University of Miami Law Review

Volume 74 | Number 3 Article 6

4-28-2020

Corporate Fundamental Responsibility: What Do Technology Companies Owe the World?

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In this digital age, technology companies reign supreme. However, the power gained by these companies far exceeds the responsibilities they have assumed. The ongoing privacy protection and fake news scandals swirling around Facebook clearly demonstrate this shocking asymmetry of power and responsibility.

Legal reforms taking place in the United States in the past twenty years or so have failed to correct this asymmetry. Indeed, the U.S. Congress has enacted major statutes minimizing the legal liabilities of technology companies with respect to online infringing acts, privacy protection, and payment of taxes. While these statutes have promoted innovation, they have also had the unintended effect of breeding irresponsibility among technology companies.

Against this backdrop, this Article offers a new lens through which we can deal with the ethical crisis surrounding technology companies. It puts forward the concept of corporate fundamental responsibility as the ethical and legal foundation for imposing three distinct responsibilities upon technology companies: to reciprocate users' contributions, play their role positively, and confront injustices cre-

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ated by technological development. The Article further considers how these responsibilities could be applied to improve protection of private data and to encourage responsible exercise of intellectual property rights by technology companies.

The tripartite conception of corporate fundamental responsibility, this Article shows, is built upon the ethical theories of reciprocity, role responsibility, and social justice. Therefore, corporate fundamental responsibility paves the way for technology law to embrace ethics whole-heartedly, creating new legal and ethical guidance for the benevolent behavior of technology companies. In developing technologies, collecting data, and regulating speech, technology company leaders must act responsibly for the future of humanity.

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INTRODUCTION

> *[I]t's clear now that we didn't do enough to prevent [Facebook] from being used for harm as well. That goes for fake news, foreign interference in elections, and hate speech, as well as developers and data privacy. We didn't take a broad enough view of our responsibility, and that was a big mistake.*[1]
>
> – Mark Zuckerberg

We live in an age of grotesque irony. Facebook has achieved unparalleled success among technology companies, attracting 2.3 billion users in the fifteen years since its inception.[2] However, it has also abused the trust of those users.[3] In the biggest privacy scandal

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[1] *Facebook, Social Media Privacy, and the Use and Abuse of Data: Hearing Before the S. Comm. on the Judiciary and the S. Comm. on Commerce, Sci. and Transp.*, 115th Cong. 1 (2018) [hereinafter *Facebook Hearing*] (testimony of Mark Zuckerberg, Chairman and Chief Executive Officer, Facebook).

[2] Meira Gebel, *In 15 Years Facebook Has Amassed 2.3 Billion Users — More Than Followers of Christianity*, BUS. INSIDER (Feb. 4, 2019, 1:29 PM), https://www.businessinsider.com/facebook-has-2-billion-plus-users-after-15-years-2019-2.

[3] *See* ROGER MCNAMEE, ZUCKED: WAKING UP TO THE FACEBOOK CATASTROPHE 2 (2019) ("Technology platforms, including Facebook and Google . . . have taken advantage of our trust, using sophisticated techniques to

in social network history, Facebook secretively sold private user data to Cambridge Analytica.[4] It allowed its platform to become a vehicle for the fake news that likely swayed the 2016 presidential election in the United States.[5] A judge even criticized Facebook as "a tool for evil" in a judicial ruling.[6]

The irony of our age is that *the responsibilities that technology companies have assumed are far disproportionate to the power that they have gained*. When it comes to unchecked power, Facebook is by no means unique. In the past ten years or so, technology companies have become the world's richest and most politically powerful corporate institutions.[7] In collecting enormous amounts of data from the public, technology companies have become owners of one of the world's most valuable resources.[8] They regulate all kinds of speech

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prey on the weakest aspects of human psychology, to gather and exploit private data, and to craft business models that do not protect users from harm."); Jordan Valinsky et al., *Facebook's Bottomless Pit of Scandals*, CNN (Dec. 20, 2018), https://edition.cnn.com/interactive/2018/12/business/facebooks-year-of-scandal/index.html.

[4] *See* Kevin Granville, *Facebook and Cambridge Analytica: What You Need to Know as Fallout Widens*, N.Y. TIMES (Mar. 19, 2018), https://www.nytimes.com/2018/03/19/technology/facebook-cambridge-analytica-explained.html.

[5] *See* Danielle Kurtzleben, *Did Fake News on Facebook Help Elect Trump? Here's What We Know*, NPR (Apr. 11, 2018, 7:00 AM), https://www.npr.org/2018/04/11/601323233/6-facts-we-know-about-fake-news-in-the-2016-election.

[6] *Facebook is a 'Tool for Evil', Says Judge as Mother Trolled Over Fake Claims She Tried to Kill a Baby Is Found Dead*, TELEGRAPH (Feb. 7, 2017, 9:36 AM), https://www.telegraph.co.uk/news/2017/02/07/facebook-tool-evil-says-judge-mother-trolled-fake-claims-tried.

[7] *See* JAMIE BARTLETT, THE PEOPLE VS TECH: HOW THE INTERNET IS KILLING DEMOCRACY (AND HOW WE SAVE IT) 1 (2018) ("In the coming few years either tech will destroy democracy and the social order as we know it, or politics will stamp its authority over the digital world. It is becoming increasingly clear that technology is currently winning this battle, crushing a diminished and enfeebled opponent."); Stephen Johnston, *Largest Companies 2008 vs. 2018, A Lot Has Changed*, MILFORD (Jan. 31, 2018), https://milfordasset.com/insights/largest-companies-2008-vs-2018-lot-changed ("Technology companies not only dominate our daily lives (how many times have you checked your iPhone today?) but also the ranking of world's biggest companies.").

[8] *The World's Most Valuable Resource Is No Longer Oil, but Data*, ECONOMIST (May 6, 2017), https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data.

activities on their platforms, operating as governors of social communication in the digital age.[9] They develop new technologies such as artificial intelligence ("AI"), acting as decision-makers for the future of humanity.[10]

With great power, it is often said, comes great responsibility.[11] But leading technology companies have thus far reaped their profits with impunity, demonstrating no commitment to a conception of corporate responsibility commensurate with the nature and extent of their ever-expanding powers.[12] While the public has invested their trust and support in technology companies such as Facebook, these companies have ignored their attendant responsibilities. Instead,

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[9] *See* Kate Klonick, *The New Governors: The People, Rules, and Processes Governing Online Speech*, 131 HARV. L. REV. 1598, 1603 (2018) (arguing that "platforms should be thought of as operating as the New Governors of online speech"); Kyle Langvardt, *Regulating Online Content Moderation*, 106 GEO. L.J. 1353, 1357 (2018) (cautioning that technology "corporations' power over public discourse today is so concentrated and far-reaching that it resembles and arguably surpasses state power within its sphere"); Alan Z. Rozenshtein, *Surveillance Intermediaries*, 70 STAN. L. REV. 99, 105 (2018) (concluding that "we've created a new generation of *surveillance intermediaries*: large, powerful companies that stand between the government and our data and, in the process, help constrain government surveillance").

[10] *See* Haochen Sun, *The Fundamental Right to Technology*, 47 HOFSTRA L. REV. (forthcoming 2020) (describing how technology companies are developing AI to dominate the most important industrial sectors).

[11] *See, e.g.*, Kimble v. Marvel Entm't, LLC, 135 S. Ct. 2401, 2415 (2015) (citing S. Lee & S. Ditko, *Spider–Man*, AMAZING FANTASY, Aug. 1962, at 13 ("[I]n this world, with great power there must also come—great responsibility.")).

[12] *See infra* Section I.B.4.

they have created a "black box society"[13] and new forms of oppression.[14] Privacy breaches have become routine in the technology sector.[15] Tax evasion or avoidance by technology companies is occurring more frequently and on a larger scale than ever before, with Apple being named one of the largest tax avoiders in the United States[16] and Amazon paying no income tax whatsoever.[17]

Indeed, the major technology companies have been accused of being even more irresponsible than the financial institutions causing the 2008 financial crisis.[18] The immediate regulatory response has

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[13] FRANK PASQUALE, THE BLACK BOX SOCIETY: THE SECRET ALGORITHMS THAT CONTROL MONEY AND INFORMATION 191 (2015) (arguing that the black box society is unjust because "[d]ata is becoming staggering in its breadth and depth, yet often the information most important to us is out of our reach, available only to insiders").

[14] Stephen Hawking has concluded that "[a]longside the benefits, AI will also bring dangers like powerful autonomous weapons or new ways for the few to oppress the many." *Stephen Hawking Launches Centre for the Future of Intelligence*, U. CAMBRIDGE (Oct. 19, 2016), https://www.cam.ac.uk/research/news/the-best-or-worst-thing-to-happen-to-humanity-stephen-hawking-launches-centre-for-the-future-of [hereinafter *Stephen Hawking Launches Centre*]; *see also* Noel Sharkey, *End Technological Injustice! Is Your Face Safe?*, FORBES (Dec. 11, 2018, 10:44 AM), https://www.forbes.com/sites/noelsharkey/2018/12/11/end-technological-injustice-make-the-safe-face-pledge-today/#754275769af8 ("Everywhere new technology is being exploited to oppress the already oppressed. Whether you're a woman, poor, an ethnic minority or just from the wrong side of the zip code, there's an algorithm to oppress you.").

[15] Andrew Rossow, *Why Data Breaches Are Becoming More Frequent and What You Need to Do*, FORBES (May 23, 2018, 3:12 PM), http://www.forbes.com/sites/andrewrossow/2018/05/23/why-data-breaches-are-becoming-more-frequent-and-what-you-need-to-do/#256231fad97f.

[16] *Apple 'Among Largest Tax Avoiders in US' — Senate Committee*, BBC (May 21, 2013), https://www.bbc.com/news/business-22600984.

[17] Glenn Kessler, *Does Amazon Pay Any Taxes?*, WASH. POST (July 30, 2019, 9:05 PM), https://www.washingtonpost.com/politics/2019/live-updates/general-election/fact-checking-the-second-democratic-debate/does-amazon-pay-any-taxes/?noredirect=on&utm_term=.c6710225845a (highlighting Bernie Sanders's statement that "[r]ight now, 500,000 Americans are sleeping out on the street and yet companies like Amazon that made billions in profits did not pay one nickel in federal income tax"); Vanessa Barford & Gerry Holt, *Google, Amazon, Starbucks: The Rise of 'Tax Shaming'*, BBC (May 21, 2013), https://www.bbc.com/news/magazine-20560359.

[18] Saqib Shah, *Banks Behind Financial Crash Were Better Behaved Than Facebook, Says Ex-Goldman Sachs President Gary Cohn*, SUN (Aug. 7, 2018, 10:13

been to impose hefty fines upon technology companies. For instance, in July 2019 the Federal Trade Commission ("FTC") imposed on Facebook a fine of about $5 billion for its mishandling of private data.[19] Although this is the largest fine the FTC has ever issued,[20] it has nonetheless triggered heated debate over whether it is an effective deterrent. The FTC's decision was followed by a surge in Facebook's stock price, which led to claims that it actually increased Mark Zuckerberg's net worth.[21] Legislators have proclaimed that the FTC "failed miserably" with this "inadequate" and "historically hollow" decision, asserting that it is "time for Congress to act."[22]

Against this backdrop, I put forward in this Article the idea of corporate fundamental responsibility: a new lens through which we can scrutinize technology companies and address the ethical crisis surrounding them. Amid a crisis of responsibility, monetary fines—even staggering ones—are no cure. Punitive measures are backward-looking, reactive, and ultimately inadequate for changing the behavior of today's tech behemoths. What is needed, instead, is an affirmative vision of the nature and scope of the responsibilities that technology companies should accept.[23] To this end, I argue for a tri-

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AM), https://www.thesun.co.uk/tech/6958511/banks-more-responsible-than-facebook-says-goldman-sachs ("[B]anks were more responsible citizens in '08 than some of the social-media companies are today. And it affects everyone in the world. The banks have never had that much pull.").

[19] Cecilia Kang, *F.T.C. Approves Facebook Fine of About $5 Billion*, N.Y. TIMES (July 12, 2019), https://www.nytimes.com/2019/07/12/technology/facebook-ftc-fine.html.

[20] *Id.*

[21] Nilay Patel, *Facebook's $5 Billion FTC Fine Is an Embarrassing Joke*, VERGE (July 12, 2019, 9:05 PM), https://www.theverge.com/2019/7/12/20692524/facebook-five-billion-ftc-fine-embarrassing-joke (reporting the view that "the United States government spent months coming up with a punishment for Facebook's long list of privacy-related bad behavior, and the best it could do was so weak that Facebook's stock price went up").

[22] *Id*. ("Senator Ron Wyden has said that the FTC has 'failed miserably.' Senator Richard Blumenthal has said the decision is 'inadequate' and 'historically hollow,' and Senator Mark Warner has said '[i]t's time for Congress to act.'").

[23] For a detailed account of the affirmative vision of responsibility, see generally YASCHA MOUNK, THE AGE OF RESPONSIBILITY: LUCK, CHOICE, AND THE WELFARE STATE (2017); JAMES E. FLEMING & LINDA C. MCCLAIN, ORDERED LIBERTY: RIGHTS, RESPONSIBILITIES, AND VIRTUES (2013).

partite conception of corporate responsibility that reflects the realities of the technology industry today. According to this conception, technology companies should do the following: reciprocate users' contributions, play their role positively, and confront injustices created by technological development.[24]

These three fundamental responsibilities are crucial to protecting the public interest and positively shaping humanity's future. First, the responsibility to reciprocate would require technology companies to appreciate users' contributions and take adequate action to protect their interests.[25] Because of this responsibility, technology companies must protect the personal data they collect from their users. Second, the responsibility to perform their role positively would require technology companies to consider their role in social communication and innovation.[26] This responsibility protects freedom of expression and promotes responsible innovation. Third, the responsibility to promote social justice would require technology companies to confront injustices created by technological development, such as uneven income distribution and labor market polarization,[27] and take positive measures to deal with them.[28]

This concept of corporate fundamental responsibility, as I will further analyze in this Article, makes three major contributions to the existing literature and policy discourse on technology, law, and the public interest. First, it proposes a new approach to applying law and ethics to deal with the detrimental effects of technology. We are currently at a crossroads in harnessing technology that will deeply influence the future of humanity.[29] The waves of technological progress seen in recent decades have resulted in such breakthroughs as 3D printing, AI, new medicines, and renewable energy, among

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[24] *See infra* Part II.

[25] *See infra* Section II.A.2.

[26] *See infra* Section II.B.2.

[27] *See, e.g.*, CATHY O'NEIL, WEAPONS OF MATH DESTRUCTION: HOW BIG DATA INCREASES INEQUALITY AND THREATENS DEMOCRACY 105–22 (2016); Cynthia Estlund, *What Should We Do After Work? Automation and Employment Law*, 128 YALE L.J. 254, 258 (2018).

[28] *See infra* Section II.C.2.

[29] *See* BRETT FRISCHMANN & EVAN SELINGER, RE-ENGINEERING HUMANITY 1 (2018) ("As we collectively race down the path toward smart techno-social systems that efficiently govern more and more of our lives, we run the risk of losing ourselves along the way.").

many others.[30] However, technological breakthroughs have also raised serious ethical concerns due to their potentially detrimental effects.[31] For example, industrial leaders have cautioned that the recent, rapid development of AI may lead to a third world war[32] or even bring about humanity's end.[33] Relying on the concept of corporate fundamental responsibility, this Article urges that it is incumbent upon technology companies to seriously consider their role in minimizing technology's detrimental effects. To do so, they must properly respond to the legitimate needs of technology users and promote social justice.

Second, this Article deals with inadequacies in the conventional concept of corporate social responsibility in its legal application to technology companies. Since its inception, the concept of corporate social responsibility has remained weak and few companies have ever taken it seriously.[34] I contend that companies' social responsibilities must be made as concrete as possible so that they can serve

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[30] *See* ANDREW MCAFEE & ERIK BRYNJOLFSSON, MACHINE, PLATFORM, CROWD: HARNESSING OUR DIGITAL FUTURE 330 (2017) ("We have more powerful technology at our disposal than ever before, both as individuals and as a society.").

[31] *See generally, e.g.*, MARTIN HEIDEGGER, THE QUESTION CONCERNING TECHNOLOGY AND OTHER ESSAYS (1977) (discussing the dangerous orientation of technology); HANS JONAS, THE IMPERATIVE OF RESPONSIBILITY: IN SEARCH OF AN ETHICS FOR THE TECHNOLOGICAL AGE (1985) (pointing out the threats posed by modern technology).

[32] Alex Hern, *Elon Musk Says AI Could Lead to Third World War*, GUARDIAN (Sept. 4, 2017, 6:58 AM), https://www.theguardian.com/technology/2017/sep/04/elon-musk-ai-third-world-war-vladimir-putin; Catherine Clifford, *Elon Musk: 'Mark My Words — A.I. Is Far More Dangerous than Nukes'*, CNBC (Mar. 13, 2018, 1:22 PM), https://www.cnbc.com/2018/03/13/elon-musk-at-sxsw-a-i-is-more-dangerous-than-nuclear-weapons.html; Ryan Browne, *Alibaba's Jack Ma Suggests Technology Could Result in a New World War*, CNBC (Jan. 23, 2019, 9:29 AM), https://www.cnbc.com/2019/01/23/alibaba-jack-ma-suggests-technology-could-result-in-a-new-world-war.html.

