Making Corporations More Humane Through Artificial Intelligence

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Can existing corporate fiduciary principles adequately guide officers and directors regarding the proper development and utilization of artificial intelligence ("AI") technologies? What role should AI play in corporate boardrooms? These questions seem especially pressing considering the increasing prevalence of AI throughout a variety of industries in a host of key functions. It should come as little surprise, however, that with the advent of a powerful new technology, important concerns arise regarding the limits on its use and the ends to which it should be directed. Ethicists warn about AI's lack of moral sensitivity, empathy, and appreciation for human rights. Most certainly, many ethical questions exist, but if the proliferation of AI remains inevitable, the task of identifying the proper parameters within which to use AI remains of utmost importance.

This Article explores how reconceptualizing the fiduciary duties of trust that directors owe to the corporation and its shareholders might enhance the efficacy, integrity, and humanity of corporate decision-making in the era of AI. In particular, the Article suggests that a revitalized fiduciary framework based on the philosophy of "encapsulated trust" would allow corporate decision makers to shepherd effectively the development, utilization, and dissemination of AI. Construing corporate fiduciary duties around encapsulated trust would direct AI utilization to enhance the integrity of corporate discourse, diminish corporate corruption, validate a consideration of morality in business decisions, and require corporate directors to embrace a more pluralistic and inclusive approach to corporate decision making. The Article concludes that although AI might not supplant human beings on corporate boards, AI technologies could very well help make decisions by corporate managers more humane.

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I. INTRODUCTION

Can existing corporate fiduciary principles adequately guide officers and directors regarding the proper development and utilization of artificial intelligence (AI)[1] technologies? What role should AI play in corporate boardrooms? These questions seem especially pressing considering the increasing prevalence of AI throughout a variety of industries in a host of key organizational, management, marketing, production, and investigative functions.[2] To take just one example, Hong Kong based venture capital firm, Deep Market Ventures, went so far as to appoint an AI software entity, Vital, to its board of directors in 2014.[3] Although extant law prohibited Vital from enjoying the formal legal status of a board member, the other human directors afforded Vital "observer" status at each board meeting and allowed Vital to vote on all financial investment decisions.[4] Over the years, Vital was credited with steering the firm from the brink of bankruptcy when the

1. For a general discussion of the protean definition of "artificial intelligence" in light of evolving technology, see Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies*, 29 HARV. J.L. & TECH. 353, 359–62 (2016) (defining "artificial intelligence" in light of evolving technology).

2. *See* Alex Knapp, *Gartner Estimates AI Business Value to Reach Nearly $4 Trillion by 2022*, FORBES (Apr. 25, 2018), https://www.forbes.com/sites/alexknapp/2018/04/25/gartner-estimates-ai-business-value-to-reach-nearly-4-trillion-by-2022/#648d9b3233f9 (reporting that a noted technology analytics firm expects revenue derived from AI businesses to reach almost $4 trillion, an increase of 70% from 2017 levels).

3. *See* Florian Möslein, *Robots in the Boardroom: Artificial Intelligence and Corporate Law*, OXFORD BUS. L. BLOG (Nov. 16, 2017), https://www.law.ox.ac.uk/business-law-blog/blog/2017/11/robots-boardroom-artificial-intelligence-and-corporate-law ("Deep Knowledge Ventures . . . had appointed an algorithm named Vital . . . to its board of directors.").

4. *Id.*

human directors previously invested too heavily in risky biotech ventures.[5] Although no AI entity like Vital currently occupies a formal seat on a corporate board, at least one European company, Tieto, recently appointed a similar autonomous AI entity, Alicia T, as a fully voting member of its management team.[6] In the near future, some even predict that corporations could be wholly owned and operated by AI entities.[7]

Even if AI entities do not occupy formal management positions or own corporations, AI has become an increasingly attractive, if not essential, tool for many corporate decision makers. Companies as diverse as Goldman Sachs, Amazon, GE, Columbia Sportswear, Merck Pharmaceuticals, and Salesforce rely on AI software to identify market risks, develop new business opportunities, streamline business practices, conduct due diligence for acquisitions, and perform myriad other functions.[8] Although there may not be a pressing threat that AI entities will actually supplant human directors and officers of multinational corporations,[9] "as a compliment to the C-suite, AI holds an infinite amount of possibilities."[10] The very breadth and enormous potential impact of those possibilities makes it necessary to ensure adequate corporate governance principles exist to guide corporate managers in the proper utilization of AI.[11]

