyft's Cofounders Met on Facebook and Lived on Opposite Coasts – Here's How They Launched a \$7.5 Billion Startup Long-Distance*, BUS. INSIDER (Oct. 18, 2017, 8:36 AM), <https://www.businessinsider.com/how-john-zimmer-and-logan-green-started-lyft-2017-10>.

¹⁸⁰ *Id.*

¹⁸¹ *Id.*

¹⁸² *Mobile App Success Story: How Lyft Did It*, APP SAMURAI (Aug. 28, 2017, 7:14 AM), <https://appsamurai.com/mobile-app-success-story-how-lyft-did-it/>.

users with their drivers' information before cars reached their pickup locations.¹⁸³ Users rated their drivers at the end of the trip, and only drivers with high scores could continue to work for the company.¹⁸⁴ Second, the app calculated the price of the trip before users had the option to request rides and then automatically charged the ride to users' desired credit cards or PayPal accounts after it was completed.¹⁸⁵ Third, the app encouraged satisfied customers to refer their friends in the area to try the service and rewarded both parties with free ride credits and special bonuses when their referrals tried Lyft.¹⁸⁶ Finally, Lyft put community first by giving users an option to round their fares up and donate to causes like St. Jude Children's Research Hospital, Habitat for Humanity, or the American Civil Liberties Union ("ACLU") Foundation.¹⁸⁷ The Lyft team even promised to donate \$100,000 within a year to support America's military service members.¹⁸⁸

Lyft drivers sued the company in several class-action lawsuits, demanding employee status and compensation for prime time premium fares.¹⁸⁹ Lyft tried to squash the lawsuits by paying \$27 million in 2017 to avoid having a judge decide whether their drivers should be classified as employees and \$2 million in 2018 to settle the premium fare dispute with their California drivers.¹⁹⁰ Uber settled similar claims.¹⁹¹ However, in 2019, California passed Assembly Bill 5 ("AB5"), which made it harder for Lyft and Uber to continue treating their drivers as independent contractors.¹⁹² Both companies acknowledged that "a change to the employment classification of ride-share drivers would pose a risk to [their] businesses" and agreed to fight legal battles in California courts to determine whether the AB5 restrictions should apply to over 300,000 ride-share workers in the state.¹⁹³ Related bills in New Jersey and New York will likely put more pressure on the ride-sharing industry to treat drivers as employees rather than independent contractors.¹⁹⁴

In addition to battling legal challenges from governments and their drivers, ride-share companies have a history of attempting to derail each other's successes. Following a cutthroat philosophy, Uber launched a sophisticated effort to undermine Lyft and its other competitors. In 2014, Uber hired "brand ambassadors" nationwide to request rides from Lyft and recruit their drivers—all while taking multiple precautions to avoid

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ *Id.*

¹⁸⁶ *Id.*

¹⁸⁷ *Donate*, LYFT APP (last visited Feb. 6, 2019).

¹⁸⁸ *Mobile App Success Story: How Lyft Did It*, *supra* note 182.

¹⁸⁹ Chris Opfer, *Lyft to Pay \$2 Million to Squash Peak Fare Case*, BLOOMBERG L.: DAILY LAB. REP. (Mar. 30, 2018, 3:00 AM), <https://news.bloomberglaw.com/daily-labor-report/lyft-to-pay-2-million-to-squash-peak-fare-case>.

¹⁹⁰ *Id.*

¹⁹¹ *Id.*

¹⁹² Shirin Ghaffary & Alexia Fernández Campbell, *A Landmark Law Disrupted the Gig Economy in California. But What Comes Next for Uber Drivers?*, VOX: RECODE (Oct. 4, 2019, 2:30 PM), <https://www.vox.com/recode/2019/10/4/20898940/uber-lyft-drivers-ab5-law-california-minimum-wage-benefits-gig-economy-disrupted>.

¹⁹³ *Id.*; Michael Hiltzik, *Column: Uber and Lyft Try to Blunt a Court Ruling that Their Drivers Are Employees*, L.A. TIMES (July 11, 2019, 7:13 AM), <https://www.latimes.com/business/hiltzik/la-fi-hiltzik-uber-lyft-dynamex-20190711-story.html>.