[33] *Stephen Hawking Launches Centre*, *supra* note 14 (reporting Stephen Hawking's comment that "the rise of powerful AI will be either the best, or the worst thing, ever to happen to humanity").

[34] *See, e.g.*, Anupam Chander, *Googling Freedom*, 99 CALIF. L. REV. 1, 6 (2011) ("The many volumes theorizing corporate social responsibility often fail even to consider the possibility that those providing information services over the Internet have such responsibilities.").

as conduct codes for corporate managers. This concept of corporate fundamental responsibility clearly identifies three fundamental responsibilities that technology companies must accept. The idea of corporate social responsibility has not been implemented legally through legislative reforms and judicial rulings. To address this problem, I discuss how the concept of corporate fundamental responsibility could be enforced effectively through privacy and intellectual property law. I argue that technology companies should opt for the highest legal standards—such as those contained in the European Union's General Data Protection Regulation ("GDPR")[35]—to protect personal data adequately.[36] Drawing on *Federal Trade Commission v. Qualcomm, Inc.*,[37] I examine how technology companies should exercise their intellectual property rights responsibly.

Third, this Article offers a constructive solution to a theoretical as well as a practical issue that the information fiduciary approach has not yet addressed. This groundbreaking approach, championed by Professor Jack Balkin, has received a lot of attention. Based on the conventional fiduciary doctrine, the information fiduciary approach sees technology companies as the fiduciaries of their users' private data, thereby imposing heightened duties upon corporate managers in protecting the private data.[38] However, this approach

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[35] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the Protection of Natural Persons with Regard to the Processing of Personal Data and on the Free Movement of Such Data, and Repealing Directive 95/46/EC (General Data Protection Regulation), 2016 O.J. (L 119) 1 [hereinafter GDPR].

[36] *See infra* Section III.A.

[37] Fed. Trade Comm'n v. Qualcomm Inc., 935 F.3d 752 (9th Cir. 2019).

[38] Jack M. Balkin, *Information Fiduciaries and the First Amendment*, 49 U.C. DAVIS L. REV. 1183, 1209 (2016) [hereinafter Balkin, *Information Fiduciaries and the First Amendment*] ("An information fiduciary is a person or business who, because of their relationship with another, has taken on special duties with respect to the information they obtain in the course of the relationship. People and organizations that have fiduciary duties arising from the use and exchange of information are information fiduciaries whether or not they also do other things on the client's behalf, like manage an estate or perform legal or medical services."); Jack M. Balkin, *Free Speech in the Algorithmic Society: Big Data, Private Governance, and New School Speech Regulation*, 51 U.C. DAVIS L. REV. 1149, 1162 (2018) [hereinafter Balkin, *Free Speech in the Algorithmic Society*] ("Who are the new information fiduciaries in the digital age? They are organizations and enterprises who collect enormous amounts of information about their end-users.").

neglects the concurrent fiduciary duty of corporate managers to serve their shareholders' interests.[39] While corporate managers must protect users' interests in personal data as the information fiduciary approach suggests, they must also fulfill their fiduciary duties to maximize their shareholders' interests.[40] A major problem with the information fiduciary approach, therefore, is its inability to address this potential conflict.

Without relying on the conventional fiduciary doctrine, the concept of corporate fundamental responsibility applies the ethical theories of reciprocity, role responsibility, and social justice. As I will show in this Article, this concept offers a theoretical account of why the fundamental responsibilities of technology companies could trump corporate managers' fiduciary duty to shareholders of these companies. Moreover, the concept deals not only with the protection of private data but also responsible use of intellectual property by technology companies, which is an issue of pivotal importance for guarding the public interest.[41]

The remainder of this Article is structured as follows. In Part I, I reveal that both the shareholder value theory and U.S. legal reforms of the past twenty years or so have led technology companies to neglect their fundamental responsibilities. I then put forward in Part II the concept of corporate fundamental responsibility. Drawing on the

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[39] *See* Singer v. Magnavox Co., 380 A.2d 969, 976–77 (Del. 1977) (noting that under Delaware law, officers, directors, and controlling shareholders are corporate fiduciaries), *overruled on other grounds by* Weinberger v. UOP, Inc., 457 A.2d 701 (Del. 1983).

[40] *See* Lina M. Khan & David E. Pozen, *A Skeptical View of Information Fiduciaries*, 133 HARV. L. REV. 497, 503 (2019) ("Balkin's central example of a purported information fiduciary, Facebook, is a Delaware corporation. So are his other main examples, Google, Twitter, and Uber. Under Delaware law, the officers and directors of a for-profit corporation already owe fiduciary duties — to the corporation and its stockholders."); Philip Lynch, *Human Rights and Corporate Social Responsibility: An Australian Perspective*, 1 CORP. GOVERNANCE L. REV. 402, 416 (2006) (pointing out that charity schemes in favor of social and environmental interests should be "subverted to shareholders' financial interests to the extent of any incompatibility or inconsistency").

[41] *See* Sonia K. Katyal, *Private Accountability in the Age of Artificial Intelligence*, 66 UCLA L. REV. 54, 60 (2019) (pointing out that "the true potential of AI does not lie in the information we reveal to one another, but rather, in the questions they raise about the interaction of technology, intellectual property, and civil rights").

ethical theories of reciprocity, role responsibility, and social justice, I discuss how and why three fundamental responsibilities should be imposed upon technology companies. In Part III, I further analyze how these responsibilities could be enforced legally and ethically to protect personal data and promote responsible use of intellectual property by technology companies.

I. CREATING THE AGE OF IRRESPONSIBILITY

A. *Theoretical Support for Minimizing Responsibilities*

For decades, shareholder value theory has catalyzed the minimization of technology companies' responsibilities, leading the world to fully support the maximization of their wealth growth as they continue to innovate new technologies. This theory first emerged as a dominant and influential school of thought in shaping the development of corporate responsibilities to society.[42] Nobel Laureate in Economics Milton Friedman was the main champion of this theory. In *Capitalism and Freedom*, published in 1962, he stated the following:

> The view has been gaining widespread acceptance that corporate officials and labor leaders have a "social responsibility" that goes beyond serving the interest of their stockholders or their members. This view shows a fundamental misconception of the character and nature of a free economy. In such an economy, there is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud.[43]

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[42] *See* Domènec Melé, *Corporate Social Responsibility Theories*, *in* THE OXFORD HANDBOOK OF CORPORATE SOCIAL RESPONSIBILITY 47, 56 (Andrew Crane et al. eds., 2008) (pointing out that shareholder value theory "has been dominant in many business schools").

[43] MILTON FRIEDMAN, CAPITALISM AND FREEDOM 133 (1962).

According to this opinion, the only social responsibility of a company is to make as much profit as possible for its shareholders. To this end, the directors of a company, who serve as agents managing the company for the shareholders as principals, should make decisions designed to maximize shareholders' interests.[44] Therefore, corporate directors' responsibility is solely to serve shareholders' interests rather than societal interests at large.[45]

Against this backdrop, shareholder value theory categorically denies that companies should be legally required to take any social responsibility.[46] In Friedman's eyes, companies are, by nature, profit-maximizing institutions.[47] As long as they pursue profit-driven agendas legally, the law must not impose any social responsibilities upon them.[48] Social responsibility initiatives would directly prevent corporate directors from wholeheartedly serving shareholders' interests, thereby indirectly undermining the bedrock of a free economy.[49]

Shareholder value theory has been applied to fundamentally shape corporate law's exclusion of social responsibilities and effectively defy corporate social responsibility initiatives. Based upon

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[44] Friedman further clarified his opinion in a later *New York Times* article, stating that "the manager is the agent of the individuals who own the corporation or establish the eleemosynary institution, and his primary responsibility is to them." Milton Friedman, *The Social Responsibility of Business Is to Increase its Profits*, N.Y. TIMES, Sept. 13, 1970, § 6 (Magazine), at 33.

[45] *Id*. ("[A] corporate executive . . . has direct responsibility to conduct the business in accordance with [shareholder] desires, which generally will be to make as much money as possible while conforming to [the] basic rules of the society, both those embodied in law and those embodied in ethical custom.").

[46] José Salazar & Bryan W. Husted, *Principals and Agents: Further Thoughts on the Friedmanite Critique of Corporate Social Responsibility*, *in* THE OXFORD HANDBOOK OF CORPORATE SOCIAL RESPONSIBILITY, *supra* note 42, at 137, 150 ("Friedman's original critique of corporate social responsibility remains one of the most important in the CSR literature.").

[47] FRIEDMAN, *supra* note 43, at 33 ("[T]here is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition, without deception or fraud.").

[48] *Id.*

[49] *Id.* at 135 (stating that of "the claim that business should contribute to the support of charitable activities and especially to universities" that "[s]uch giving by corporations is an inappropriate use of corporate funds in a free-enterprise society").

this theory, U.S. corporate law treats companies as profit-maximizing institutions and thereby imposes no social responsibilities upon them.[50] The fiduciary duty doctrine epitomizes the law's espousal of shareholder value theory.[51] Pursuant to this doctrine, the directors of a company, in carrying out their managerial tasks, are charged with certain fiduciary duties to the shareholders of the company.[52] The doctrine primarily imposes a duty of care and a duty of loyalty. The duty of care requires that "prior to making a business decision," directors inform themselves "of all material information reasonably available to them."[53] Rather than simply accept information presented to them, directors must assess this information with a "critical eye" in order to protect the interests of the corporation and its shareholders.[54] The duty of loyalty requires that, in serving as corporate fiduciaries, the directors and officers of a company should make all decisions in good faith and in the best interest of the shareholders.[55] Therefore, this duty elevates "stockholder welfare as the only end" of corporate decisions, thereby only allowing the consideration of

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[50] It is worth noting that corporate tax should be deemed a compulsory legal duty under tax law rather than a social responsibility.

[51] *See* Brian R. Cheffins, *Does Law Matter? The Separation of Ownership and Control in the United Kingdom*, 30 J. LEGAL STUD. 459, 464 (2001) ("A director's duty of loyalty is another type of legal rule that can help to provide a protective environment for investors [because] . . . managerial self-dealing will potentially constitute breaches of duty."); Simon Johnson et al., *Tunneling*, 90 AM. ECON. REV. 22, 26 (2000) (discussing how the duties of loyalty and care are important in protecting minority shareholder rights, which promotes the development of capital markets).

[52] *See, e.g.*, Dodge v. Ford Motor Co., 170 N.W. 668, 684 (Mich. 1919); Francis v. United Jersey Bank, 432 A.2d 814, 824 (N.J. 1981); Revlon, Inc. v. MacAndrews & Forbes Holdings, Inc., 506 A.2d 173, 179 (Del. 1986); Polk v. Good, 507 A.2d 531, 536 (Del. 1986).

[53] Aronson v. Lewis, 473 A.2d 805, 812 (Del. 1984). In practice, whether the directors were informed of all the relevant information depends on the quality of the information, the advice available, and whether the directors had "sufficient opportunity to acquire knowledge concerning the problem before acting." Moran v. Household Intern., Inc., 490 A.2d 1059, 1075 (Del. Ch. 1985).

[54] Smith v. Van Gorkem, 488 A.2d 858, 872 (Del. 1985).

[55] According to the Delaware Supreme Court, "[c]orporate officers and directors are not permitted to use their position of trust and confidence to further their private interests." Guth v. Loft, 5 A.2d 503, 510 (Del. 1939).

"other interests" that are "rationally related to stockholder welfare."[56]

Due to the dominance of shareholder value theory in policy-making, theorist and activist campaigns for corporate social responsibility have produced only limited effects. Scholars have put forward ethical responsibility and corporate citizenship theories to justify corporate social responsibility. These theories have lent strong support to the creation of corporate social responsibility initiatives such as the United Nations Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights.[57] However, only a tiny proportion of major corporations in the world are members of such initiatives.[58]

Having instead focused on issues such as environmental protection, scholars and policy-makers have not yet comprehensively scrutinized the relationship between corporate social responsibility and technology companies.[59] In fact, in the past twenty years or so, the major technology companies have been largely immune from scrutiny over whether they should have strong social responsibilities imposed upon them. Many scholars and policy-makers have forcefully argued that technology companies—in particular online intermediaries—should bear as few responsibilities as possible. Otherwise, technology companies would be financially over-burdened and their *innovation* would ultimately be stifled, resulting in graver financial losses.[60] Following this line of reasoning, Congress adopted laws minimizing the responsibilities of online intermediaries.[61]

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[56] Frederick Hsu Living Tr. v. ODN Holding Corp., No. 12108, 2017 WL 1437308, at *17 (Del. Ch. Apr. 24, 2017).

[57] U.N. Sub-Commission on the Promotion and Protection of Human Rights, Norms on the Responsibilities of Transnational Corporations and Other Business Enterprises with Regard to Human Rights, U.N. Doc. E/CN.4/Sub.2/2003/12/Rev.2 (Aug. 26, 2003).

[58] Alwyn Lim & Kiyoteru Tsutsui, *The Social Regulation of the Economy in the Global Context*, *in* CORPORATE SOCIAL RESPONSIBILITY IN A GLOBALIZING WORLD 12 (Kiyoteru Tsutsui & Alwyn Lim eds., 2015).

[59] *Id*. at 8–9.

[60] *See* Anupam Chander, *How Law Made Silicon Valley*, 63 EMORY L.J. 639, 645 (2014) [hereinafter Chander, *How Law Made Silicon Valley*] (discussing these policy arguments).

[61] *Id*.

The upshot of the minimization of technology companies' responsibilities is that the whole world cares too much about the economic value of these companies. Those who invest in technology companies are primarily interested in whether these companies can eventually go public and how much their stock value will soar. The media has become a cheerleader, following and reporting technology companies' stock market listing successes.[62] Therefore, as technology companies' wealth has skyrocketed, they have been immune from ethical scrutiny of their responsibilities.[63]

B. *Legal Support for Minimizing Responsibilities*

Swayed by the shareholder value theory, the U.S. Congress has enacted major statutes to minimize the legal liability of technology companies with respect to online infringing acts, privacy protection, and payment of taxes. However, these legal reforms have had the unintended consequence of breeding a mentality of irresponsibility among many technology companies.[64]

1. EXEMPTING LIABILITIES OF INTERNET SERVICE PROVIDERS

In the 1990s, reforms of intermediary platforms' legal liabilities contributed tremendously to the rapid growth of technology companies. Under the Clinton administration, laws and regulations that hindered electronic commerce were reviewed, and in some cases

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[62] *See* Ryan Chittum, *The Press and the Tech Bubble*, COLUM. JOURNALISM REV. (Apr. 9, 2014), https://archives.cjr.org/the_audit/thinking_about_the_bubble.php.

[63] A notable exception is the recent media discussion about Uber's IPO. *See, e.g.*, Farhad Manjoo, *The Uber I.P.O. Is a Moral Stain on Silicon Valley*, N.Y. TIMES (May 1, 2019), https://www.nytimes.com/2019/05/01/opinion/uber-ipo.html.

[64] *See* Haochen Sun, *Copyright and Responsibility*, 4 HARV. J. SPORTS & ENT. L. 263, 271 (2013) [hereinafter Sun, *Copyright*] (explaining how "us[ing] the language of rights and its rhetorical power" can cause irresponsibility mentality); SCOTT VEITCH, LAW AND IRRESPONSIBILITY: ON THE LEGITIMATION OF HUMAN SUFFERING 72 (2007) ("Immunised by the mechanisms of responsibility transference, underpinned by the naturalised economic realm of rights to private property upheld at almost any cost by state institutions, the irresponsible mentality appears not only as widely prevalent, but as legitimate. And such organized irresponsibility and legitimised immunities are call 'the law.'").

eliminated, to respond to the needs of a new era of digital technology.[65]

The first stage of legal reforms dealt with the extent to which Internet service providers should be shielded from civil liability for online infringing acts. Congress enacted the Communications Decency Act ("CDA") in 1996 as a legal tool to give Internet service providers immunity from their platform users' illegal activities, such as spreading defamatory information and provoking racial discrimination.[66] Before 1996, judicial rulings had exposed Internet service providers to high risks, holding them accountable for illegal activities occurring on their platforms. In *Stratton Oakmont, Inc. v. Prodigy Services Co.*,[67] an investment firm sued Prodigy, an Internet service provider, for defamation based on comments by a third party on Prodigy's online bulletin boards.[68] Because of its editorial control, Prodigy was found liable as the publisher of the bulletin board content created by its users.[69] By overruling *Stratton Oakmont*, § 230 of the CDA provides that Internet service providers should not be treated as publishers of material that they did not develop,[70] thereby generally protecting them from liability for user-generated content.

Given that § 230 does not deal with intellectual property claims,[71] the second stage of legal reforms dealt with the extent to which Internet service providers should be exempted from copyright liabilities arising from online infringing acts. The online platforms operated by Internet service providers allowed their users to reproduce and disseminate copyrighted works with unprecedented ease. The frequency with which users might infringe copyrights exposed Internet service providers to contributory or vicarious liabilities to a

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[65] William J. Clinton & Albert Gore, Jr., *A Framework for Global Electronic Commerce: Read the Framework*, CLINTON WHITE HOUSE, https://clintonwhitehouse4.archives.gov/WH/New/Commerce/read.html (last visited Jan. 18, 2020).