It should come as little surprise, however, that with the advent of a powerful new technology, important concerns arise regarding the limits on its use and the ends to which it should be directed.[12] Business, scientific, and legal ethicists warn about the lack of moral

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5. *See* Sophie Camp, *Why Everyone in the Boardroom Needs AI*, OUTSIDE INSIGHT (Oct. 20, 2017), https://outsideinsight.com/insights/why-everyone-in-the-boardroom-needs-ai/ ("Vital at Deep Knowledge Ventures is credited with rescuing the company when it was on the brink of bankruptcy. The venture capital fund was investing in too many 'overhyped' projects in the biotech industry, a notoriously difficult one for investors with its very high failure rate. With Vital, they were able to analyse big data that revealed patterns of risk for their investments.").

6. Press Release, Tieto, Tieto the First Nordic Company to Appoint Artificial Intelligence to the Leadership Team of the New Data-Driven Businesses Unit (Oct. 17, 2016), https://www.tieto.com/en/newsroom/all-news-and-releases/corporate-news/2016/10/tieto-the-first-nordic-company-to-appoint-artificial-intelligence-to-the-leadership-team-of-the-new-data-driven-business/ ("Tieto has appointed Artificial Intelligence as a member of the leadership team of its new data-driven businesses unit. The AI, called Alicia T, is the first AI to be nominated to a leadership team in an OMX-listed company. AI will help the management team to become truly data-driven and will assist the team in seeking innovative ways to pursue the significant opportunities of the data-driven world.").

7. S*ee* Dorian Pyle & Cristina San José, *An Executive's Guide to Machine Learning*, MCKINSEY & CO. (June 2015), https://www.mckinsey.com/industries/high-tech/our-insights/an-executives-guide-to-machine-learning ("Looking three to five years out, we expect to see far higher levels of artificial intelligence, as well as the development of distributed autonomous corporations. These self-motivating, self-contained agents, formed as corporations, will be able to carry out set objectives autonomously, without any direct human supervision. Some DACs will certainly become self-programming.").

8. *See* Camp, *supra* note 5; Jacques Bughin et al., *A Survey of 3,000 Executives Reveals How Businesses Succeed with AI*, HARV. BUS. REV. (Aug. 28, 2017), https://hbr.org/2017/08/a-survey-of-3000-executives-reveals-how-businesses-succeed-with-ai (discussing how AI is important to businesses).

9. Some scholars, however, suggest that business entities could be completely owned and operated by AI entities. *See* Shawn Bayern, *The Implications of Modern Business-Entity Law for the Regulation of Autonomous Systems*, 19 STAN. TECH. L. REV. 93, 112 (2015); Lynn M. LoPucki, *Algorithmic Entities*, 95 WASH. U. L. REV. 887, 887 (2018).

10. Camp, *supra* note 5.

11. *See* Sara Castellanos, *Companies Need Help Tackling Ethical Concerns Posed by AI*, WSJ PRO ARTIFICIAL INTELLIGENCE: ADVANCES IN TECHNOLOGY PUSH AI INTO THE MAINSTREAM 5 (Dec. 2, 2018), https://www.wsj.com/pro/ai/special-report.pdf [hereinafter Castellanos, *Companies Need Help*].

12. *See* Henry A. Kissinger, *How the Enlightenment Ends*, THE ATLANTIC (June 2018),

sensitivity, empathy, and appreciation for human rights.[13] Many question whether AI should be employed for security purposes, ferreting out criminal proclivities and behavior, and determining the value of human lives.[14] Most certainly, many ethical questions arise in the context of the proper uses of AI, regardless of the business, governmental, or personal context.[15] But if the AI genie has escaped the bottle for good, the task of identifying the proper parameters within which to use AI remains of utmost importance.[16]

Despite worries that AI might enhance the likelihood of unethical corporate practices, the increased utilization of AI technologies by corporate managers might promote just the opposite result—AI could make corporate decision-making more humane. But what would that mean? Currently, corporate managers face persistent and increasingly intense criticism for pursuing corporate policies that promote managerial interests seemingly at odds with the basic fiduciary duties of loyalty and care that corporate managers owe to the corporation and its shareholders.[17] Whether casting a blind eye to corporate criminality,[18] using the corporate treasury to pursue personal political goals,[19] ignoring the interests of corporate

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https://www.theatlantic.com/magazine/archive/2018/06/henry-kissinger-ai-could-mean-the-end-of-human-history/559124/ (discussing risks associated with AI).