¹⁹⁴ Erik Sherman, *Independent Contractors Could Be a Huge Drag on Uber and Lyft Stock*, FORTUNE (Nov. 27, 2019, 3:30 AM), <https://fortune.com/2019/11/27/uber-lyft-employment-laws/>.

detection.¹⁹⁵ As part of “Operation SLOG,” Uber employees were given two Uber-branded iPhones and a series of valid credit card numbers to be used to create dummy Lyft accounts.¹⁹⁶ They also received detailed instructions and incentives for recruiting Lyft drivers to switch to Uber.¹⁹⁷ Lyft discovered that Uber employees were responsible for ordering and then canceling 5560 Lyft rides in an attempt to tie up their drivers and weaken their business.¹⁹⁸ Uber also accused Lyft of using this same tactic after Uber refused to acquire the rival company and claimed that Lyft employees had cancelled 12,900 trips on the Uber app in the past.¹⁹⁹ Lyft denied these allegations.²⁰⁰ Uber and Lyft’s competition for ride-sharing dominance will undoubtedly continue, with particular interest paid to each service’s price and perception.²⁰¹

Despite their rivalry, Uber and Lyft have dominated the ground transportation industry in the United States. Together, they capture over 70 percent of the U.S. business traveler market, while the rental car industry takes 23 percent, and the taxi industry is left with only 6 percent of the market.²⁰² The rental car and taxi industries are understandably upset by the success of ride-sharing apps. Stockholders in leading rental car companies, such as Hertz and Avis, have suffered sizable losses over the past few years.²⁰³ In New York City, taxi medallions—the metal plates affixed to the hoods of yellow cabs—that were worth over \$1 million less than five years ago are now valued at less than \$165,000.²⁰⁴ Although Uber and Lyft have yet to be profitable, both companies went public in 2019 with multi-billion-dollar valuations.²⁰⁵

Ride-sharing choices have given consumers social and financial benefits. Uber and Lyft are often cheaper than renting a car or taking a taxi. A 2017 study conducted by researchers from the University of Michigan Transportation Research Institute, Texas A&M Transportation Institute, and Columbia University found that in “areas where Uber, Lyft, and other on-demand ride services operate, consumers may buy fewer cars and even take

¹⁹⁵ Casey Newton, *This Is Uber’s Playbook for Sabotaging Lyft*, VERGE (Aug. 26, 2014, 3:42 PM), <https://www.theverge.com/2014/8/26/6067663/this-is-ubers-playbook-for-sabotaging-lyft>.

¹⁹⁶ *Id.*

¹⁹⁷ *See id.*

¹⁹⁸ *Id.*

¹⁹⁹ Donna Tam, *Uber Throws Sabotage Accusations Back at Lyft*, CNET (Aug. 12, 2014, 3:13 PM), <https://www.cnet.com/news/uber-throws-sabotage-accusations-back-at-lyft/>.

²⁰⁰ *Id.*

²⁰¹ Rani Molla, *Uber and Lyft Are in a Battle for User Loyalty, and Riders May Win*, VOX: RECODE (Feb. 5, 2019, 11:03 AM), <https://www.vox.com/2019/2/5/18210376/uber-lyft-ride-loyalty-chart>.

²⁰² Michael Goldstein, *Uber and Lyft: The Cost and Benefits of Disruption*, FORBES (May 9, 2018, 4:39 PM), <https://www.forbes.com/sites/michaelgoldstein/2018/05/09/uber-and-lyft-the-cost-and-benefits-of-disruption/>. These figures are according to a recent study conducted by Certify, an expense management software company. *Id.*

²⁰³ *Id.*

²⁰⁴ *Id.*

²⁰⁵ Andrew J. Hawkins, *Uber Lost \$8.5 Billion in 2019, but It Thinks It Can Get Profitable by the End of 2020*, VERGE (Feb. 6, 2020, 4:46 PM), <https://www.theverge.com/2020/2/6/21126965/uber-q4-earnings-report-net-loss-revenue-profit-2019>; Rebecca Ungarino, *Lyft Went Public at a \$24 Billion Valuation. Here’s How That Compares to Other High-Profile Tech Companies Dating Back to the Dotcom Bubble.*, MKTS. INSIDER (Apr. 7, 2019, 9:06 AM), <https://markets.businessinsider.com/news/stocks/lyft-stock-how-valuation-compares-to-other-tech-names-at-ipo-2019-4-1028090958#lyft1>.