[66] Telecommunications Act of 1996, Pub. L. No. 104-104, §§ 501–61, 110 Stat. 56, 133–43 (codified as amended in scattered sections of 18 and 47 U.S.C.).

[67] 1995 WL 323710 (N.Y. Sup. Ct. 1995).

[68] *Id.* at *1.

[69] *Id.* at *7.

[70] 47 U.S.C. § 230(c)(1) (2018).

[71] *Id.* § 230(e)(2).

dire and unmanageable extent.[72] In this context, the Digital Millennium Copyright Act ("DMCA") was enacted in 1998 to set up a safe harbour for Internet service providers, shielding them from liability for their users' infringements of copyright.[73]

The DMCA has contributed positively to the legitimacy and survival of Internet service providers. One of DMCA's primary legislative objectives was to preserve "strong incentives for service providers and copyright owners to cooperate to detect and deal with copyright infringements that take place in the digital networked environment."[74] This collaboration operates as a notice-and-takedown system, whereby copyright owners have the right to order Internet service providers to remove works and in return the latter are immunized from copyright infringement liabilities.[75]

2. WEAKENING PRIVACY PROTECTION

The current privacy protection regime in the U.S. is focused on addressing technological innovation. Not only is there a lack of strong privacy regulations and laws, but the existing laws appear to accommodate the interests of technology companies.[76]

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[72] BRIAN YEH & ROBIN JEWELER, CONG. RESEARCH SERV., RL32037, SAFE HARBOR FOR SERVICE PROVIDERS UNDER THE DIGITAL MILLENNIUM COPYRIGHT ACT 1 (2004).

[73] Digital Millennium Copyright Act, Pub. L. No. 105-304, §§ 201–03, 112 Stat. 2860, 2877–86 (1998) (codified as amended in scattered sections of 5, 17, 28, and 35 U.S.C.).

[74] H.R. REP. NO. 105-796, at 72 (1998) (Conf. Rep.).

[75] 17 U.S.C. §§ 512(b)(E), (c)(C), (d)(3) (2018).

[76] A lax privacy regime allows Internet service providers to accumulate high profits while also allowing for greater innovation. For instance, Chander notices that many Internet services rely upon a trial-and-error for innovation. Chander, *How Law Made Silicon Valley*, *supra* note 60, at 666–67. What this means is that Internet services may test out new products or programs on their website and see how users respond. *Id.* Depending on this response, their product or program can be retracted completely or modified. *Id.* This type of experimentation allows these Internet companies to respond quickly to the market. *Id.* This reveals how weak privacy laws have actually enabled high technology firms to flourish into corporations worth billions of dollars.

The U.S. privacy protection regime has been accused of being generally less robust than its E.U. counterpart.[77] This stems partly from the weak status of information privacy in the U.S. Constitution. In terms of privacy protection, the Constitution only guards against intrusion by the government, thereby playing little role in governing breach of privacy by private actors.[78] In this sense, the free flow of information through private transactions has been given priority over the right to privacy. Further, the Constitution does not protect privacy as a fundamental right. Rather, this right is accepted as implied in the Fourth, Fifth, and Fourteenth Amendments.[79]

The United States also lacks a single, coherent and comprehensive federal law that regulates the collection and use of personal data. Instead, it has chosen to implement sector-specific (e.g., financial institutions, healthcare entities, and communications common carriers) and type of information-specific (e.g., children's information on the Internet) federal data protection laws, complemented by state laws, administrative regulations, and industry specific self-regulatory guidelines.[80] This sectoral approach to personal data protection can be seen as a piecemeal response to privacy issues arising in specific sectors that leaves large areas, such as collection of personal data, unregulated in the age of big data and AI.[81] The mishmash of federal, state, and industry regulations create overlapping and contradictory protections. Furthermore, these data privacy laws are largely based on the principles of both tort law and contract law, which can result in conflicting interpretations and applications.[82]

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[77] *See, e.g.*, Shawn Marie Boyne, *Data Protection in the United States*, 66 AM. J. COMP. L. 299, 299 n.3 (2018); Svetlana Yakovleva, *Privacy Protection(ism): The Latest Wave of Trade Constraints on Regulatory Autonomy*, 74 U. MIAMI L. REV. 416, 473–81 (2020).

[78] Paul M. Schwartz & Karl-Nikolaus Peifer, *Transatlantic Data Privacy Law*, 106 GEO. L.J. 115, 155 (2017).

[79] U.S. CONST. amends. IV, V, XIV.

[80] Boyne, *supra* note 77, at 299.

[81] *See* Daniel J. Solove & Woodrow Hartzog, *The FTC and the New Common Law of Privacy*, 114 COLUM. L. REV. 583, 587 (2014); Avner Levin & Mary Jo Nicholson, *Privacy Law in the United States, the EU and Canada: The Allure of the Middle Ground*, 2 U. OTTAWA L. & TECH. J. 357, 361–67 (2005).

[82] Carolyn Hoang, *In the Middle: Creating a Middle Road Between U.S. and EU Data Protection Policies*, 32 J. NAT'L ASS'N ADMIN. L. JUDICIARY 810, 843 (2012).

Moreover, the absence of a designated central data protection authority has been another factor contributing to weak protection of personal data in the United States.[83] The FTC has essentially assumed responsibility for consumer protection, which covers the online protection of personal data.[84] However, the FTC can only provide limited protection due to inherent problems in the Federal Trade Commission Act ("FTCA").[85] Section 45(a) of the FTCA is seen as restrictive, as it only enables users to sue in cases where an Internet service provider has committed "unfair or deceptive acts or practices in or affecting commerce."[86] It essentially means, as Professor Anupam Chander notes, that "as long as the services do not promise more privacy than they actually deliver, online companies in the United States have a free hand with information."[87]

3. PROVIDING TAX DEDUCTION INCENTIVES

Legal reforms also pushed for the provision of tax incentives to technology companies. In 1998, the U.S. Congress enacted the Internet Tax Freedom Act ("ITFA").[88] The underpinnings of this Act were to promote the growth and development of the Internet and its commercial, educational, and informational potential at a time when its preservation was seen as a necessity.[89] As Conyers states, "[t]he act was intended as a temporary measure to assist and nurture the

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[83] Steven Chabinsky & F. Paul Pittman, *USA: Data Protection 2019*, ICLG (Mar. 7, 2019), https://iclg.com/practice-areas/data-protection-laws-and-regulations/usa.

[84] *See generally Bureau of Consumer Protection*, FED. TRADE COMMISSION, https://www.ftc.gov/about-ftc/bureaus-offices/bureau-consumer-protection (last visited Jan. 18, 2020) (explaining that "[t]he FTC's Bureau of Consumer Protection stops unfair, deceptive and fraudulent business practices by collecting complaints and conducting investigations, suing companies and people that break the law, developing rules to maintain a fair marketplace, and educating consumers and businesses about their rights and responsibilities").

[85] Federal Trade Commission Act, 15 U.S.C. §§ 41–58 (2018).

[86] *Id*. at § 45(a)(1).

[87] Chander, *How Law Made Silicon Valley*, *supra* note 60, at 667.

[88] Internet Tax Freedom Act, Pub. L. No. 105-277, 112 Stat. 2681 (1998).

[89] Grant Gross, *U.S. House Approves Permanent Ban on Internet Access Taxes*, PC WORLD (July 15, 2014, 12:03 PM), https://www.pcworld.com/article/2454420/us-house-approves-permanent-ban-on-internet-access-taxes.html.

fledgling Internet that back in 1998 was still in its commercial infancy."[90] The ITFA prevented state and local governments from taxing Internet access or imposing multiple or discriminatory taxes on electronic commerce.[91] As a result, exposure and support for what are now billion-dollar Internet companies such as Google were not compromised.

Moreover, the U.S. government supports business research and development ("R&D") through direct R&D funding as well as tax incentives. In the U.S. federal tax system, two tax incentives are provided for business R&D investment. The first is an unlimited expensing allowance for qualified research spending.[92] The second and most important is the research and experimentation tax credit, which provides a non-refundable income tax credit for qualified R&D expenditures.[93] This corporate R&D tax credit was established in 1981 with the aim of incentivizing technological innovation in response to the decline in R&D expenditures relative to the real gross national product from 1968 to 1979.[94] The recent tax reform increases the tax value of the R&D tax credit indirectly and encourages corporations to relocate their R&D activities back to the United States.[95] The maximum assistance available to large corporates by way of R&D tax credit is 15.8% of qualified research expenditure.[96]

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[90] *Id.*

[91] *Id.*

[92] 26 U.S.C. § 174 (2012).

[93] Economic Recovery Tax Act of 1981, Pub. L. No. 97-34, § 221, 95 Stat. 172, 241–47.

[94] STAFF OF JOINT COMM. ON TAXATION, 97TH CONG., GENERAL EXPLANATION OF THE ECONOMIC RECOVERY TAX ACT OF 1981 119–20 (Comm. Print 1981) ("In the case of research and development activities conducted by business, company-financed and Federal expenditures over the 12-year period 1968–79 remained at a fairly stable level in real terms, fluctuating between $19 and $22.8 billion in constant dollars. Relative to real gross national product, such expenditures for company research declined from 2.01 percent in 1968 to 1.58 percent in 1975, essentially remaining at that level since then.").

[95] ERNST & YOUNG, R&D INCENTIVES CONTINUE TO DRAW GOVERNMENT FAVOR: REFLECTIONS FROM EY'S THE OUTLOOK FOR GLOBAL TAX POLICY IN 2018 9 (2018), https://www.ey.com/Publication/vwLUAssets/ey-rd-incentives-in-2018/$FILE/ey-rd-incentives-in-2018.pdf.

[96] DELOITTE, SURVEY OF GLOBAL INVESTMENT AND INNOVATION INCENTIVES 269 (2018), https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-survey-of-global-investment-and-innovation-incentives.pdf.

Major technology companies have benefited tremendously from tax incentive regimes. For instance, Tesla received a $1.25 billion tax break over twenty years for its deal to build a battery factory in Nevada, and Apple received a $214 million tax break for setting up a data center in Iowa.[97] Tax incentives like these are of importance to technology companies, especially those in the start-up period. For a lot of start-up companies in the technology field, finding and keeping the right technically skilled workers can be a challenge and their revenues may be low while costs soar.[98] Presenting firms with tax incentives, therefore, helps stabilize their workforce.[99]

4. BREEDING A MENTALITY OF IRRESPONSIBILITY

Although the lax regulatory system introduced by the statutes discussed above undoubtedly promoted innovation, it has created an environment in which technology companies have been able to act irresponsibly. Without users' knowledge or consent, these companies have disclosed personal data to third parties and/or used private data for targeted advertising.

Beyond the Cambridge Analytica scandal, Facebook has misused private data in a considerable number of incidents. In 2011, Facebook agreed to settle FTC charges alleging it had made false and misleading material statements to its users related to user privacy.[100] Facebook deceived its users by assuring them they could

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[97] Ron Miller, *Amazon Isn't the Only Tech Company Getting Tax Breaks*, TECHCRUNCH (Aug. 25, 2018, 9:00 AM), https://techcrunch.com/2018/08/25/amazon-isnt-the-only-tech-company-getting-tax-breaks.

[98] Lynda Finan, *Government Investment in Technology: How Governments Use Tax Regimes to Attract R&D Activity*, DLA PIPER (Jan. 17, 2018), https://www.dlapiper.com/en/uk/insights/publications/2018/01/government-investment-in-technology.

[99] *Id*. Tax incentives allow high tech firms to focus on research and development. Research and development lead to innovation, and, in a highly competitive field like technology, innovation is crucial for business survival. The United Kingdom has set out objectives such as a $2.3 billion investment into research and development in 2021 and 2022 in order to secure themselves as the most innovative nation by 2030. *Id.* This objective of the United Kingdom perfectly demonstrates the importance of research and development, and, thus, highlights why tax incentives can be of high importance for technology firms.

[100] *Facebook Settles FTC Charges That It Deceived Consumers by Failing to Keep Privacy Promises*, FED. TRADE COMMISSION (Nov. 29, 2011),

keep their information on Facebook private, and then, without their knowledge or consent, repeatedly allowing it to be shared and made public.[101] It was reported that Facebook had harvested the email contacts of 1.5 million users without their knowledge or consent since May 2016, asking new users for email passwords and then importing email contacts without users' permission.[102] Due to a software glitch, Google inadvertently exposed the name, email addresses, age and other personal information of 52.5 million Google+ users to third party developers between 2015 and March 2018,[103] causing Google to accelerate its plan to shut down Google+.[104] However, it was reported that Google intentionally opted not to disclose the incident as early as possible, partly because it was worried the incident would trigger "immediate regulatory interest" and lead to reputational damage.[105]

Moreover, technology companies have irresponsibly operated targeted advertising by taking advantage of users' personal data without their consent. If a user searches for a product using Google's search engine service, an advertisement for the same product may appear on their Instagram feed shortly afterwards. Internet users are also likely to be familiar with variations of the statement "this website uses cookies for the best possible search experience." In this

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https://www.ftc.gov/news-events/press-releases/2011/11/facebook-settles-ftc-charges-it-deceived-consumers-failing-keep.

[101] *Id.* The settlement agreement, which became final in 2012, prohibited Facebook from misrepresenting the extent to which it maintained their data privacy and security and required Facebook to seek express consent from its users before sharing their information beyond their privacy settings. Facebook, Inc., 0923184 F.T.C. No. C-4365, at 3–4 (2012); *see also FTC Approves Final Settlement with Facebook*, FED. TRADE COMMISSION (Aug. 10, 2012), https://www.ftc.gov/news-events/press-releases/2012/08/ftc-approves-final-settlement-facebook.

[102] Rob Price, *Facebook Says it 'Unintentionally Uploaded' 1.5 Million People's Email Contacts Without Their Consent*, BUS. INSIDER (Apr. 17, 2019, 8:07 PM), https://www.businessinsider.com/facebook-uploaded-1-5-million-users-email-contacts-without-permission-2019-4?r=US&IR=T.

[103] Douglas MacMillan & Robert McMillan, *Google Exposed User Data, Feared Repercussions of Disclosing to Public*, WALL ST. J. (Oct. 8, 2018), https://www.wsj.com/articles/google-exposed-user-data-feared-repercussions-of-disclosing-to-public-1539017194; Lily Hay Newman, *A New Google+ Blunder Exposed Data From 52.5 Million Users*, WIRED (Dec. 10, 2018, 2:19 PM), https://www.wired.com/story/google-plus-bug-52-million-users-data-exposed/.

[104] MacMillan & McMillan, *supra* note 103.

[105] *Id.*

way, technology companies have gone beyond their roles as search engine service providers and social media outlets. Rather, they are shrewdly run billion-dollar corporations depending heavily on advertising. For instance, in 2018, Facebook made more than $50 billion in advertising revenue; 98.5% of its total revenue.[106] Targeted advertisements are specifically transmitted to individuals by utilizing personal data collected by technology companies routinely and without the targets' consent.[107] How much a technology company knows about an individual will determine how much money it can make.[108]

Before the overhaul of the U.S. tax system in 2017, a federal corporate income tax was imposed on U.S. companies at a rate of 35% of their worldwide profits.[109] However, companies could indefinitely defer payment of taxes on profits earned abroad as long as these profits were retained offshore.[110] The difference in tax rates between the United States and overseas jurisdictions incentivized many U.S.-based multinational companies to adjust their corporate structures to enjoy the tax benefits.

Apple, for example, took advantage of such a tax gap between United States and offshore jurisdictions. It transferred large amounts of its profits to offshore subsidiaries in tax havens such as Ireland and the Channel Island of Jersey to avoid tens of billions of dollars in U.S. taxes.[111] In 2016, the European Commission found that Ire-

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[106] Matthew Johnston, *How Facebook Makes Money: Advertising Dominates Revenue, but Growth Is Slowing*, INVESTOPEDIA, https://www.investopedia.com/ask/answers/120114/how-does-facebook-fb-make-money.asp (last updated Jan. 12, 2020).

[107] *See* Louise Matsakis, *Facebook's Targeted Ads Are More Complex than It Lets On*, WIRED (Apr. 25, 2018, 4:04 PM), https://www.wired.com/story/facebooks-targeted-ads-are-more-complex-than-it-lets-on/.

[108] Joanna Glasner, *What Search Sites Know About You*, WIRED (Apr. 5, 2005, 2:00 AM), https://www.wired.com/2005/04/what-search-sites-know-about-you/.

[109] Jesse Drucker, *How Tax Bills Would Reward Companies That Moved Money Offshore*, N.Y. TIMES (Nov. 29, 2017), https://www.nytimes.com/2017/11/29/business/taxes-offshore-repatriation.html.