13. For example, the MIT Media Lab and the Berkman Klein Center for Internet & Society at Harvard University launched an Ethics and Governance of Artificial Intelligence initiative that studies the effect of AI technologies on fairness, human autonomy, and justice. *See* THE ETHICS AND GOVERNANCE OF ARTIFICIAL INTELLIGENCE INITIATIVE, https://aiethicsinitiative.org/ (last visited Sept. 9, 2019). *See also* Darrell M. West & John R. Allen, *How Artificial Intelligence Is Transforming the World*, BROOKINGS INST. (Apr. 24, 2018), https://www.brookings.edu/research/how-artificial-intelligence-is-transforming-the-world/ ("[T]hese developments raise important policy, regulatory, and ethical issues. For example, how should we promote data access? How do we guard against biased or unfair data used in algorithms? What types of ethical principles are introduced through software programming, and how transparent should designers be about their choices? What about questions of legal liability in cases where algorithms cause harm?"); James Vincent & Russell Brandom, *Axon Launches AI Ethics Board to Study the Dangers of Facial Recognition*, THE VERGE (Apr. 26, 2018), https://www.theverge.com/2018/4/26/17285034/axon-ai-ethics-board-facial-recognition-racial-bias (discussing the importance of ethics within AI).

14. *See* Cade Metz, *Efforts to Acknowledge the Risks of New A.I. Technology*, N.Y. TIMES (Oct. 22, 2018), https://www.nytimes.com/2018/10/22/business/efforts-to-acknowledge-the-risks-of-new-ai-technology.html ("Still, a growing number of researchers are trying to reveal the potential dangers of A.I. In February, a group of prominent researchers and policymakers from the United States and Britain published a paper dedicated to the malicious uses of A.I."); Michael Kassner, *The Malicious Uses of AI: Why It's Urgent to Prepare Now*, TECHREPUBLIC (Mar. 27, 2018), https://www.techrepublic.com/article/the-malicious-uses-of-ai-why-its-urgent-to-prepare-now (discussing ways to prevent harm from AI).

15. *See* Sara Castellanos, *Microsoft AI Ethicist Guides Businesses on Responsible Algorithm Design*, WALL ST. J. (Oct. 18, 2018), https://blogs.wsj.com/cio/2018/10/18/microsoft-ai-ethicist-guides-businesses-on-responsible-algorithm-design/ ("Running parallel with artificial intelligence's expanding role . . . is a growing awareness of the ethical guardrails needed to guide the technology's implementation.").

16. *See generally* Nizan Geslevich Packin, *RegTech, Compliance and Technology Judgment Rule*, 93 CHI.-KENT L. REV. 193 (2018) (discussing the various ethical and corporate governance risks associated with increased reliance on AI).

17. *See, e.g.*, Brian R. Cheffins, *Corporate Governance and Countervailing Power*, 74 BUS. L. 1, 31–33 (2018) (explaining corporate boards' gradual shift to increased monitoring and accountability).

18. *See* Michael R. Siebecker & Andrew M. Brandes, *Corporate Compliance and Criminality: Does the Common Law Promote Culpable Blindness?*, 50 CONN. L. REV. 387, 390–97 (2018) (explaining ways in which corporations permit corporate crime).

19. *See* Sarah C. Haan, *The CEO and the Hydraulics of Campaign Finance Deregulation*, 109 NW. U. L. REV. 269, 275–76 (2014) (explaining how a CEO might use corporate funds to donate to a campaign); Michael R. Siebecker, *Political Insider Trading*, 85 FORDHAM L. REV. 2717, 2718–20 (2017) [hereinafter Siebecker, *Political Insider Trading*] (discussing insider trading and disclosure of political spending).

stakeholders,[20] promoting managerial interests that run counter to shareholder values,[21] or hiding behind the First Amendment to avoid transparency and accountability,[22] corporate managers too often find prevailing decision-making paradigms to fuzzy their fiduciary focus. Recurring waves of corporate scandals seem to be the disappointing result.[23]