fewer trips.”²⁰⁶ Further, Miami-based attorney Robert A. Zinn, an automotive industry veteran, stated, “Ride-sharing services have already significantly impacted retail new car sales among the millennial generation, where many do not even get driver’s licenses, and potential purchasers in large urban areas where the cost of parking, insurance, etc. have made vehicle ownership prohibitive.”²⁰⁷ Unlike public transportation, these services conveniently pick up and drop off passengers at their desired door-to-door locations, which is especially beneficial for disabled individuals and the elderly.²⁰⁸ Because rides can be requested at any time of day or night, this type of service is also well-equipped to prevent individuals from drinking and driving. A 2016 study even discovered that the introduction of Uber worldwide contributed to a 16.6 percent decline in vehicular fatalities as well as lower arrest rates for assault and disorderly conduct, including driving under the influence.²⁰⁹

While consumers have arguably benefitted the most from the ride-sharing revolution, Uber and Lyft have also created new income opportunities for drivers around the world. Drivers typically supplement their primary jobs and earn extra money driving passengers on their own time in their own vehicles.²¹⁰ This arrangement provides drivers with ample flexibility to create schedules that uniquely suit them by selecting when, where, and for how long they will work.

Without question, ride-sharing apps have disrupted the ground transportation industry. After years of fighting against the success of Uber and Lyft, industry competitors have adapted to the presence of ride-sharing and recognized its benefits. Ride-sharing reduces environmental pollution and carbon dioxide emissions.²¹¹ The healthcare industry uses ride-sharing technology to improve patient care.²¹² Taxi companies and public transportation services now use app technology and digital dispatch systems to support their businesses.²¹³ Airports even designate separate locations for ride-share users and taxi lines. In Salt Lake City, Uber and Lyft have expanded the ground transportation market but have not decreased taxi revenues, according to executive director of the Salt Lake City International Airport Bill Wyatt.²¹⁴ By 2017, Uber had amassed over 150 million drivers globally and Lyft had over 700,000 drivers nationally.²¹⁵ While the future of this industry continues to evolve, one thing is clear: Uber and Lyft have

²⁰⁶ Giovanni Bruno, *Uber and Lyft Have Run over the Car Industry*, STREET (Sept. 2, 2017, 11:03 AM), <https://www.thestreet.com/story/14290318/1/how-uber-and-lyft-are-rapidly-changing-the-transportation-industry.html>.

²⁰⁷ *Id.*

²⁰⁸ See Deborah Kendrick, *Lyft and Uber Have Changed the Transportation Game for People with Visual Impairments*, AM. FOUND. FOR THE BLIND (Nov. 2016), <https://www.afb.org/aw/17/11/15386>.

²⁰⁹ Goldstein, *supra* note 202.

²¹⁰ *Id.*

²¹¹ *Global Ride Sharing Market 2019 Research Report with Key Players (Uber, Lyft, Ola), Types, Latest Innovation, Technology Trends and Forecast 2025*, MARKETERS MEDIA (Jan. 14, 2019), <https://marketersmedia.com/global-ride-sharing-market-2019-research-report-with-key-players-uber-lyft-ola-types-latest-innovation-technology-trends-and-forecast-2025>.

²¹² *See id.*

²¹³ Lee Davidson, *How Uber and Lyft Are Turning Utah Transportation Upside Down – and Taxis, Transit and Even Airport Parking Are Reacting*, SALT LAKE TRIB. (Sept. 3, 2019), <https://www.sltrib.com/news/politics/2019/09/03/how-uber-lyft-are-turning/>.

²¹⁴ *Id.*

²¹⁵ *Judge Approves \$27 Million Driver Settlement in Lyft Lawsuit*, CNBC (Mar. 17, 2017, 7:01 AM), <https://www.cnb.com/2017/03/17/judge-approves-27-million-driver-settlement-in-lyft-lawsuit.html>.

successfully revolutionized ground transportation around the world with the idea that anyone can participate, and the rest of the industry must re-examine their business models to compete.

2. Bird & Electric Scooters

In 2018, the emergence of shared, dockless electric scooters (“e-scooters”) found a strong product market fit in the United States.²¹⁶ E-scooter rental services Bird and Lime became the fastest American companies to reach billion-dollar valuations, with each company achieving this milestone within a year of inception.²¹⁷ Within one year, both companies serviced over ten million rides.²¹⁸ The future of ground transportation became even more flexible, affordable, and environmentally friendly with the rising popularity of e-scooters.