[110] *Id.*

[111] Jesse Drucker & Simon Bowers, *The Paradise Papers: After a Tax Crackdown, Apple Found a New Shelter for Its Profits*, N.Y. TIMES (Nov. 6, 2017), https://www.nytimes.com/2017/11/06/world/apple-taxes-jersey.html.

land gave illegal state aid to Apple by levying lower than 1% effective corporate tax on Apple, where the prevailing Irish corporate tax rate was 12.5%.[112] Apple saved €13 billion in taxes because of the aid.[113]

Congress enacted the Tax Cuts and Jobs Act in 2017.[114] The Act reduces the tax rate on money repatriated to the United States from 35% to 15.5%.[115] Amazon has been a beneficiary of the tax cuts.[116] Although it earned more than $11 billion in profits in 2018, it paid zero federal corporate income tax owing to the reduction in tax rates for corporations, carry-forward losses from previous years, R&D tax credit and stock-based employee compensation.[117] Furthermore, Amazon received a $129 million federal income tax rebate, which made its tax rate -1%.[118]

II. JUSTIFYING THE THREE FUNDAMENTAL RESPONSIBILITIES

How should we deal with irresponsible technology companies? Statutes and regulatory measures were adopted largely on the assumption that these companies, in the startup stage, had little financial capacity and that minimizing their responsibilities would incentivize the development of innovative services and products. However, as discussed in the Introduction, the situation is now drastically

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[112] David Meyer, *Apple Has Paid the $14.3 Billion It Owes the Irish Tax Authorities—But the Check Hasn't Cleared Yet*, FORTUNE (Sept. 19, 2018, 5:58 AM), https://fortune.com/2018/09/19/apple-ireland-tax-payments-escrow.

[113] *Ireland Forced to Collect Apple's Disputed €13Bn Tax Bill*, BBC (Dec. 5, 2017), https://www.bbc.com/news/business-42237312.

[114] Tax Cut and Jobs Act of 2017, Pub. L. No. 115-97, 131 Stat. 2054 (codified as amended at 26 U.S.C. § 1 (2018)).

[115] *What's in the Final Republican Tax Bill*, REUTERS (Dec. 20, 2017, 11:43 AM), https://www.reuters.com/article/us-usa-tax-provisions-factbox/whats-in-the-final-republican-tax-bill-idUSKBN1ED27K.

[116] Andrew Davis, *Why Amazon Paid No 2018 US Federal Income Tax*, CNBC (Apr. 4, 2019, 6:10 AM), https://www.cnbc.com/2019/04/03/why-amazon-paid-no-federal-income-tax.html.

[117] *Id.*

[118] Laura Stampler, *Amazon Will Pay a Whopping $0 in Federal Taxes on $11.2 Billion Profits*, FORTUNE (Feb. 14, 2019, 3:34 PM), https://fortune.com/2019/02/14/amazon-doesnt-pay-federal-taxes-2019.

different. As beneficiaries of those lax statutory and regulatory arrangements, the major technology companies are now among the richest and most sophisticated in the world.

It is high time to redefine the nature and scope of technology companies' responsibilities. Drawing on the ethical theories of reciprocity, role responsibility, and social justice, I discuss how and why three corporate fundamental responsibilities should be imposed upon technology companies: reciprocating users' contributions, playing roles positively, and confronting injustices created by technological development.

A. *The Responsibility to Reciprocate*

1. RECIPROCITY

As an ethical norm, reciprocity requires that one should respond to a positive action from another by returning proportionately his or her positive action.[119] Aristotle used friendship, one of the most basic human relationships, to illustrate the importance of reciprocity. According to him, positive friendship is a relationship in which two persons treat each other as equals and are willing to reciprocate each other's admiration and good deeds.[120] By contrast, negative friendship develops without the intention to reciprocate because the two persons only care about their own utility or pleasure.[121] Central to reciprocity, therefore, is that people must assume responsibility to take positive action in return for others' kindness.[122] Cicero regarded this

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[119] *See* LAWRENCE C. BECKER, RECIPROCITY 3 (1986). Conversely, reciprocity also allows one to respond to a negative action from another—such as a harmful or hurtful action—with indifference or retaliation. *Id.*; *see also* FRANCIS FUKUYAMA, TRUST: THE SOCIAL VIRTUES AND THE CREATION OF PROSPERITY 11 (1995) ("Law, contract, and economic rationality . . . must as well be leavened with reciprocity, moral obligation, duty toward community, and trust . . . . The latter are not anachronisms in a modern society but rather the sine qua non of the latter's success.").

[120] ARISTOTLE, NICOMACHEAN ETHICS bk. VIII, at 147, 149 (Roger Crisp ed. & trans., Cambridge Univ. Press 2000) (c. 384 B.C.E.) ("It is bad people who will tend to be friends for pleasure or utility . . . . But good people will be friends for each other's sake . . . .").

[121] *Id.* at 149.

[122] *See* MARTHA C. NUSSBAUM, WOMEN AND HUMAN DEVELOPMENT: THE CAPABILITIES APPROACH 72 (2000) ("The core idea of [human nature] is that of

as the bedrock of all ethical norms, emphasizing that "there is no more essential duty than that of returning kindness received; to omit the returning of kindness is impossible for a good man."[123]

Reciprocity is universally accepted and practiced because of its intrinsic value in stabilizing interpersonal relationships and societal institutions.[124] The ethos of reciprocity requires the recipient of a positive action to overcome his or her selfish impulses and consider how he or she could act in return in another's interest.[125] Therefore, it provides the original positive actor with the expectation that kindness will ultimately be responded to positively.[126] Through the repetition of reciprocal actions, people become more willing to initiate positive deeds for others and respond to others' positive deeds.[127]

Reciprocity involves two specific responsibilities. First, people have the responsibility to appreciate positive actions done by others for them.[128] They should be willing to recognize benefits received and identify ways in which those benefits have promoted their well-being. This process of appreciation motivates one to take reciprocal action. Indifference to others' positive actions will preclude any possibility of reflecting on the positive consequences of those actions.

Second, people have the responsibility to act in return for benefits received as a result of others' actions. Central to "[r]eciprocity is a moral idea situated between impartiality, which is altruistic, on the one side and mutual advantage on the other."[129] Reciprocation may

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the human being as a dignified free being who shapes his or her own life in cooperation and reciprocity with others, rather than being passively shaped or pushed around by the world in the manner of a 'flock' or 'herd' animal.").

[123] Marcus Tullius Cicero, *De Officiis*, *in* ETHICAL WRITINGS OF CICERO 32 (Andrew P. Peabody, trans., 1887).

[124] *See* Alvin W. Gouldner, *The Norm of Reciprocity: A Preliminary Statement*, 25 AM. SOC. REV. 161, 171–76 (1960); *see* DAVID SCHMIDTZ, THE ELEMENTS OF JUSTICE 79 (2006) (arguing that reciprocity induces cooperation and "enables people to live together in mutually respectful peace").

[125] *See, e.g.*, Gouldner, *supra* note 124, at 170.

[126] *Id.*

[127] *See* GEORG SIMMEL, THE SOCIOLOGY OF GEORG SIMMEL 387 (Kurt H. Wolff ed. & trans., The Free Press 1950) (concluding that social equilibrium and cohesion only exist because of "the reciprocity of service and return service").

[128] *See, e.g.*, SCHMIDTZ, *supra* note 124, at 76 ("The art of reciprocity is partly an art of graciously acknowledging favors.").

[129] JOHN RAWLS, JUSTICE AS FAIRNESS: A RESTATEMENT 77 (Erin Kelly ed., 2001).

apply a mathematical formula, for example, in the case of a party who must pay off a specific amount of debt owed to the other party according to the contract between them.[130] More frequently, reciprocation takes the form of actions such as expressing appreciation verbally or in writing, or providing assistance or care.[131]

2. RECIPROCITY AND TECHNOLOGY COMPANIES

How should technology companies deal with the ethics of reciprocity? In this Section, I identify how users of technology companies' services have contributed to technology companies' market successes. I further argue that technology companies should take the responsibility to first appreciate users' contributions and then to consider how they should reciprocate by proactively protecting users' interests.

First, users have created a vast array of content, which has contributed immensely to the rapid development and success of social media platforms. As of January 2019, the number of active social media users had reached 3.48 billion.[132] A statistics report shows that Facebook users posted 510,000 comments, updated 293,000 user statuses, and uploaded 136,000 photos every minute in January

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[130] *See* SIMMEL, *supra* note 127, at 387 (commenting that "[a]ll contacts among men rest on the schema of giving and returning the equivalence").

[131] *See, e.g.*, IRIS MARION YOUNG, INCLUSION AND DEMOCRACY 30 (2000) ("The conditions of equal opportunity to speak and freedom from domination encourage all to express their needs and interests. The equality condition also requires a reciprocity such that each acknowledges that the interests of the others must be taken into account in order to reach a judgement.").

[132] SIMON KEMP, DIGITAL 2019: ESSENTIAL INSIGHTS INTO HOW PEOPLE AROUND THE WORLD USE THE INTERNET, MOBILE DEVICES, SOCIAL MEDIA, AND E-COMMERCE 7 (2019), https://p.widencdn.net/kqy7ii/Digital2019-Report-en. Facebook monthly active users have increased from 100 million in the third quarter of 2008 to 2.45 billion in the third quarter of 2019. J. Clement, *Number of Monthly Active Facebook Users Worldwide as of 3rd Quarter 2019 (in Millions)*, STATISTA (Nov. 19, 2019), https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide. In December 2010, the number of active monthly users of Instagram was 1 million; as of June 2018, it was 1 billion. Josh Constine, *Instagram Hits 1 Billion Monthly Users, Up From 800M in September*, TECHCRUNCH (June 20, 2018, 1:58 PM), https://techcrunch.com/2018/06/20/instagram-1-billion-users.

2020.[133] As of May 2019, YouTube's two billion monthly active users[134] had uploaded more than 500 hours of video per minute.[135]

Second, users have contributed substantially to technology companies' advertising revenues. Advertising has become the major source of revenue for many of these companies.[136] It was reported that Internet advertising revenues in the United States increased to $107.5 billion in 2018.[137] Facebook's advertising revenue nearly doubled from $8.63 billion for the fourth quarter of 2016 to $16.64 billion for the fourth quarter of 2018.[138] Ostensibly, advertisers choose social media outlets as the major advertising platforms because of the size of the audience they offer.[139]

Third, users contribute positively to technology companies' innovation capacities. For example, AI-powered applications require a vast amount of training data for their development. Apart from

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[133] Dan Noyes, *The Top 20 Valuable Facebook Statistics*, ZEPHORIA, https://zephoria.com/top-15-valuable-facebook-statistics (last updated Jan. 2020). As of June 2016, Instagram users were contributing 95 million posts every day. Yasmeen Abutaleb, *Instagram's User Base Grows to More Than 500 Million*, REUTERS (June 21, 2016, 9:09 AM), https://www.reuters.com/article/us-facebook-instagram-users/instagrams-user-base-grows-to-more-than-500-million-idUSKCN0Z71LN.

[134] Adam Warner, *Which Social Media Platform Has the Most Users? [2020 DISCUSSION]*, WEBSITE PLANET, https://www.websiteplanet.com/blog/social-media-platform-users (last visited Jan. 19, 2020).

[135] James Hale, *More Than 500 Hours of Content Are Now Being Uploaded to YouTube Every Minute*, TUBEFILTER (May 7, 2019), https://www.tubefilter.com/2019/05/07/number-hours-video-uploaded-to-youtube-per-minute.

[136] *See* BARTLETT, *supra* note 7, at 12.

[137] *See* PwC, IAB INTERNET ADVERTISING REVENUE REPORT: 2018 FULL RESULTS 2 (2019), https://www.iab.com/wp-content/uploads/2019/05/Full-Year-2018-IAB-Internet-Advertising-Revenue-Report.pdf.

[138] Amy Gesenhues, *Facebook Ad Revenue Tops $16.6 billion, Driven by Instagram, Stories*, MARTECH TODAY (Jan. 31, 2019, 12:20 PM), https://martechtoday.com/despite-ongoing-criticism-facebook-generates-16-6-billion-in-ad-revenue-during-q4-up-30-yoy-230261. In 2016, Instagram earned $1.61 billion from advertising in the United States; in 2018 this rose to $6.18 billion. Blake Droesch, *Instagram's New Explore Ads Signal Potential Changes to Organic Reach*, EMARKETER (July 9, 2019), https://www.emarketer.com/content/instagrams-new-explore-ads-signal-potential-changes-to-organic-reach.

[139] *See* KEITH A. QUESENBERRY, SOCIAL MEDIA STRATEGY: MARKETING, ADVERTISING, AND PUBLIC RELATIONS IN THE CONSUMER REVOLUTION 8–9 (2015) (discussing that social media operates in user-centric modes and its profound influence over users).

training datasets purchased from data brokers, training data can also be amassed from the Internet.[140] Therefore, users' activities on the Internet generate a huge amount of data that is useful for the training and development of AI. In late 2015, Google rolled out its Inbox Smart Reply feature providing automatic email response suggestions.[141] Smart Reply used AI to read incoming emails, understand the content, and then automatically generate up to three responses from which users could select.[142] The Smart Reply algorithm was trained on a corpus of 238 million email messages.[143] These email messages were presumably sourced from Gmail accounts.[144]

Similarly, facial recognition technologies take advantage of images contributed by users.[145] The photos that people store and share on social media platforms and image hosting sites provide face image data for computers to recognize, identify, and analyze faces. When users tag friends in photos, these labeled faces can be used to train facial recognition AI. For example, Facebook used 4.4 million images of labelled faces of more than 4000 individuals to develop its facial recognition technology known as DeepFace.[146] IBM extracted nearly a million photos from a dataset of the image hosting site Flickr for its facial recognition project.[147]

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[140] *See, e.g.*, James Vincent, *Google is Testing a New Way of Training its AI Algorithms Directly on Your Phone*, THE VERGE (Apr. 10, 2017, 6:38 AM), https://www.theverge.com/2017/4/10/15241492/google-ai-user-data-federated-learning.

[141] Arjun Kharpal, *Google's New Feature Will Reply to Emails for You*, CNBC (Nov. 3, 2015, 12:07 PM), https://www.cnbc.com/2015/11/03/google-machine-learning-reply-emails-gmail.html.

[142] *Id.*

[143] Anjuli Kannan et al., *Smart Reply: Automated Response Suggestion for Email*, KDD'16: PROC. 22ND ACM SIGKDD INT'L CONF. ON KNOWLEDGE DISCOVERY & DATA MINING, Aug. 2016, at 955, 962.

[144] *Id.*

[145] *See* FERNANDO IAFRATE, ARTIFICIAL INTELLIGENCE AND BIG DATA: THE BIRTH OF A NEW INTELLIGENCE 48 (2018).

[146] Yaniv Taigman et al., *DeepFace: Closing the Gap to Human-Level Performance in Face Verification*, *in* 2014 IEEE CONFERENCE ON COMPUTER VISION AND PATTERN RECOGNITION 1701, 1705 (2014).

[147] Emily Price, *Millions of Flickr Photos Were Scraped to Train Facial Recognition Software*, FORTUNE (Mar. 12, 2019, 4:01 PM), https://fortune.com/2019/03/12/millions-of-flickr-photos-were-scraped-to-train-facial-recognition-software.

Despite these user contributions, managers of technology companies may still argue that their companies have no responsibility to reciprocate. They may argue that their companies have already made contributions to users by initiating their platform services or technologies providing users with new experiences. Alternatively, these managers may contend that their companies fulfill their responsibility to reciprocate by upgrading regularly the quality of their platforms and technologies, thereby improving user experiences.

These arguments unduly downplay user contributions. Most technology companies are very different from conventional companies that manufacture and sell products such as food and clothing or offer services such as catering and transportation. Conventional companies serve *passive users* who pay to consume products or services rather than engaging in the production of products and the provision of services. Therefore, these companies thrive primarily on their own efforts.

By contrast, many technology companies thrive both on their own efforts and the contributions of their users. These *active users* play an indispensable role in the growth of these companies, because they directly or indirectly engage themselves in the development of online platforms and data-driven technologies. As discussed earlier in this Section, users actively post, upload, and update content on social media platforms and provide personal data such as addresses and preferences that are shared with other online platforms such as Amazon. Users have also contributed a vast amount of information and images for the development of technologies such as AI and facial recognition.

Hence, technology companies ought to take seriously their responsibility to reciprocate users' contributions. No matter how financially successful and politically powerful they are,[148] they ought to appreciate these contributions, carefully considering the extent to which the content and data contributed by users has played a positive role in their corporate development. Beyond this, they ought to consider what actions they can take to reciprocate.

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[148] *See supra* note 7 and accompanying text.

B. *The Responsibility to Play Roles Positively*

1. ROLE RESPONSIBILITY

While reciprocity-based responsibility is triggered by the positive deeds of others, role responsibility is ascribed to individuals or institutions if they themselves have spontaneously assumed certain roles in personal or social activities. As another ethical norm, role responsibility requires individuals to take responsibility for the specific roles they choose to adopt by themselves. H. L. A. Hart justifies role responsibility as follows:

> [a] sea captain is responsible for the safety of his ship, and that is his responsibility, or one of his responsibilities. A husband is responsible for the maintenance of his wife; parents for the upbringing of their children; . . . a clerk for keeping the accounts of his firm. These examples of a person's responsibilities suggest the generalization that, whenever a person occupies a distinctive place or office in a social organization, to which specific duties are attached to provide for the welfare of others or to advance in some specific way the aims or purposes of the organization, he is properly said to be responsible for the performance of these duties, or for doing what is necessary to fulfil them. Such duties are a person's responsibilities.[149]

Responsibility, as the above justification shows, could be imposed on a person based on a specific role he or she plays. An individual occupies a certain official role such as a sea captain, a husband, or a clerk. These interpersonal roles put the individual in a special position in relation to others whose interests would be affected, assigning him or her certain functions to perform or goals to fulfill.[150]

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[149] H. L. A. HART, PUNISHMENT AND RESPONSIBILITY: ESSAYS IN THE PHILOSOPHY OF LAW 212 (2d ed. 2008).