AI-assisted corporate decision making, however, could revitalize the fiduciary bond between managers and the corporations they serve by freeing corporate managers to focus more proactively on the core components of what sustaining a robust duty of trust requires and to wallow less frequently in reactionary crisis-management.[24] In that sense, AI could make corporate decision-making more attentive to the interests of corporate shareholders, stakeholders, and the community the corporation inhabits. Though perhaps counter-intuitive, an enhanced reliance on AI regarding many mundane aspects of compliance and governance[25] would foster a more mindful—and arguably more humane—attentiveness by officers and directors to the core goals and values the corporation hopes to promote.[26]

This Article explores whether reinvigorating corporate fiduciary duties around

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20. *See* Michael R. Siebecker, *A New Discourse Theory of the Firm After Citizens United*, 79 GEO. WASH. L. REV. 161, 222–24 (2010) [hereinafter Siebecker, *Discourse Theory*] (explaining how directors may not be paying attention to shareholder interests).

21. *See* Michael R. Siebecker, *Bridging Troubled Waters: Linking Corporate Efficiency and Political Legitimacy Through a Discourse Theory of the Firm*, 75 OHIO ST. L.J. 103, 104–13 (2014) [hereinafter Siebecker, *Bridging Troubled Waters*] (explaining how corporations may promote managerial interests over shareholder interests).

22. *See* Siebecker, *Discourse Theory*, *supra* note 20, at 189–98 (explaining the use of the First Amendment as a tool to overcome spending limits and financial disclosures); Michael R. Siebecker, *Securities Regulation, Social Responsibility, and a New Institutional First Amendment*, 29 J.L. & POL. 535, 535–52 (2013) [hereinafter Siebecker, *First Amendment*]; John C. Coates IV, *Corporate Speech & the First Amendment: History, Data, and Implications*, 30 CONST. COMMENT. 223 (2015) (commenting on the history of the First Amendment).

23. *See, e.g.*, S. Burcu Avci et al., *Do Independent Directors Curb Financial Fraud? The Evidence and Proposals for Further Reform*, 93 IND. L.J. 757, 758–70 (2018) (outlining the causes and aftermath of corporate scandals in the early 2000s).

24. For a general work regarding how AI could be used to enhance our collective humanity and social bonds, see JOHN C. HAVENS, HEARTIFICIAL INTELLIGENCE: EMBRACING OUR HUMANITY TO MAXIMIZE MACHINES (2016).

25. *See* Brian Alster, *Learn About the New Technologies Disrupting the Compliance Industry Today and What That Means for the Future of Compliance*, DUN&BRADSTREET (Apr. 5, 2019), https://www.dnb.com/perspectives/corporate-compliance/artificial-intelligence-technology-future-of-compliance.html. *See also* Adam C. Uzialko, *How Artificial Intelligence Will Transform Business*, BUS. NEWS DAILY (Apr. 22, 2019), https://www.businessnewsdaily.com/9402-artificial-intelligence-business-trends.html (explaining the potential impacts of AI on business).

26. *See* Barry Libert et al., *AI in the Boardroom: The Next Realm of Corporate Governance*, MIT SLOAN MGMT. REV. (Oct. 19, 2017), https://sloanreview.mit.edu/article/ai-in-the-boardroom-the-next-realm-of-corporate-governance/ ("The truth is that business has become too complex and is moving too rapidly for boards and CEOs to make good decisions without intelligent systems. We believe that the solution to this complexity will be to incorporate AI in the practice of corporate governance and strategy. This is not about automating leadership and governance, but rather augmenting board intelligence using AI."); Katherine Maher, *Without Humans, A.I. Can Wreak Havoc: Let's Not Let Artificial Intelligence Put Society on Autopilot*, N.Y. TIMES (Mar. 12, 2019), https://www.nytimes.com/2019/03/12/opinion/artificial-intelligence-wikipedia.html?action=click&module=Opinion&pgtype=Homepage ("We should leave the artificial to the machines and restore humanity to the users."). For a discussion of the role AI can play in promoting social good, see MICHAEL CHUI ET AL., MCKINSEY GLOBAL INST., NOTES FROM THE AI FRONTIER: APPLYING AI FOR SOCIAL GOOD (2018), https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Artificial%20Intelligence/Applying%20artificial%20intelligence%20for%20social%20good/MGI-Applying-AI-for-social-good-Discussion-paper-Dec-2018.ashx.