Founded in September 2017 by a former Uber and Lyft executive, Bird now operates e-scooters in over one hundred cities and universities in North America, Europe, and the Middle East.²¹⁹ The company’s mission is “to make cities more livable by reducing car usage, traffic, and carbon emissions.”²²⁰ Anyone with a valid driver’s license and credit card can rent an e-scooter on the Bird app for affordable prices; in 2018, it cost one dollar to start a ride, plus fifteen cents per minute of travel.²²¹ To promote safety and presumably reduce its liability, Bird offers free helmets to all of its active riders.²²²

In February 2018, LimeBike, a dockless bike company, launched its own e-scooter called Lime-S (“Lime”) in Washington D.C., San Diego, and San Francisco.²²³ Like Bird, Lime now operates in over one hundred cities in North America, South America, Europe, Asia, and Australia.²²⁴ The company is committed to “delivering a safe, sustainable micro-mobility experience in every city.”²²⁵ Lime also offers how-to guidelines and encourages its users to ride safely and park responsibly.²²⁶

E-scooters are designed to provide an inexpensive alternative mode of transportation. Despite their best efforts to swiftly blend into city transportation options, Bird and Lime were met with harsh litigation almost immediately. For example, Bird first launched in Santa Monica without asking for permission or obtaining a license to park on city sidewalks.²²⁷ The

²¹⁶ Adeyemi Ajao, *Electric Scooters and Micro-Mobility: Here’s Everything You Need to Know*, FORBES (Feb. 1, 2019, 9:16 AM), <https://www.forbes.com/sites/adeyemijao/2019/02/01/everything-you-want-to-know-about-scooters-and-micro-mobility/>.

²¹⁷ *Id.*

²¹⁸ Megan Rose Dickey, *Bird Hits 10 Million Scooter Rides*, TECHCRUNCH (Sept. 20, 2018, 7:07 AM), <https://techcrunch.com/2018/09/20/bird-hits-10-million-scooter-rides/>.

²¹⁹ *See Map*, BIRD, <https://www.bird.co/map/> (last visited Apr. 7, 2020) (navigate to and expand “Cities” link).

²²⁰ *One Charge at a Time*, BIRD: BLOG, (Apr. 17, 2019), <https://www.bird.co/blog/one-charge-at-a-time/>.

²²¹ Will Yakowicz, *This \$118 Million Electric Scooter Company Created a Phenomenon in Los Angeles and Now Wants to Take Over the World*, INC. (Mar. 23, 2018), <https://www.inc.com/will-yakowicz/the-bird-electric-scooter-phenomenon.html>.

²²² *Safety*, BIRD, <https://www.bird.co/safety-first/> (last visited Apr. 7, 2020). It is unclear how Bird defines “active riders.” *See id.*

²²³ Yakowicz, *supra* note 221.

²²⁴ *See Locations*, LIME, <https://www.li.me/locations> (last visited Apr. 7, 2020).

²²⁵ *About Us*, LIME, <https://www.li.me/about-us> (last visited Mar. 31, 2020).

²²⁶ *How to Lime*, LIME, <https://www.li.me/how-to-lime> (last visited Apr. 7, 2020).

²²⁷ Yakowicz, *supra* note 221.

company's chief executive wrote the mayor to introduce him to an "exciting new mobility strategy for Santa Monica," and the mayor responded, "If you're talking about those scooters that are out there already, there are some legal issues we have to discuss."²²⁸ The city filed a criminal complaint of nine counts centered on the company's failure to obtain a vendor permit.²²⁹ For its part, Bird maintained that vendor permits, which are required for food vendors, should not be required for e-scooters.²³⁰ The charges were eventually dropped after Bird agreed to pay \$300,000, obtain a license, and conduct public safety campaigns.²³¹ Additionally, California law requires motorized-scooter riders to be at least sixteen years of age, hold a valid driver's license, wear helmets, and refrain from riding on sidewalks.²³² However, shortly after Bird's arrival, teenagers began illegally riding e-scooters on sidewalks, carrying passengers, and disobeying traffic laws.²³³ In a two-month span, the Santa Monica Police Department made 575 traffic stops involving e-scooters and issued 273 traffic tickets.²³⁴ There were also nine accidents—one involving a serious crash where a Bird rider was hit by a car.²³⁵ Some frustrated vigilante residents tossed e-scooters into the ocean, buried them in the sand, and even set them on fire.²³⁶

Despite these troubles, e-scooters were an undeniable hit with over 40,000 people using Bird in the first few months following its Santa Monica launch.²³⁷ Learning from its setbacks, the company's new goals were to be government-friendly and to collaborate with cities.²³⁸ When Bird prepared to launch its e-scooters in San Diego, company executives preemptively spoke to local officials, obtained the proper permits, and held an educational campaign and helmet giveaway.²³⁹ Although some cities, like San Francisco, did not grant Bird an operating permit, the company collaborated very closely with other cities and increased its safety warnings—even though it may be inherently dangerous to ride e-scooters in street traffic.²⁴⁰ Bird's plans for the future are to "double down on its efforts with cities," build out its government-tech platform, and manufacture its own e-scooters to make them more durable and distinct from numerous e-scooter competitors.²⁴¹ With over