[150] *See* MEIR DAN-COHEN, RIGHTS, PERSONS, AND ORGANIZATIONS: A LEGAL THEORY FOR BUREAUCRATIC SOCIETY 38 (1986) (arguing that "at any given point in time and within a particular normative scheme, organizational behavior is amenable to analysis and interpretation in terms of the organization's instrumental

In this context, expectations are cast upon such an individual to take responsibilities to perform functions or fulfill goals attached to his or her role.[151]

Role responsibility leads to two kinds of responsibilities in practice. First, *personal responsibilities* are attached to specific roles, such as husband, wife, father, and mother, on the basis of intimate relationships that form small-scale institutions such as family and marriage. Second, *professional responsibilities* arise from the specific roles individuals choose to serve in larger institutions such as companies and governmental agencies. Once an individual chooses a profession that confers upon him or her the authority to control people and resources, certain responsibilities are then imposed on him or her within the bounds of the profession.[152]

Compared with personal responsibilities, professional responsibilities trigger accountability toward more people whose interests may be affected either directly or indirectly. For instance, a sea captain, as Hart points out, is responsible for the safety of the ship for the sake of its passengers. Following the ethos of role responsibility, the captain is supposed to exercise due care and take prudent measures throughout the journey.[153] A judge serving on the bench is responsible for the impartial adjudication of a given case.[154] Therefore, he or

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nature, that is, in terms of its pursuit of some predetermined individual or social goals").

[151] *See* Robin Zheng, *What is My Role in Changing the System? A New Model of Responsibility for Structural Injustice*, 21 ETHICAL THEORY & MORAL PRAC. 869, 875 (2018) ("Performing a role . . . is an ongoing process of making infinitely many tiny decisions about *how* to perform it, thereby calibrating one's behavior with another's expectations and behavior at the same time that the other is calibrating their expectations and behavior with yours.") (emphasis in original).

[152] *See* Peter Cane, *Role Responsibility*, 20 J. ETHICS 279, 285 (2016) ("[A]person in authority may, in fact, be (or have been) capable of controlling the people and events complained of; and if the authority should have exercised control, this may provide a basis for imposing personal responsibility on the authority for what occurred. However, regardless of capacity to control, the authority may be role-responsible simply by virtue of the authority.").

[153] HART, *supra* note 149, at 212.

[154] *See, e.g.*, Lon L. Fuller, *The Forms and Limits of Adjudication*, 92 HARV. L. REV. 353, 354 (1978) ("From this office certain requirements might be deduced, for example, that of impartiality, since a judge to be 'truly' such must be impartial. Then, as the next step, if he is to be impartial he must be willing to hear both sides, etc.").

she must to make every effort to fulfill this role responsibility, delivering a properly-reasoned judicial decision for the parties involved.[155]

Moreover, while personal responsibilities privately serve only the interests of individuals in intimate relationships, professional responsibilities affect societal interests at large in the short and long term. For example, if most judges in a country were corrupt, their biased ruling of, or meddling in, individual cases would ultimately undermine the societal interest of maintaining the rule of law. Similarly, if environmental regulators failed to take proactive actions to prevent certain factories from polluting the air or water, this failure would ultimately erode the societal interest of environmental protection. If legislators took bribes from a food company to push for the passage of a new food law relaxing safety standards, the societal interest of ensuring food safety would be jeopardized. These instances show that social roles require those who hold them to make prudent decisions in the public interest rather than in favor of any particular person or group.[156]

Central to the fulfilment of role responsibility is the ability to engage in ethical deliberation. Hart emphasizes this deliberative function, pointing out that "[a] responsible person is one who is disposed to take his duties seriously; to think about them, and to make serious efforts to fulfil them. To behave responsibly is to behave as a man would who took his duties in this serious way."[157]

There are two key steps in conducting this ethical deliberation with regards to role responsibility.[158] First, individuals in specific personal or professional roles must learn to consider the private or societal interests that might be affected by their performance of the role.

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[155] *Id.*

[156] *See, e.g.*, JUSTIN OAKLEY & DEAN COCKING, VIRTUE ETHICS AND PROFESSIONAL ROLES 118 (2001) (arguing that "if health and justice are taken as the appropriate ends of the medical and legal professions, respectively, then the proper roles and dispositions of doctors and lawyers will be determined according to how well those roles and dispositions serve health or justice, respectively.").

[157] HART, *supra* note 149, at 213.

[158] *See* Sun, *Copyright*, *supra* note 64, at 292–93 (discussing the role of moral deliberation).

For instance, doctors should be aware of their responsibilities to receive adequate medical ethics education.[159] This is because their failure to do so would negatively affect their capacity to tackle medical problems and protect patients' interests in health. Second, those individuals must prudently consider how they should perform their personal or professional roles so as to promote the private or societal interests identified in the first step.[160] This process normally requires "care and attention over a protracted period of time."[161] Failure to meet their role responsibilities would trigger legal liabilities or moral blame.[162]

2. TECHNOLOGY COMPANIES' ROLE RESPONSIBILITIES

In this Section, I examine the important professional roles that technology companies play as information disseminators, collectors, and/or creators. Following the theory of role responsibility, I argue that their managers should consider how the companies can play these roles positively.

Technology companies such as Facebook, Instagram, Twitter, and YouTube act as *information disseminators* by operating social media platforms.[163] These companies help disseminate all variety of information, including e-commerce data, entertainment updates, and news.[164] Compared with conventional media outlets, social media platforms have three major advantages in disseminating information.

First, social media platforms allow users to disseminate information with unprecedented ease. As long as users are connected to

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[159] *See* ARISTOTLE, *supra* note 120, at 3 (pointing out that "the end of [the medical art] is health").

[160] *See, e.g.*, OAKLEY & COCKING, *supra* note 156, at 74 (arguing that "a professional role is . . . importantly determined by how well that role functions in serving the goals of the profession, and by how those goals are connected with characteristic human activities").

[161] HART, *supra* note 149, at 213.

[162] *Id*. at 215–22.

[163] *See, e.g.*, Esteban Ortiz-Ospina, *The Rise of Social Media*, OUR WORLD DATA (Sept. 18, 2019), https://ourworldindata.org/rise-of-social-media (reporting that Facebook has 2.4 billion users of the 3.5 billion people online).

[164] Jenny Force, *How Social Media Continues to Affect Society*, SYSOMOS (Aug. 23, 2016), https://sysomos.com/2016/08/23/how-social-media-continues-to-affect-society/.

the Internet, they can upload content to a platform whenever and wherever they wish.[165] Moreover, technology companies equip social media platforms with enhanced communication functionalities such as private messaging, voice calls, voice messages, and video calling. These functionalities have made social connection much more convenient, which in turn accelerates transmission of information.

Second, social media platforms offer unprecedented network effects in disseminating information by significantly amplifying the number of users who view or use information.[166] By increasing the ease of information access and dissemination and providing their services for free or at a low charge, social media platforms can build and expand their user base. Facebook, WeChat, and other platforms offer an extensive range of interactive functionalities allowing commercial entities to disseminate business information to an entire or partial network of users.[167]

Third, social media platforms have also facilitated the democratization of information dissemination. Traditional media outlets require content producers to conform to and gain acceptance from the established infrastructure. Within the traditional media, one must become a television anchor or journalist if one wishes to deliver news. Social media platforms have removed such barriers, allowing anyone to create content and disseminate it directly to the world.[168] By providing a direct communication channel to individuals, social media platforms have arguably helped humanity capitalize on society's previously untapped human capital and talent. Naturally, as talented personalities are discovered, the influence and importance

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[165] SAM HINTON & LARISSA HJORTH, UNDERSTANDING SOCIAL MEDIA 32 (2013).

[166] *See* Amitai Aviram, *Regulation by Networks*, 2003 BYU L. REV. 1179, 1195 (2003).

[167] *See* Alex Gray, *Here's the Secret to How WeChat Attracts 1 Billion Monthly Users*, WORLD ECON. F. (Mar. 21, 2018), https://www.weforum.org/agenda/2018/03/wechat-now-has-over-1-billion-monthly-users/.

[168] *See, e.g.*, Alfred Hermida, *Social Journalism: Exploring How Social Media is Shaping Journalism*, *in* THE HANDBOOK OF GLOBAL ONLINE JOURNALISM 312 (Eugenia Siapera & Andreas Veglis eds., 2012) ("[D]igital technologies are empowering more users to participate in more ways in the creation of media.").

of the platform they inhabit also grows. To use revenue as an indicator, in 2017, YouTube's revenue ($7.8 billion)[169] was more than quadruple that of the New York Times ($1.7 billion).[170]

Technology companies also act as information collectors. They collect data about consumers through their shopping activities, communications, social media activities, and so on.[171] They analyze and then utilize data sets on consumer locations, behaviors, preferences, and characteristics in their corporate interests for a variety of purposes. These may range from enhancing security or facilitating the effective dissemination of advertisements on their platforms to developing technologies such as AI and facial recognition.[172] Technology companies may also collect data for sale to other parties, such as consumer scoring companies or credit rating agencies.

Moreover, technology companies act as *information creators* by generating new intellectual properties. In 2019, the top fifty recipients of registered patents were all technology companies. IBM topped this ranking with 9,262 patent applications approved by the U.S. Patent and Trademark Office.[173] For many researchers, technology companies provide the means to create, operationalize, and commercialize their inventions. Therefore, they are willing to sign employee contracts that grant ownership of their employment-related inventions to the company.

Technology companies fare so well as innovative information creators because they meet the three crucial factors required for innovation: (1) a recognized need, (2) competent people with relevant technology, and (3) financial support.[174] Technology companies

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169 J. Clement, *Worldwide Net Advertising Revenues of YouTube from 2016 to 2020* (in Billion U.S. Dollars), STATISTA (May 7, 2019), https://www.statista.com/statistics/289658/youtube-global-net-advertising-revenues/.

170 *New York Times Revenue 2006-2019*, MACROTRENDS https://www.macrotrends.net/stocks/charts/NYT/new-york-times/revenue (last visited Jan. 20, 2020).

171 Balkin, *Free Speech in the Algorithmic Society*, *supra* note 38, at 1156 ("Big Data collects and analyzes information about people — their locations, actions, characteristics, and behaviors.").

172 *See supra* notes 132–147 and accompanying text.

173 IFI CLAIMS Patent Services, *2019 Top 50 US Patent Assignees*, https://www.ificlaims.com/rankings-top-50-2019.htm (last updated Jan. 8, 2020).

174 *See* Barishnikova O.E. & Nevzorova M.N., *Development of Innovation*, 6 EUR. J. NAT. HIST. 53, 53 (2015).

have departments associated with each factor. The "need" in the case of technology companies refers to consumer needs, preferences, and desires, and market research personnel in a technology company are specialized in discovering these unmet needs of the market. The research and development department is made up of people familiar with existing relevant technologies who are able to create new technologies according to specifications discovered by the market research team. Financial support for the project is secured by the finance department.

Pursuant to the ethos of role responsibility, technology companies should play their professional roles as information disseminators, collectors, and creators positively. First, they should adequately consider how these roles would affect their users' private interests, as well as societal interests. Second, they should take actions that are reasonably necessary to protect these interests. Failure to do either should subject them to legal penalties or moral blame.

Akin to the information fiduciary approach suggested by Professor Jack Balkin,[175] the ethos of role responsibility supports the imposition of fiduciary duties upon technology company managers. Acting as information collectors, they should have a fiduciary duty to protect their users' private interests in personal data. Both approaches require managers of technology companies to take action to fulfill these duties of their own volition and based upon their ethical deliberation. As Professor Jonathan Zittrain observes, the information fiduciary approach "protects consumers and corrects a clear market failure without the need for heavy-handed government intervention."[176] The role responsibility approach, however, draws on a different ethical theory and could address two theoretical and practical problems with the information fiduciary approach.

First, the information fiduciary approach does not tackle the potential conflict between managers' duty to protect users' interests in

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[175] *See supra* note 38 and accompanying text.

[176] Jonathan Zittrain, *How to Exercise the Power You Didn't Ask For*, HARV. BUS. REV.: BIG IDEA (Sept. 19, 2018), https:// hbr.org/2018/09/how-to-exercise-the-power-you-didnt-ask-for.

personal data and their duty to maximize their shareholders' interests.[177] Such conflicts abound in reality. Technology companies' fiduciary duty to use personal data with due care conflicts with their motive to further their corporate interests in earning profits by hosting advertisements or selling data sets to other parties. How can the information fiduciary approach win the hearts and minds of managers hired to serve shareholders' interests?

The role responsibility approach has the potential to address this problem by integrating role responsibility into the corporate decision-making process. It reimagines technology companies as social enterprises that prioritize serving their users' private interests and societal interests at large while promoting their shareholders' interests as a secondary consideration. This approach still allows managers of technology companies to pursue the maximization of shareholder value, so long as it does not conflict with the company's priorities in serving users' private interests and those of society. From this perspective, role responsibility requires managers to adequately consider how their corporate operations would affect these interests as part of their initial decision-making process.[178] Moreover, technology companies' responsibility to reciprocate users' contributions reinforces this role responsibility, because it also requires managers to take action to protect users' interests.

Second, the information fiduciary approach only deals with technology companies' role as information collectors, not as information disseminators and creators. The protection of personal data is indeed crucially important, given the prevalence of data breaches. However, as this Section has shown, the roles of information disseminators and creators are also of crucial importance to individual users and society at large. They affect the flow of information, reg-

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[177] *See* Khan & Pozen, *supra* note 40, at 506 (suggesting that the information fiduciary approach "would also pose a threat to Facebook's bottom line and therefore to the interest of shareholders").

[178] See Erika George, *Corporate Social Responsibility and Social Media Corporations: Incorporating Human Rights Through Rankings, Self-Regulation and Shareholder Resolutions*, 28 DUKE J. COMP. & INT'L L. 521, 524 (2018) ("Given the power and influence of private corporations to create platforms used by members of the public who share news, ideas, and often even personal information, it is important to better understand the ways in which human rights issues implicated by the policies and practices of social media companies.").

ulation of speech, and innovation. In contrast to the information fiduciary approach, role responsibility does not single out the information collector role. Rather, it integrates the three roles and shapes them as the functions that technology companies must serve as social enterprises. It then requires technology companies to take broader strategies to fulfill their responsibilities arising from these three roles. Under this approach, if a technology company takes its information disseminator and creator roles seriously and fulfills its corresponding responsibilities well, it should put itself in a very good position to perform its information collector role while protecting personal data.

C. *The Responsibility to Confront Injustices Created by Technological Development*

1. SOCIAL JUSTICE

All human beings are equal in dignity and freedom, and this status is legally recognized in both international human rights treaties and national constitutions.[179] However, injustice is a part of every society. The unjust distribution of social resources that leads to income disparities continues to get worse.[180] Status injustices caused by racial, gender, and sexuality discrimination still exist in the United States and in many other countries.

Against this backdrop, social justice is widely regarded as a fundamental value intended to minimize the impact of unequal distribution of resources and status discrimination. For example, leading

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[179] For example, Article 1 of the Universal Declaration on Human Rights states that, "[a]ll human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood." G.A. Res. 217 (III) A, Universal Declaration of Human Rights, art. 1 (Dec. 10, 1948).

[180] *See generally* THOMAS PIKETTY, CAPITAL IN THE TWENTY-FIRST CENTURY 430–32 (Arthur Goldhammer trans., 2014) (surveying the growing inequality in distribution of resources); Ilyana Kuziemko & Stefanie Stantcheva, *Our Feelings About Inequality: It's Complicated* N.Y. TIMES: OPINIONATOR (Apr. 21, 2013, 8:45 PM), https://opinionator.blogs.nytimes.com/2013/04/21/our-feelings-about-inequality-its-complicated/ ("Since the 1970s, income inequality in the United States has increased at a historic rate. In 1970, the richest 1 percent of Americans enjoyed 9 percent of total national pre-tax income. In 2011, by contrast, that share had risen to 19.8 percent.").

philosopher John Rawls has elevated social justice to the status of the "first virtue of social institutions."[181]

Social justice, by nature, centers on how to allocate responsibilities for distributing resources and social statuses. From this perspective, Rawls captures the essence of a responsibility-based notion of social justice as follows:

> [t]his conception [of social justice] includes what we may call a *social division of responsibility*: society, the citizens as a collective body, accepts the responsibility for maintaining the equal basic liberties and fair equality of opportunity, and for providing a fair share of the other primary goods for everyone within this framework, while citizens (as individuals) and associations accept the responsibility for revising and adjusting their ends and aspirations in view of the all-purpose means they can expect, given their present and foreseeable situation.[182]

This statement shows that central to social justice is the distribution of responsibilities among citizens. Thus, Rawls further argues that "the principles of social justice . . . provide a way of assigning rights and duties in the basic institutions of society and they define the appropriate distribution of the benefits and burdens of social cooperation."[183]

The responsibility to promote social justice, in my opinion, involves tackling three forms of injustice: privatization-driven injustice, technology-driven injustice, and identity-driven injustice. The third form of injustice typically classifies people on the basis of race, gender, and/or sexuality, causing discriminatory harm to them. In the discussion that follows, I discuss only the first two forms of injustice.

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[181] JOHN RAWLS, A THEORY OF JUSTICE 3 (Harvard Univ. Press rev. ed. 1999) [hereinafter RAWLS, A THEORY OF JUSTICE]. Rawls also points out that "[a] theory however elegant and economical must be rejected or revised if it is untrue; likewise laws and institutions no matter how efficient and well-arranged must be reformed or abolished if they are unjust." *Id.*

[182] JOHN RAWLS, *Social Unity and Primary Goods*, *in* COLLECTED PAPERS 359, 371 (Samuel Freeman ed., Harvard Univ. Press 1999) (emphasis added).

[183] RAWLS, A THEORY OF JUSTICE, *supra* note 181, at 4.

The responsibility to counter privatization-driven injustice arises because it causes structural maldistribution of social resources.[184] Although the free market allows voluntary transactions of private property, it is still fraught with injustice due to the coercive power embedded in larger social structures.[185] Unequal distribution of private property is a fundamental source of coercive power in the marketplace. This power is not defensive, but offensive. It is not a means of shielding the property owner from unwarranted interference from others or the state, but the legal basis for coercing others to do things that the property owner wishes.[186]

Thus, the free market is by no means free of coercion. Rather, property-based coercive power is arguably intrinsic in the marketplace. From this perspective, effective distributional policies should require an analysis of how the legal system allocates coercive power. For instance, the rationale against expansive privatization of natural resources by and large stems from the fact that the free market, despite its liberty-promoting function, results in coercion by creating monopolization of resources.[187] In a modern society, it is inevitable that every person is involved in the trade that takes place in the marketplace. While every person has an equal nominal status as a trading participant, the type or amount of resources that he or she controls in fact differs from one person to another. Therefore, bargaining power when negotiating deals in the marketplace always varies from person to person, making it possible that people with stronger bargaining power can coerce others into following their commands.[188]

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184 *See* IRIS MARION YOUNG, RESPONSIBILITY FOR JUSTICE 45 (2011).

185 *See* Robert L. Hale, *Coercion and Distribution in a Supposedly Non-Coercive State*, 38 POL. SCI. Q. 470, 470 (1923).

186 *Id.* at 472.

187 *See, e.g.*, David Brodwin, *The Tragedy of Privatizing the Commons: Why Privatizing Our Shared Resources Doesn't Work.*, U.S. NEWS (Mar. 2, 2015, 1:35 PM), https://www.usnews.com/opinion/economic-intelligence/2015/03/02/privatization-not-the-answer-for-saving-the-commons ("The concentration of rights creates an arms race that attracts capital and new technology to extract in ways that are ever more efficient (that's a good thing), but which are also ever more destructive to the future productivity of the commons . . . . Given our pay-to-play politics, once rights get concentrated, it's all too easy for the new owners to hijack the regulatory and legislative process.").

188 *See, e.g.*, Hale, *supra* note 185, at 472.

The responsibility to counter technology-driven injustice is critically important because of the pervasiveness of technology in contemporary society. Technological advancement in recent decades has offered solutions to many of humanity's problems. However, it causes increasing inequality, primarily in the following two ways.

First, access to the benefits of technological development is becoming increasingly unequal. A recent United Nations report reveals that more than half the world's population lacks access to the Internet and its advantages.[189] In the United States, access to technology is a determining factor in the knowledge divide between rich and poor youth.[190] Unequal access to technology has magnified preexisting social problems and widened the divide between rich and poor.[191]

Second, technology affects the distribution of social resources, especially in the labor market. Theoretically, all rational individuals, upon being replaced by automation, would simply acquire new skillsets to make themselves employable again in the labor market.[192] This is not observed in reality, however. Statistics show that significant proportions of workers displaced due to technological developments are simply not able to find new jobs.[193] The apparent winners capturing the economic benefits of technological innovation are the managers and owners of technology companies and other entities that apply productivity-boosting technologies.[194] Wealth ends

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[189] Ray Downs, *UN: Majority of World's Population Lacks Internet Access*, UPI (Sep. 18, 2017, 9:06 PM), https://www.upi.com/Top_News/World-News/2017/09/18/UN-Majority-of-worlds-population-lacks-internet-access/6571505782626/.

[190] Meghan Murphy, *Technology as a Basic Need: The Impact of the Access Gap in Poverty*, 1776 (Apr. 2, 2015), https://www.1776.vc/insights/technology-as-a-basic-need-the-impact-of-the-access-gap-in-poverty.

[191] *See, e.g.*, Daniele Selby, *Millions of Students in the US Lack Access to Technology and High-Speed Internet*, GLOBAL CITIZEN (Sept. 14, 2018), https://www.globalcitizen.org/en/content/verizon-innovative-learning-tech-program/.

[192] *How Will Automation Affect Jobs, Skills, and Wages?*, MCKINSEY & CO., https://www.mckinsey.com/featured-insights/future-of-work/how-will-automation-affect-jobs-skills-and-wages (last visited Jan. 25, 2020).

[193] *See* ANDREW YANG, THE WAR ON NORMAL PEOPLE: THE TRUTH ABOUT AMERICA'S DISAPPEARING JOBS AND WHY UNIVERSAL BASIC INCOME IS OUR FUTURE xiii (2018).

[194] Estlund, *supra* note 27, at 287.

up concentrated in the hands of these individuals through technology's replacement of labor force.[195] This exacerbates existing wealth inequality, making a small minority richer and the poor even more impoverished.

A poignant example of the relationship between technology and injustice can be found in Silicon Valley, where the contrast between the immense amount of wealth accumulated by tech giants with possibly the largest camp of homeless people in the United States just twenty minutes away shows that booms no longer lift all boats.[196] Increased efficiency, productivity, and economic gains from technological advancement are not enjoyed by all. Instead, the high wages enjoyed by those employed in the technology industry have driven up the cost of living while wealth in the region is not proportionally redistributed into the community.[197]

2. SOCIAL JUSTICE AND TECHNOLOGY COMPANIES

Based upon the preceding Section, I argue that technology companies have a fundamental responsibility to confront injustices created by technological development. This responsibility should legally and ethically motivate them to counter both privatization-driven and technology-driven injustices.

With respect to their responsibility to counter privatization-driven injustice, technology companies have to deal with the conflict between their intellectual property rights and the public's enjoyment of the benefits of technological progress.[198] Given that technology

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[195] David Rotman, *Technology and Inequality*, MIT TECH. REV., Nov.–Dec. 2014, at 52, 56 ("As machines increasingly substitute for labor and building a business becomes less capital-intensive—you don't need a printing plant to produce an online news site, or large investments to create an app—the biggest economic winners will not be those owning conventional capital but, instead, those with the ideas behind innovative new products and successful business models.").

[196] *Id*. at 54; Robert Johnson, *Welcome to 'The Jungle': The Largest Homeless Camp in Mainland USA Is Right in the Heart of Silicon Valley*, BUS. INSIDER (Sept. 7, 2013, 10:52 AM), https://www.businessinsider.com/the-jungle-largest-homeless-camp-in-us-2013-8; Alexia Fernández Campbell et al., *How Silicon Valley Created America's Largest Homeless Camp*, ATLANTIC (Nov. 25, 2014), https://www.theatlantic.com/politics/archive/2014/11/how-silicon-valley-created-americas-largest-homeless-camp/431739.

[197] *See* Campbell et al., *supra* note 196.

[198] *See* LAURENCE R. HELFER & GRAEME W. AUSTIN, HUMAN RIGHTS AND INTELLECTUAL PROPERTY: MAPPING THE GLOBAL INTERFACE 234–37 (2011).

companies can significantly affect the distribution and enjoyment of these benefits, the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications highlights the responsibility of corporations:

> the right to enjoy the benefits of scientific progress and its applications may create tensions with the intellectual property regime, which is a temporary monopoly with a valuable social function that should be managed in accordance with a common *responsibility* to prevent the unacceptable prioritization of profit for some over benefit for all.[199]

As information creators, technology companies have exercised their intellectual property rights irresponsibly, causing privatization-based injustice. The irresponsible exercise of copyright, for example, has significantly increased the cost for the public of taking advantage of technologies to access and use copyrighted works. First, the copyright-based industry is making every effort to lobby the legislature to adopt laws that provide increasingly stringent protection of copyright.[200] As a result, the legal protection of technological measures has entitled copyright holders to lock up information, copyright terms have been retroactively extended to place more works under proprietary control, and databases have been afforded stronger legal protection to fence off public access.[201] At the same

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[199] UNESCO, THE RIGHT TO ENJOY THE BENEFITS OF SCIENTIFIC PROGRESS AND ITS APPLICATIONS 15 (2019), https://unesdoc.unesco.org/ark:/48223/pf0000185558; *see also* Farida Shaheed (Special Rapporteur in the Field of Cultural Rights), *Report of the Special Rapporteur in the Field of Cultural Rights: The Right to Enjoy the Benefits of Scientific Progress and Its Applications*, ¶ 65, U.N. Doc. A/HRC/20/26 (May 14, 2012), https://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session20/A-HRC-20-26_en.pdf (pointing out that "legal scholars have increasingly questioned the economic effectiveness of intellectual property regimes in promoting scientific and cultural innovation. Scholars have found no evidence to support the assumption that scientific creativity is only galvanized by legal protection or that the short-term costs of limiting dissemination are lower than the long-term gain of additional incentives").

[200] *See* Louis Menand, *Crooner in Rights Spat: Are Copyright Laws Too Strict?*, NEW YORKER (Oct. 13, 2014), https://www.newyorker.com/magazine/2014/10/20/crooner-rights-spat.

[201] *See* Sun, *Copyright*, *supra* note 64, at 272–78.

time, the recent expansion of copyright protection has severely jeopardized the public interest accommodations in copyright law and significantly narrowed copyright limitations.[202]

Second, fueled by the expansion of copyright protection, many copyright holders have in turn exercised their rights irresponsibly.[203] As the commercial value of copyrights has grown, corporations have taken possession of copyrights over a rapidly increasing number of works.[204] Most corporations are profit-maximizing entities and are thus inclined to resort to aggressive copyright protection strategies. For example, the scope of copyright rights are routinely exaggerated to prevent members of the public from using copyrighted works in ways that the fair use doctrine would permit.[205] Many copyright owners "only speak in terms of the *advantage* of property rights, and never the *burdens* that necessarily go with property ownership."[206]

Oftentimes, irresponsible exercise of intellectual property rights causes serious harm to the public interest in knowledge creation and diffusion. The marketing practice adopted by Elsevier, the world's largest academic publisher, is a case in point. Despite the fact it has earned profit margins higher than top technology companies including Apple, Google, and Amazon,[207] Elsevier charges exorbitantly

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202 *Id*. at 279.

203 *Id*. at 269–78.

204 At present, copyrights are largely concentrated in the hand of big media, including copyright-based entertainment, publishing, communications, and software industries. *Id.* at 273. In the publishing, entertainment, and software industries, the prevailing business practice is to require individual creators of works to let their employers own their creations on the basis of the work-for-hire doctrine. *See* Neil J. Rosini, *What's a 'Work for Hire' and Why Should You Care?*, CHRON. HIGHER EDUC. (Dec. 3, 2014), https://www.chronicle.com/article/Whats-a-Work-for-Hire-and/150333. Many individual creators of works have to transfer ownership of their works to corporations through contractual arrangements that are semi-compulsory. *See* Orly Lobel, Opinion, *My Ideas, My Boss's Property*, N.Y. TIMES (Apr. 13, 2014), https://www.nytimes.com/2014/04/14/opinion/my-ideas-my-bosss-property.html. This is, in part, because individual creators who need corporations to merchandize their works.

205 *See* JASON MAZZONE, COPYFRAUD AND OTHER ABUSES OF INTELLECTUAL PROPERTY LAW 12 (2011).

206 WILLIAM PATRY, MORAL PANICS AND THE COPYRIGHT WARS 123 (2009).

207 Stephen Buranyi, *Is the Staggeringly Profitable Business of Scientific Publishing Bad for Science?*, GUARDIAN (June 27, 2017), https://www.theguardian.com/science/2017/jun/27/profitable-business-scientific-publishing-bad-for-science ("In 2010, Elsevier's scientific publishing arm reported profits of £724m

high prices for subscriptions to individual journals and the purchase of individual articles. A top mathematics journal published by Princeton University Press charges $0.13 per page. In sharp contrast, the top ten Elsevier journals cost $1.30 per page or more.[208] Many prominent universities and academics have already come into conflict with Elsevier for its unreasonably high subscription fees.[209] Negotiations between the University of California ("UC") and Elsevier for a new journal subscription contract broke down after UC's subscription expired in December 2018[210] and approximately 350,000 UC researchers and students' access to Elsevier's journal articles was cut off.[211]

Moreover, technology companies have a responsibility to deal with technology-driven injustice. While rapid technological advancement has offered remarkable benefits for humanity, it has also created new problems of social injustice. Against this backdrop, technology companies should explore the extent to which the new technologies they develop would negatively affect societal interests at large and group interests in particular, and then take their own actions to tackle these problems or support related governmental measures.

First, technology companies should consider how, for example, their newly developed technologies would negatively affect equality

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on just over £2bn in revenue. It was a 36% margin – higher than Apple, Google, or Amazon posted that year.").

[208] *The Cost of Knowledge*, http://gowers.files.wordpress.com/2012/02/elsevierstatementfinal.pdf (last visited Jan. 25, 2020).

[209] *See, e.g.*, Sarah Zhang, *The Real Cost of Knowledge*, ATLANTIC (Mar. 4, 2019), https://www.theatlantic.com/science/archive/2019/03/uc-elsevier-publisher/583909.

[210] Gretchen Kell, *Why UC Split with Publishing Giant Elsevier*, U.C. (Mar. 6, 2019), https://www.universityofcalifornia.edu/news/why-uc-split-publishing-giant-elsevier.

[211] Diana Kwon, *University of California Loses Access to New Content in Elsevier Journals*, SCIENTIST (July 12, 2019), https://www.the-scientist.com/news-opinion/university-of-california-loses-access-to-new-content-in-elsevier-journals-66149.

of job market. Technologies such as automation and AI are transforming labor markets and gradually resulting in job losses.[212] Jobs replaced are typically middle-class jobs that require repetitive and predictable work,[213] such as administrative, clerical, or production positions.[214] This change in socioeconomic class composition increases the wealth disparity between the rich and the poor.[215] This additionally creates a higher supply of available low-skill, low-paying labor, and thereby depresses the wages of these positions, further increasing income and wealth inequality.[216] Increased productivity resulting from technology means, for instance, that a firm once requiring five accountants now only needs three to manage the same workload. As AI and automation-related technologies improve, the same firm may only require one accountant or no accountants at all.[217] Increased productivity may ultimately result in a hypercompetitive labor market with increased stakes bringing it closer, if not completely, to a winner-takes-all situation.[218]

Second, technology companies should consider how the design of their newly developed technologies would negatively impact group interests. Those who are marginalized or possess less wealth typically are not the primary target group of companies providing new technology-based products, because these groups typically lack sufficient buying power.[219] Given that these people are outside companies' target consumer group, they are ignored in the design of new

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[212] OXFORD ECON., HOW ROBOTS CHANGE THE WORLD: WHAT AUTOMATION REALLY MEANS FOR JOBS AND PRODUCTIVITY 19–21 (2019), https://www.automation.com/pdf_articles/oxford/RiseOfTheRobotsFinal240619_Digital.pdf; Estlund, *supra* note 27, at 269 (2018).

[213] OXFORD ECON., *supra* note 212, at 23.

[214] Rotman, *supra* note 195, at 56–58.

[215] *Id.*

[216] *Id.*

[217] *See, e.g.*, Jay Wacker, *How Much Will AI Decrease the Need For Human Labor?*, FORBES (Jan. 18, 2017, 1:16 PM), https://www.forbes.com/sites/quora/2017/01/18/how-much-will-ai-decrease-the-need-for-human-labor/#1ab19fb575c0.

[218] Estlund, *supra* note 27, at 280.

[219] For example, an increasing number of software and mobile apps require uninterrupted Internet connection to function. *See List of Technology Design Decisions That Marginalize People*, GEEK FEMINISM WIKI, https://geekfeminism.wikia.org/wiki/List_of_technology_design_decisions_that_marginal-

technologies, further marginalizing them and limiting their access to certain technologies.[220] Even well-meaning initiatives can unintentionally exclude marginalized groups. For example, when assisting a government project to increase accessibility of a public service by transferring that service online so that "anyone" can access it "at any time," a technology company should examine in advance how particular groups of people would be affected. Without such scrutiny, this upgrade could unintentionally disadvantage those who are illiterate or visually impaired, among others, making a service that was once accessible to them inaccessible.

D. *Summary*

The three corporate fundamental responsibilities, as I have put forward, form a matrix of legal and ethical guidance for the benevolent behavior of technology companies. First, the responsibility to reciprocate users' contributions is the base of this matrix, urging technology companies to take immediate action to appreciate and return those contributions by protecting those users' private data effectively. Second, the responsibility to perform their role positively constitutes the pillars of the matrix, encouraging corporate managers' ethical deliberations about how their companies could fulfill responsibilities in accordance with their three professional roles. Third, the responsibility to confront injustices created by technological development acts as the beacon of light flashing on the top of the matrix. [221] It is the highest responsibility that technology companies should aspire to assume after they have fulfilled the first two responsibilities.