²²⁸ Noah Smith, *Sudden Appearance of Electric Scooters Irks Santa Monica Officials*, WASH. POST (Feb. 10, 2018, 4:18 PM), https://www.washingtonpost.com/national/sudden-appearance-of-electric-scooters-irks-santa-monica-officials/2018/02/10/205f6950-0b4f-11e8-95a5-c396801049ef_story.html?utm_term=.333c4184e1d1.

²²⁹ *Id.*

²³⁰ *Id.*

²³¹ Yakowicz, *supra* note 221.

²³² Smith, *supra* note 228.

²³³ Yakowicz, *supra* note 221.

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ Olivia Carville, *The Bloody Consequences of the Electric Scooter Revolution*, BLOOMBERG (Oct. 30, 2018, 2:00 AM), <https://www.bloomberg.com/news/articles/2018-10-30/the-bloody-consequences-of-the-electric-scooter-revolution>.

²³⁷ Smith, *supra* note 228.

²³⁸ Yakowicz, *supra* note 221.

²³⁹ *Id.*

²⁴⁰ Dickey, *supra* note 218.

²⁴¹ *Id.*

\$415 million raised in funding for e-scooters, Bird shows no signs of slowing its growth.²⁴²

In October 2018, e-scooter companies faced further setbacks when a class-action lawsuit was filed in Los Angeles Superior Court, accusing Bird, Lime, and other e-scooter companies of “gross negligence” and “aiding and abetting assault.”²⁴³ The suit alleged that e-scooter companies should have known that their devices would become a dangerous “public nuisance” when they left them on public streets without warning.²⁴⁴ The suit further claimed that these companies knew their riders were injuring pedestrians, and because they failed to stop collisions from occurring, the companies assisted riders in committing “assaults.”²⁴⁵ Lime responded that “safety has always been at the very core of everything [it] does,” and Bird released the following statement:

We believe that the climate crisis and our car dependency demand a transportation mode shift, and clean energy vehicles like e-scooters are already replacing millions of short car trips. There is no evidence that riding an e-scooter presents a greater level of danger to riders than riding a bike. Cars remain the greatest threat to commuters, killing over 40,000 people in the US yearly.²⁴⁶

Despite these companies’ assurances, doctors, former riders, and scooter mechanics maintain that e-scooters, on the whole, are poorly maintained and prone to dangerous mechanical failures.²⁴⁷

Additionally, e-scooters were linked to an “uptick in severe injuries in hospitals around the country, according to emergency-room physicians.”²⁴⁸ However, these accounts also report that most of the injuries are due to rider neglect, including multiple people riding one e-scooter at the same time and people using their cell phones while riding.²⁴⁹ One personal injury lawyer in Santa Monica received over one hundred calls from individuals injured by e-scooters during summer 2018.²⁵⁰ The class-action lawsuit hopes to address the “terrible injuries” that e-scooters have “inflicted on their riders and pedestrians.”²⁵¹ For their part, Bird and Lime continually focus on improving the safety measures of their e-scooters. The companies have safety videos on their websites, introductory safety tutorials on their apps, and safety instructions prominently displayed on their vehicles.²⁵² Accident rates will

²⁴² *Id.* Within the first two months of 2018, five new e-scooter startups in Europe raised over \$150 million, largely due to Lime and Bird’s success in European cities like Paris, Madrid, London, and Vienna. Ajao, *supra* note 216.

²⁴³ Peter Holley, *Class-Action Lawsuit Accuses E-scooter Companies of ‘Gross Negligence’*, WASH. POST (Oct. 20, 2018, 3:55 PM), <https://www.washingtonpost.com/technology/2018/10/20/class-action-lawsuit-accuses-e-scooter-companies-gross-negligence/>.

²⁴⁴ *Id.*

²⁴⁵ *Id.*

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ *Id.*

²⁴⁹ Ajao, *supra* note 216.

²⁵⁰ Holley, *supra* note 243.

²⁵¹ *Id.*

²⁵² Ajao, *supra* note 216.

presumably decline as riders become more familiar with this new transportation trend.