The ethical theories of reciprocity, role responsibility, and social justice have been conventionally utilized to justify personal respon-

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ize_people (last visited Jan. 26, 2020). This is technologically and financially infeasible in poor countries in which the information technology and communication infrastructure is significantly inadequate and the cost of Internet connection is beyond the affordability of the general public. *Id.*

220 *See id.*

221 Professor Purdy regards the responsibility for social justice as the highest aspiration because it requires "embracing both our creative ethical capacity and our sense of responsibility to make sense of and do justice, in every sense of that word" to society at large. Jedediah Purdy, *Our Place in the World: A New Relationship for Environmental Ethics and Law*, 62 DUKE L.J. 857, 932 (2013).

sibilities. Here, I have applied them to justify corporate responsibilities, because the doctrine of piercing the corporate veil teaches that persons who control a company should be held responsible for any wrongdoing committed in their company's name.[222]

Piercing the veil of technology companies, it is their managers and shareholders who should bear these three fundamental responsibilities. To fulfill them, they must learn how to manage the relationship between their institution and society. From this perspective, it is an ethical educational process in which those managers and shareholders learn how to become responsible members of a technological society.[223]

III. ENFORCING CORPORATE FUNDAMENTAL RESPONSIBILITIES

In this Part, I explore how the law should enforce the three corporate fundamental responsibilities through specific legal responsibilities requiring technology companies to protect personal data effectively and exercise their intellectual property rights properly.

A. *The Responsibility to Protect Personal Data Effectively*

1. NEW RESPONSIBILITIES FOR DATA PROTECTION

Given the risk of privacy breaches caused by digital technologies, consumers now care more about protection of their personal data than ever before. This protection is of fundamental importance to the freedom and dignity of each individual. Unauthorized collection or disclosure of data such as home or email address, identification card number, banking information, and medical records may infringe an individual's right to privacy and create serious emotional

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[222] *See, e.g.*, Broward Marine, Inc. v. S/V Zeus, No. 05-23105, 2010 WL 427496, at *6 (S.D. Fla. Feb. 1, 2010) (deciding to pierce the corporate veil and finding that the company's dominant shareholder should be personally liable for the torts of his company); Ocala Breeders' Sales Co. v. Hialeah, Inc., 735 So. 2d 542, 543–44 (Fla. Dist. Ct. App. 1999) (piercing the corporate veil to pursue the personal liability of corporate officers).

[223] As Hannah Arendt reminds us, "men, not Man, live on the earth and inhabit the world." HANNAH ARENDT, THE HUMAN CONDITION 7 (2d ed. 1998). No human being lives alone in the world. Rather, human beings live together in a common world, from birth to death.

distress or financial harm. Widespread collection of big data has exacerbated the problem. The secretive collection of big data has become normalized in the digital world, making all consumers very vulnerable.

The protection of personal data frequently triggers cross-jurisdictional issues as technology companies face different legal standards across the globe.[224] For example, the U.S. protection regime is grounded in consumer protection, encouraging fairness of exchange of private data. By contrast, the E.U. framework adopts a rights-based approach to data protection by recognizing and protecting the fundamental right to privacy.[225]

Against this backdrop, I argue that technology companies should treat private data protection as a core part of their fundamental responsibilities. First, this is required by technology companies' fundamental responsibility to reciprocate their users' contributions. Having collected personal data from their users, technology companies should appreciate users' contributions to their data reservoir and make every effort to protect this data effectively.

Second, role responsibility requires that technology companies play their professional role as data collectors well. This role gives them the authority to control personal data, which is one of the world's most valuable resources.[226] Their role responsibility then requires them to closely examine the fact that their collection and fur-

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[224] Robert Levine, *Behind the European Privacy Ruling That's Confounding Silicon Valley*, N.Y. TIMES (Oct. 9, 2015), https://www.nytimes.com/2015/10/11/business/international/behind-the-european-privacy-ruling-thats-confounding-silicon-valley.html ("International data transfers are the lifeblood of the digital economy.").

[225] *See, e.g.*, James Q. Whitman, *The Two Western Cultures of Privacy: Dignity Versus Liberty*, 113 YALE L.J. 1151, 1157 (2004) (pointing out that "it has become common for Europeans to maintain that they respect a 'fundamental right to privacy' that is either weak or wholly absent in the 'cultural context' of the United States"); Schwartz & Peifer, *supra* note 78, at 121 (finding that "the EU system protects the individual by granting her fundamental rights pertaining to data protection" and that "U.S. law protects the individual as a privacy consumer").

[226] *The World's Most Valuable Resource Is No Longer Oil, but Data*, ECONOMIST (May 6, 2017), https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data.

ther utilization of personal data may affect their users' private interests in dignity[227] as well as the larger societal interests in data security.[228] Moreover, technology companies should consider how they can exercise their authority in utilizing personal data in ways that adequately protect users' private interests and societal interests as well.

To legally fulfill these two responsibilities, I propose that technology companies should adopt the fundamental principles for data protection under the GDPR,[229] which took effect in the European Union in May 2018.[230] The GDPR sets the world's highest standards for protecting E.U. residents' right to personal data and enforcing data collectors' duties.[231] It is applicable to any company that processes E.U. residents' personal data. This proposal would require

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[227] *See* Schmerber v. California, 384 U.S. 757, 767 (1966) ("The overriding function of the Fourth Amendment is to protect personal privacy and dignity against unwarranted intrusion by the State."); Robert C. Post, *The Social Foundations of Privacy: Community and Self in the Common Law Tort*, 77 CAL. L. REV. 957,1008 (1989) (concluding that privacy protection rules "enable individuals to receive and to express respect, and to that extent are constitutive of human dignity"); Whitman, *supra* note 225, at 1161 ("Continental privacy protections are, at their core, a form of protection of a right to respect and personal dignity.").

[228] *See* Julie E. Cohen, *What Privacy Is For*, 126 HARV. L. REV. 1904, 1914 (2013) (using electronic voting as an example to show the importance of data security); Anupam Chander et al., *Catalyzing Privacy Law* 29 (Univ. Colo. Law Legal Studies Research Paper No. 19-25, 2019), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3433922 ("Over the last year, the United States has seen an unprecedented volume of legislative proposals regulating data privacy at the state level. This burst of interest has manifested in multiple types of laws: on data security, on internet service provider (ISP) privacy, on specific types of data, and on comprehensive data privacy.").

[229] GDPR, *supra* note 35.

[230] *The General Data Protection Regulation Applies in All Member States from 25 May 2018*, EUR-LEX (May 24, 2018), https://eur-lex.europa.eu/content/news/general-data-protection-regulation-GDPR-applies-from-25-May-2018.html.

[231] It is this stringency, comprehensiveness of data privacy protection, and flexibility that make the GDPR the global gold standard for protecting the privacy and rights of data subjects. Lydia de la Torre, *GDPR Matchup: The California Consumer Privacy Act 2018*, IAPP (July 31, 2018), https://iapp.org/news/a/gdpr-matchup-california-consumer-privacy-act/ ("Most data protection professionals would agree that the GDPR sets the global 'gold-standard' for data protection and has forced companies across the globe to significantly update their data practices and ramp up their compliance programs."). The GDPR provides a harmonizing

technology companies to operate a two-tiered private data protection mechanism.

First, technology companies should comply with the GDPR in good faith if they collect private data belonging to those residing in the European Union. In that context, they are legally subject to regulation by the GDPR given its mandate of extraterritorial application.[232] When E.U. residents use Amazon, Facebook, WhatsApp, and Apple Pay, the relevant U.S. technology companies process their personal data. If these companies make every effort to follow the GDPR to enhance data protection, they would prove their commitment to treating their E.U. users' right to privacy seriously. In demonstrating their ability to comply with the stringent data protection standards of the GDPR, they would further convince the international community that they are truly devoted to safeguarding the security of personal data.

Second, technology companies should consider adopting the GDPR as their internal privacy compliance guidelines. Although the GDPR is not legally applicable to technology companies collecting private data from those residing outside the European Union, these companies could still regard the GDPR as a model law for improving their protection of private data, proactively ensuring that their data protection measures live up to the GDPR's principles.[233] As they expand their businesses across the globe, technology companies need to tackle data protection in each country or region in which they process data. Data privacy laws vary significantly among countries, and some have none. No international treaties have been adopted to govern data protection globally. In the face of such legal complexities, technology companies' adoption of the GDPR as their internal guidelines would ensure that their products or services are

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force for data privacy protection legislation globally. *Id.* This force stems both from being the gold standard for data privacy protection and the GDPR's influence through the requirements it places on receiving parties of data transfers originating from the European Union. *Id.*

232 GDPR, *supra* note 35, art. 3(2) (prescribing that the GDPR "applies to the processing of personal data of data subjects who are in the Union by a controller or processor not established in the Union").

233 *See* Chander et al., *supra* note 228 at 20–21 ("The GDPR quintessentially targets compliance from an organizational perspective: it attempts to build up a particular kind of responsible corporate infrastructure, including internal positions and processes").

fully compliant with the highest of data protection standards. This strategy would send the message to consumers around the world that they take personal data protection seriously and believe that everyone deserves the same high level of personal data protection.[234]

2. GDPR'S CORE PRINCIPLES

In this Section, I discuss the core principles that technology companies must comply with under the GDPR. As commentators have observed,[235] these principles have been adopted by the California Consumer Privacy Act.[236] Guided by these principle, the operation of a two-tiered mechanism would put technology companies in a better position to keep their data protection measures in full compliance with new regulatory regimes.[237]

a. *Proactive Protection*

The idea of privacy by design was incorporated into the GDPR's predecessor legislation, the Data Protection Directive, and required technical measures to be designed and built into data processing system to protect data safety.[238] The European Union takes a proactive approach towards personal data protection aimed at preventing data breaches and the resulting harms.[239] By integrating protective measures into the system, personal data protection is positioned at the core of the data system itself, as opposed to being a patchwork

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[234] See Bryan Casey et al., *Rethinking Explainable Machines: The GDPR's "Right to Explanation" Debate and the Rise of Algorithmic Audits in Enterprise*, 34 BERKELEY TECH. L.J. 143, 187 (2019) (discussing the public relations benefits of following the GDPR).

[235] *See* Chander et al., *supra* note 228, at 14–18.

[236] CAL. CIV. CODE §§ 1798.100–1798.199 (West 2018).

[237] *See* Stuart D. Levi, *California Privacy Law: What Companies Should Do to Prepare in 2019*, SKADDEN (Jan. 17, 2019), https://www.skadden.com/insights/publications/2019/01/2019-insights/california-privacy-law (concluding that "companies that have become GDPR-compliant may have an approach to data protection that will be useful in adapting to the CCPA's requirements").

[238] *GDPR: Privacy by Design*, INTERSOFT CONSULTING, https://gdpr-info.eu/issues/privacy-by-design (last visited Jan. 26, 2020).

[239] *See, e.g.*, *Data Protection by Design and Default*, INFO. COMMISSIONER'S OFF., https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/accountability-and-governance/data-protection-by-design-and-default (last visited Jan. 26, 2020).

modification that is added later. This integration purportedly improves adherence to data protection measures, resulting in a more secure system that better protects data and data subjects.[240]

The specific form of technological protection is not specified within the GDPR, but context dictates the level of protective measures required to be built into the data system.[241] Factors such as the scope and amount of data processing, the nature of the data processed, and the risks posed to rights and freedoms by processing determine the ultimate level of safeguards that must be implemented.[242] In certain instances, measures such as pseudonymization, encryption, or anonymization can each by themselves satisfy the requirement of privacy by design. In other situations, commensurate with the higher data privacy stakes involved, a higher standard of protection consisting of a combination of methods would be required. Data protection rules, such as data minimization, should also be implemented through design and built into the data system.[243]

b. *User-Centric Protection*

Consent and contract are two ways in which data subjects (or users) can allow the processing of their personal data as an exception to the general prohibition on data processing.[244] These two rules, arguably, empower data subjects to decide for themselves which data controllers to interact with and what extent of data processing is acceptable.

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[240] *GDPR: Privacy by Design*, *supra* note 238. *But see* Supreeth Shastri et al., *The Seven Sins of Personal-Data Processing Systems Under GDPR*, USENIX Ass'n, https://www.usenix.org/system/files/hotcloud19-paper-shastri.pdf (last visited Jan. 26, 2020) (arguing that some GDPR regulations conflict with the design, architecture, and operation of modern computing systems).

[241] *See*, *e.g.*, GDPR, *supra* note 35, recital 78, art. 25.

[242] *Id.* art. 25.

[243] *Id.* art. 5(1)(c). For discussion of the principle of data minimization see Filippo A. Raso, Note, *Innovating in Uncertainty: Effective Compliance and the GDPR*, HARV. J.L. & TECH. DIG., Aug. 14, 2018, at 5–6, https://jolt.law.harvard.edu/digest/innovating-in-uncertainty-effective- compliance-and-the-gdpr; Tal Z. Zarsky, *Incompatible: The GDPR in the Age of Big Data*, 47 SETON HALL L. REV. 995, 1009–11 (2017).

[244] Schwartz & Peifer, *supra* note 78, at 142.

Consequently, the requirements for a valid legal consent to use one's private data detailed in the GDPR set a high standard, thus protecting the interests of the data subject. Under the GDPR, consent must be (1) freely given, (2) specific, (3) informed, and (4) unambiguous.[245] Although there is no specified form required for consent, consent given by the data subject must be a clear affirmative act or statement to satisfy the unambiguity requirement.[246] Consent cannot be implied and must always be opt-in as opposed to opt-out.[247] Requiring opt-in consent is again consistent with the fundamental starting position in the European Union, where data processing is prohibited by default and there must be some reason to justify processing. Accordingly, the default position cannot be that consent is given unless the user opts out.

If the data controller relies on consent as the legal basis for data processing, the data controller is not allowed to switch the legal basis from consent to another basis even if this other valid basis has always existed.[248] In other words, if the data controller decides to use consent as its legal basis and consent is withdrawn, the controller cannot continue to process the data by relying on a different legal basis, even if such a basis is legitimate and existed from the beginning.

c. *Transparent Protection*

The GDPR aims to maintain the transparency of data protection through protecting the right of access, which allows data subjects to review what personal data is possessed by the controller and how this data is being used.[249] By enshrining this right, the GDPR em-

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[245] GDPR, *supra* note 35, art. 4(11).

[246] *Id.* recital 32.

[247] *What is Valid Consent?*, INFO. COMMISSIONER'S OFF., https://ico.org.uk/for-organisations/guide-to-data-protection/guide-to-the-general-data-protection-regulation-gdpr/consent/what-is-valid-consent (last visited Jan. 26, 2020); Claire Laybats & John Davies, *GDPR: Implementing the Regulations*, 35 BUS. INFO. REV. 81, 81 (2018); Samuel Greengard, *Weighing the Impact of GDPR*, COMM. ACM, Nov. 2018, at 16, 16 ("GDPR takes this concept to a new and previously untested level.").

[248] *GDPR: Consent*, INTERSOFT CONSULTING, https://gdpr-info.eu/issues/consent/ (last visited Jan. 26, 2020).

[249] GDPR, *supra* note 35, art. 15.

powers the data subject to obtain information about their data interests. Access to this type of information is integral for the subject to exercise their other rights. For example, a data subject would not be able to exercise their right of erasure of personal data if they do not know that their data is under possession and use in the first place. Upon request from a data subject, the controller is required to conduct a check.[250]

To protect a right of access, the GDPR requires that a comprehensive account of data processing and a copy of personal data must be provided free of charge, either in writing, electronically, or verbally, depending on circumstances.[251] There is a "without undue delay" requirement for the provision of this information to the subject, meaning it must be provided at most within one month barring exceptional circumstances.[252] A data controller can only charge a fee if additional copies of the information are requested, and then the fee must reflect administrative costs and cannot be a profit-earning amount.[253] The controller may require a more specified request from the subject that narrows down the data in question if the controller processes a large volume of information about the subject,[254] and may refuse a request if it is unjustified or excessive.[255]

d. *Professional Protection*

The GDPR requires firms to employ a Data Protection Officer ("DPO") to oversee and manage the compliance of controllers who frequently process data.[256] This requirement to employ a DPO is not based on the size of the firm, but on its core activities.[257] If a firm's operations involve extensive processing of sensitive personal data, the GDPR requires that firm to employ a DPO.[258] The GDPR holds public bodies to a higher standard, however, and requires them all to employ DPOs.[259]

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250 *Id.*
251 *Id.* art. 12.
252 *Id.*
253 *Id.*
254 *Id.* recital 63.
255 *Id.* art. 12(5).
256 *Id.* recital 97.
257 *Id.* art. 37(1).
258 *Id.* art. 37(1)(c).
259 *Id.* art. 37(1)(a).

The DPO ensures compliance with the GDPR and must be knowledgeable in the fields of data protection and practices to an extent commensurate with the scale and complexity of the data processing conducted by the firm.[260] He or she acts as the liaison for data privacy and protection matters with supervisory authorities, employees, and data subjects.[261] A DPO can be an internal employee or an external specialist but must not have any conflicts of interest arising from supervision of their own work done in a different capacity.[262] In addition to ensuring compliance with all data protection laws, the DPO is responsible for tasks including assessing data protection impact, increasing employee awareness of data protection and conducting employee training, and collaborating with supervisory authorities.[263]

B. *The Responsibility to Exercise Intellectual Property Rights Properly*

Intellectual property is supremely important in the economic and cultural development of modern society. It regulates the ways in which creativity and innovation are protected and disseminated with technologies, whether print or digital.[264]

In this Section, I argue that technology companies should exercise their intellectual property rights responsibly so as to confront injustices caused by technological development. Courts should take this responsibility into consideration when they decide on intellectual property cases that may have significant impact on social justice. As *Federal Trade Commission v. Qualcomm* shows, a crucial

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260 *Id.* art. 37(5).

261 *Id.* art. 38(4), 39(1).

262 *Data Protection Officer (DPO)*, EUROPEAN DATA PROTECTION SUPERVISOR, https://edps.europa.eu/data-protection/data-protection/reference-library/data-protection-officer-dpo_en (last visited Jan. 28, 2020).

263 GDPR, *supra* note 35, art. 39(1).

264 *See, e.g.*, JAMES BOYLE, THE PUBLIC DOMAIN: ENCLOSING THE COMMONS OF THE MIND 7 (2008) ("Copyright law is supposed to give us a self-regulating cultural policy in which the right to exclude others from one's original expression fuels a vibrant public sphere indirectly driven relationship by popular demand."); Molly Shaffer Van Houweling, *Distributive Values in Copyright*, 83 TEX. L. REV. 1535, 1537 (2005) ("Copyright law generally addresses the relationship between creative expression and money in terms of maximizing total creativity.").

step courts could take is to curb the expansive patent rights of technology companies by requiring them to license their essential standard patents in fair, reasonable, and non-discriminatory ("FRAND") terms.[265]

1. *Federal Trade Commission v. QUALCOMM*

The FTC sued Qualcomm before the District Court for the Northern District of California. The FTC alleged that Qualcomm's anticompetitive behavior relating to its patent licensing practices violated § 5 of the FTC Act, which prohibits "[u]nfair methods of competition in or affecting commerce."[266] Qualcomm is the industry leader for modem chipsets that facilitate the connection of devices to wireless networks.[267] The company holds many patents, including those extending beyond the technologies present in the physical chipsets. Qualcomm bundled together all the patents it deemed necessary for its chipsets to function within a device, and then licensed these patents through one licensing agreement on a "portfolio basis."[268] These patents consisted of cellular standard essential patents ("SEPs"), non-cellular SEPs, and non-SEPs.[269] Even during the negotiation stage, Qualcomm refused to provide customers with a list of their patents or patent claim charts.[270] Qualcomm also refused to sell chipsets to those who did not sign a corresponding patent portfolio licensing agreement, namely the "no license, no chips" business model.[271] This forced companies to expend money twice when dealing with Qualcomm: once when licensing patents, and once when buying the actual chips. Qualcomm also required customers to cross-license their own patents, at zero royalties, as part of the agreement.[272]

Qualcomm's market power is partially derived from its own efforts and ingenuity. It is also in large part attributable to private

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265 *See* discussion *infra* Section III.B.2.

266 *Id*. at 669.

267 Fed. Trade Comm'n v. Qualcomm, Inc., 411 F. Supp. 3d 658, 665–66 (N.D. Cal. 2019).

268 *Id*. at 672.

269 *Id*. at 672–74.

270 *Id*. at 724–25

271 *Id*.

272 *Id*.

standard-setting organizations such as the Alliance for Telecommunications Industry Solutions and the Telecommunications Industry Association selecting Qualcomm's technology as the standard to which all devices, components, and networks must conform.[273] In order to be interoperable, all devices need to use the same Qualcomm-owned standard essential technologies.[274]

In May 2019, the District Court ruled against Qualcomm, deciding that it unlawfully secured a monopoly position in the chip supply market through extensive anticompetitive conduct.[275] The District Court found that Qualcomm's coercion and threats were effected through different mechanisms, such as its "no license, no chips" business model.[276] It required customers to cross-license their patents in exchange for the rights to Qualcomm's patents,[277] refused to license its SEPs to modem chip manufacturers despite its commitment to standard-setting organizations to do so on FRAND terms,[278] entered into *de facto* exclusive chip supply agreements,[279] and charged unreasonably high royalty rates for SEPs.[280] The victims included many original equipment manufacturers and technology companies,[281] with Apple, Intel, Samsung, LG Electronics, Sony, Huawei, and many more affected by Qualcomm's practices.[282]

The court held that Qualcomm's conduct reduced competition in the chipset market.[283] This reduced competition likely forestalled the advancement of technology, since the suppression of competitors and depression of their revenue led to reduced R&D spending on the competitors' end.[284] Reduced competition also reduces the

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273 *Id*. at 751–52.
274 *Id*.
275 *Id*. at 681.
276 *Id*. at 698.
277 *Id*.
278 *Id*. at 744–51.
279 *Id*. at 766.
280 *Id*. at 773.
281 *Id*. at 699.
282 *Id*. at 670
283 *Id*. at 681.
284 *Id*. at 695–96.

incentive of market dominant firms (in this case Qualcomm) to innovate and provide a better product.[285] A permanent injunction against future anticompetitive actions by Qualcomm was granted.[286]

Qualcomm appealed to the Court of Appeals for the Ninth Circuit and applied for a stay of the execution of the injunctive order pending appeal. In August 2019, the Ninth Circuit granted an order, partially staying the District Court's ruling that required Qualcomm to license patents to rivals, terminate its practice of supplying chips to customers on condition that they have signed a patent license, and negotiate or renegotiate license terms with customers in that respect.[287] In February 2020, the Ninth Circuit heard the substantive appeal.[288]

2. USING PATENTS TO PROMOTE SOCIAL JUSTICE

SEPs are foundational patents required for devices to be interoperable on the same standard or network.[289] Standards are usually developed by industry members in concert by *de facto* wide usage or through standard-setting organizations ("SSOs").[290] Certain patents are essential for the compliance of the standard when market participants are incapable of designing around those patents or no alternative technology exists and is available. As a result, when an SSO such as the Telecommunications Industry Association or Alliance for Telecommunications Industry Solutions selects a standard, it

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[285] Richard Blundell et al., *Market Share, Market Value and Innovation in a Panel of British Manufacturing Firms*, 66 REV. ECON. STUD. 529, 550 (1999).

[286] Fed. Trade Comm'n v. Qualcomm, Inc., 411 F. Supp. 3d 658, 818-24 (N.D. Cal. 2019).

[287] Fed. Trade Comm'n v. Qualcomm, Inc., 935 F.3d 752, 757 (9th Cir. 2019).

[288] Kristen Osenga, *Anticompetitive or Hyper-Competitive? An Analysis of the FTC v. Qualcomm Oral Argument*, IPWATCHDOG (Feb. 20, 2020), https://www.ipwatchdog.com/2020/02/20/anticompetitive-hyper-competitive-analysis-ftc-v-qualcomm-oral-argument/id=119124.

[289] *See generally Standardized Technology and Standard Essential Patents*, FED. TRADE COMMISSION, https://www.ftc.gov/sites/default/files/attachments/press-releases/google-agrees-change-its-business-practices-resolve-ftc-competition-concerns-markets-devices-smart/130103google-seps.pdf (last visited March 4, 2020).

[290] Jay P. Kesan & Carol M. Hayes, *FRAND's Forever: Standards, Patent Transfers, and Licensing Commitments*, 89 IND. L.J. 231, 237 (2014).

usually requires the entity owning the SEPs pertaining to the standard to commit to licensing these patents on FRAND terms.[291] Otherwise, the SSO will not adopt the standard. This practice ensures that interoperability can occur as opposed to uni-operability due to market monopoly and patent holdup.[292] It also protects the public interest in promoting competition, ensuring that potential competitors are able to compete and innovate.[293] Without FRAND terms, patent holders could monopolize the market by creating an essentially infinitely high barrier to entry.[294] On the other hand, the FRAND commitment enables patent holders to obtain fair and reasonable compensations from licensing their SEPs.[295]

Some experts have argued that the FRAND terms should be deemed a contractual obligation between technology companies like Qualcomm and standard-setting organizations.[296] It then follows that other technology companies cannot avail themselves of FRAND terms to have SEPs licensed to them. Nor would they have

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[291] Fed. Trade Comm'n v. Qualcomm, Inc., No. 17-CV-00220-LHK, 2017 WL 2774406, at *2 (N.D. Cal. June 26, 2017) (holding that without FRAND terms "a patent holder might be able to parlay the standardization of its technology into a monopoly in standard-compliant products") (citations omitted); Broadcom Corp. v. Qualcomm Inc., 501 F.3d 297, 314 (3d Cir. 2007) ("Firms may become locked in to a standard requiring the use of a competitor's patented technology. The patent holder's IPRs, if unconstrained, may permit it to demand supracompetitive royalties. It is in such circumstances that measures such as FRAND commitments become important safeguards against monopoly power."); Microsoft Corp. v. Motorola, Inc., 795 F.3d 1024, 1031 (9th Cir. 2015) ("To mitigate the risk that a SEP holder will extract more than the fair value of its patented technology, many SSOs require SEP holders to agree to license their patents on 'reasonable and nondiscriminatory' or 'RAND' terms. Under these agreements, an SEP holder cannot refuse a license to a manufacturer who commits to paying the RAND rate.").

[292] Microsoft Corp. v. Motorola, Inc., 696 F.3d 872, 876 (9th Cir. 2012).

[293] *See* Benjamin C. Li, *The Global Convergence of FRAND Licensing Practices: Towards "Interoperable" Legal Standards*, 31 BERKELEY TECH. L.J. 429, 434–35 (2016).

[294] *Id.* at 435 ("Many SSOs have therefore adopted FRAND policies to prevent SEP holders from exercising this type of unjustified post-adoption leverage.").

[295] *See* Kirti Gupta, *Technology Standards and Competition in the Mobile Wireless Industry*, 22 GEO. MASON L. REV. 865, 868 (2015).

[296] *See, e.g.*, Mark A. Lemley, *Intellectual Property Rights and Standard-Setting Organizations*, 90 CALIF. L. REV. 1889, 1909 (2002).

standing to sue the technology company in question for its violation of FRAND terms.[297]

I argue against this proposition. Drawing on the *Qualcomm* ruling, I contend that courts should redefine FRAND terms as technology companies' responsibility to prevent injustice created by technological development. Technology companies as patent holders can derive huge benefits from standardization of technologies because such standardization creates huge patent licensing markets for them. From this perspective, technology companies are bound to receive fair and reasonable return for their investments in developing standard-essential technologies as long as these technologies are adopted into industry-wide standards by SSOs. The elimination of financial risk of sustaining losses for their patented technologies, coupled with a common interest to share scientific advances and its benefit across all consumers, justifies imposing an obligation on technology companies to open up their SEPs on FRAND terms in order to facilitate the diffusion of technology.

The *Qualcomm* ruling condemns actions taken by Qualcomm that suppressed the ability of other technology companies to acquire SEPs on FRAND terms.[298] The court found that Qualcomm had an antitrust duty as well as FRAND commitments to license its SEPs to rival modem chip suppliers, but Qualcomm refused to do so because it could extract more lucrative royalty rates from dealing exclusively with original equipment manufacturers ("OEMs") and had an anticompetitive intent to exclude competition.[299] Qualcomm's refusal to license SEPs to rival modem chip suppliers did not only "promote[] rivals' exit from the market, prevent[] rivals' entry, and delay[] or hamper[] the entry and success of other rivals", but also hampered competition by increasing the costs to OEMs because it

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[297] *Cf.* Microsoft Corp. v. Motorola, Inc., 864 F. Supp. 2d 1023, 1033 (W.D. Wash. 2012) ("Accordingly, Microsoft is a third-party beneficiary to Motorola's agreements with the IEEE and the ITU to license its standard essential patents on RAND terms, and therefore, Microsoft may sue for breach of that agreement."); Apple, Inc. v. Motorola Mobility, Inc., 886 F. Supp. 2d 1061, 1085 (W.D. Wis. 2012) ("As a potential user of the standards at issue and a prospective licensee of essential patents, Apple is a third party beneficiary of the agreements between Motorola and IEEE and Motorola and ETS.").

[298] Fed. Trade Comm'n v. Qualcomm, Inc., 411 F. Supp. 3d 658, 681 (N.D. Cal. 2019).

[299] *Id.* at 744–62.

was able to abuse its monopoly power to demand unreasonably high royalty rates.[300] End consumers were ultimately harmed by OEMs' passing on of costs. By condemning these actions and holding Qualcomm liable for them, the ruling, therefore, imposes upon technology companies a responsibility to prevent injustice caused by licensing of standard essential patents without FRAND terms.

The *Qualcomm* ruling further reinforces FRAND terms as a responsibility to prevent injustice in patent licensing. It reveals that obligating patent holders to license their SEPs on FRAND terms alone is incapable of preventing injustice in patent licensing when patent holders owning a dominant share of the market abuse their monopoly power to get around FRAND commitments. They can still engage in anticompetitive conduct, such as tying their SEPs to the supply of chipsets under a "no license, no chips" business model.[301] By tying the two products (patents and chips) together, patent holders are able to get around FRAND obligations by simply charging a premium on the good or service tied to the SEPs. For example, Qualcomm licenses its patents to a technology company at a fair price but demands that the company also buys chips from them and then charges 300% of the normal market price for the chips. On paper, the technology company has managed to have the SEPs licensed to them on FRAND terms. But in reality, Qualcomm has earned an exorbitant windfall by forcing that company to buy its chips. Injustice in patent licensing in this case, therefore, arises because Qualcomm has precluded that company from buying much less expensive chips.

C. *Summary: The Fusion of Corporate Responsibilities and Powers*

The concept of corporate fundamental responsibility is not intended to substantially harm the interests of technology companies. It does not erode any legal confinements of the Fifth Amendment that guard private property by prohibiting "[taking] private property . . . for public use, without just compensation."[302] This is because the concept does not advocate deprivation of private property

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300 *Id.* at 744–51.

301 *Id.* at 702.

302 U.S. CONST. amend. V.

belonging to technology companies in any manner. Nor does it prevent them from reaping the benefits of their investments by selling their products in the marketplace.

The concept of corporate fundamental responsibility is intended to hold technology companies responsible for the market powers they have gained. Companies are expected to pay due respect to users' interests in their private data, reciprocating these users' contributions in sharing information, and increasing their advertising revenues. Therefore, the costs of protecting private user data should be understood as a means of fulfilling technology companies' responsibility to reciprocate. The companies should bear those costs, treating them as a precondition to starting their technology businesses. The same holds true for the costs that technology companies have to bear in fulfilling their responsibilities to play their role positively and confront injustices created by technological development. Since the market powers of technology companies are only legally and ethically legitimate if they act to fulfill these fundamental responsibilities, bearing such costs should be inherently embedded in their business operations.

CONCLUSION

A recent study revealed that 42% of American adults credit the biggest improvements in their lives to technology; a greater percentage than those citing the expansion of civil rights and the economy in the past five decades.[303] In this age of rapid technological development, however, the power gained by technology companies far exceeds the responsibilities they have assumed. [304] Rather than interrogating the responsibilities of technology companies, however, there has been greater focus on celebrating the astounding wealth

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[303] Mark Strauss, *Four-in-Ten Americans Credit Technology with Improving Life Most in The Past 50 Years*, PEW RES. CTR. (Oct. 12, 2017), http://www.pewresearch.org/fact-tank/2017/10/12/four-in-ten-americans-credit-technology-with-improving-life-most-in-the-past-50-years.

[304] *See* Javier Espinoza & Sam Fleming, *Margrethe Vestager Eyes Toughening 'Burden of Proof' for Big Tech*, FIN. TIMES (Oct. 30, 2019), https://www.ft.com/content/24635a5c-fa4f-11e9-a354-36acbbb0d9b6 (reporting the E.U. antitrust chief's view that "companies such as Google should bear extra responsibilities because they [were] so dominant that they [had] become 'de facto regulators' in their markets").

they have amassed from stock markets and their users through the exercise of their power.

In response, this Article has put forward the concept of corporate fundamental responsibility as the ethical and legal foundation for imposing three enhanced responsibilities upon technology companies: reciprocating users' contributions, playing their role positively, and confronting injustices created by technological development. I have further considered how these responsibilities could be enacted to improve protection of private data and to encourage technology companies to exercise intellectual property rights responsibly.

Where technology permeates the fabric of society and individual life, it is a lot easier for everyone, including technology company leaders, to believe in technological determinism: a theory that elevates technology as a panacea for all social ills and individual problems.[305] But the answer to the technology is not in the technology. A single-minded reliance on technology's power—without consideration of the responsibility that attaches to it—is not a path toward a better future for all humankind. The concept of corporate fundamental responsibility, as this Article has proposed, shows that ethics must come together with technology. This should be the mission of technology company leaders who, in developing new technologies, collecting data, and regulating speech, must act responsibly for the future of humanity.

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[305] *See* JACQUES ELLUL, THE TECHNOLOGICAL SOCIETY 3 (1964) ("No social, human, or spiritual fact is so important as the fact of techn[ology] in the modern world."); Gaia Bernstein, *When New Technologies Are Still New: Windows of Opportunity for Privacy Protection*, 51 VILL. L. REV. 921, 929 (2006) ("Technological determinism is the view of technology as an autonomous entity that develops according to an internal logic and direction of its own, resulting in determinate impacts on society.").