As multiple lawsuits continue to plague the e-scooter revolution, it remains uncertain whether the rest of the ground transportation industry will eventually adapt and support this technological innovation. Companies are now working with cities to address safety concerns and are using “electronic geo-zones” to prevent e-scooter riders from traveling in unsafe areas, riding on sidewalks, and parking in off-limit areas.²⁵³ E-scooters will also become safer vehicles when they are equipped with the latest technological innovations, which include larger wheels, sturdier materials, and longer battery life.²⁵⁴ Recent acquisitions of e-scooter companies by global powerhouses like Ford and Uber are promising signs of further technological developments in the micro-mobility movement.²⁵⁵

E-scooter litigation illustrates the continuing challenges that arise when integrating new technologies into various cities and established industries, even when those technologies help solve stubborn civic problems, such as traffic congestion. In the United States, 46 percent of car traffic is caused by cars driving less than three miles.²⁵⁶ Further, megacities worldwide face “an epidemic of congestion and pollution caused by rapid urbanization that is increasing gridlock and putting severe pressure on public transportation systems.”²⁵⁷ Society needs a viable alternative to the current transportation options that are congesting and polluting major cities. Only time will tell which micro-mobility solutions will best mitigate this epidemic in the ground transportation industry.

IV. PROPOSED SOLUTION

For many fundamental human problems, the solution is technology.²⁵⁸ As evident in the above analyses, technological innovations have made the decentralization of established industries not only possible but imminent. Existing industry competitors often waste significant time, money, and energy on fruitless battles when they try to knock out new innovations with litigation and regulation. While it is occasionally possible to regulate inventions like the jitney out of business or sue a company like Napster until it goes bankrupt, technological advancements are more often than not here to stay. Thus, industry competitors must shed their instinctive nature to retaliate against innovation with litigation.

²⁵³ *Id.*

²⁵⁴ *Id.*

²⁵⁵ Connie Loizos, *And Uber Is Going with Bird (Looks Like)*, TECHCRUNCH (Dec. 5, 2018, 7:30 PM), <https://techcrunch.com/2018/12/05/and-uber-is-going-with-bird-looks-like/>. Uber’s visionaries wanted to become the “Amazon of transportation,” so they jumped at the opportunity to get into the e-scooter business. Molla, *supra* note 201. Micro-mobility refers to personal vehicles that can carry one or two passengers. Sandra Witzel, *How Micro Mobility Solves Multiple Problems in Congested Cities*, SKEDGO (July 14, 2018), <https://skedgo.com/how-micro-mobility-solves-multiple-problems-in-congested-cities/>.

²⁵⁶ Ajao, *supra* note 216.

²⁵⁷ *Id.*

²⁵⁸ Bloomberg Big Decisions, *LinkedIn Co-Founder Hoffman Says Technology Can Solve Big Problems*, BLOOMBERG (Nov. 7, 2018, 8:42 AM), <https://www.bloomberg.com/news/videos/2018-11-07/linkedin-co-founder-hoffman-says-technology-can-solve-big-problems-video>.

Rather, existing industries should embrace new technological developments that serve as catalysts for change. Established companies that focus on supporting and even collaborating with innovative newcomers have an opportunity to make strategic alliances, advance their own products and services, and garner goodwill in the process. While the recording industry tried to stop music from being shared through the Internet, Apple visionaries brainstormed ways to break into the music industry that supported the trend of current innovations. By capitalizing on technological changes and new consumer behavior in the music industry, Apple successfully revolutionized the way music was bought and sold. Spotify spearheaded the next revolution by creating a platform for streaming all kinds of music without having to buy albums or individual songs. In the ground transportation industry, Lyft and Lime quickly recognized the success of Uber and Bird, respectively, and made their own competitive models to capitalize on the decentralization of the industry. Competition among these companies will ultimately lead to increased technological developments suited to the consumer's needs. It remains to be seen how lodging and other ground transportation companies will ultimately co-exist with current innovations in their respective industries.

V. CONCLUSION

Innovation is a quintessential component of growth. The Internet—once considered a promising innovation with uncertain implications itself—has become the foundation for numerous technological developments that have built on its capability for instantaneous, worldwide connectivity. The nature of the products and services that people use has changed dramatically over the last twenty years as a consequence of this significant innovation, and as a result, the music, lodging, and ground transportation industries now look very different than they did twenty years ago. Existing industries have a choice: fight the development of new innovations with litigation and regulation or support imminent industry changes. Further research should examine the impact of litigation on revolutionary technological developments in other industries and follow the progress made in the music, lodging, and ground transportation industries over the next decade.