enhanced corporate discourse remains essential to guide corporate managers regarding the proper development and utilization of AI. Although this might seem an abstruse philosophical exercise applied to a novel technology, in a series of articles over the past decade—*Trust & Transparency: Promoting Efficient Corporate Disclosure Through Fiduciary Based Discourse*,[27] *A New Discourse Theory of the Firm After Citizens United*,[28] and *Bridging Troubled Waters: Linking Corporate Efficiency and Political Legitimacy Through a Discourse Theory of the Firm*[29]—I have advocated the inescapable dependence of meaningful corporate governance on transparent, ongoing discourse between corporations and the constituencies they serve. Rather than proposing some legislative fix to stem persistent corporate malfeasance or insensitivity to shareholder preferences, my research investigates how a more robust understanding of the philosophical concept of trust could redirect existing corporate governance principles and managerial practices. In particular, applying the philosophically rigorous tenets of "encapsulated trust" to existing corporate fiduciary duties could produce a revitalized governance regime that encourages continual, transparent discourse among corporate managers, shareholders, corporate stakeholders, and members of the communities affected by corporate actions. To that end, such a philosophically coherent approach to interpreting existing fiduciary duties would help balance the essential managerial motivation to generate wealth with the evolving social interests of the communities that corporations inhabit.

Although a reliance on robust discourse to promote sound corporate governance principles may indeed have been novel a decade ago, some of the most sophisticated market professionals now embrace discourse as the lynchpin of enlightened corporate governance. In early 2019, famed law firm Wachtel, Lipton, Rosen & Katz published a white paper urging the adoption of a "New Paradigm" for corporate governance.[30] According to the white paper, The New Paradigm "conceives of corporate governance as a voluntary collaboration among corporations, shareholders, and other stakeholders to achieve sustainable long-term value and resist short-termism."[31] Successful implementation of The New Paradigm requires parties to embrace the three essential pillars of "governance," "engagement," and "stewardship."[32] At least with respect to the pillar of engagement, the essential ingredient is robust discourse:

> *[E]ngagement* is the exchange of information and requests between a company and its shareholders. Engagement is dialogue, not dictates from either side. Engagement connotes expectations around a two-way commitment between companies and shareholders to proactively engage with each other on issues and concerns that affect the company's long-term value, and provide each other with the access necessary to cultivate long-term relationships. Companies commit to being responsive to the issues and concerns of shareholders, while shareholders

27. Michael R. Siebecker, *Trust & Transparency: Promoting Efficient Corporate Disclosure Through Fiduciary-Based Discourse*, 87 WASH. U. L. REV. 115 (2009) [hereinafter Siebecker, *Trust & Transparency*].

28. *See* Siebecker, *Discourse Theory*, *supra* note 20.

29. *See* Siebecker, *Bridging Troubled Waters*, *supra* note 21.

30. *See generally* MARTIN LIPTON ET AL.,, WACHTEL, LIPTON, ROSEN & KATZ, IT'S TIME TO ADOPT THE NEW PARADIGM (2019), http://www.wlrk.com/webdocs/wlrknew/WLRKMemos/WLRK/WLRK.26357.19.pdf (urging the adoption of a "New Paradigm" for corporate governance through "governance," "engagement," and "stewardship").

31. *Id.* at 6.

32. *Id.* at 8–9 (although the white paper refers to "buckets" rather than "pillars").

will proactively communicate their preferences and expectations.[33]

There might not exist a more powerful professional endorsement of discourse as an essential tool for recalibrating existing corporate governance principles to shepherd and balance evolving needs of business and society. And with that professional acknowledgement of the need to revamp our understanding of what basic fiduciary duties entail,[34] exploring more deeply how a coherent philosophy of trust animates those fiduciary duties seems necessary rather than novel.

To that end, this Article examines whether reshaping existing corporate fiduciary duties around the philosophically rigorous tenets of "encapsulated trust" would promote sufficiently robust discourse among the corporation and its constituencies to guide corporate managers in the proper development, utilization, and dissemination of AI technologies. To accomplish that goal, Part I of this Article provides a brief description of AI and anecdotal accounts of AI's growing importance in various corporate functions. Part II describes the fiduciary duties of trust upon which corporate organization depends and how a revitalized sense of "encapsulated trust" might properly guide AI utilization. Part III delves into the practical ramifications for AI within that fiduciary framework of "encapsulated trust." Thus, Part III examines how AI could be directed to enhance the quality of corporate discourse among the corporation and its constituencies; investigates how the advent of AI might require directors to exercise greater care in preventing corporate criminality; and explores how corporate managers could use AI to validate a consideration of morality in business decisions. In Part IV, the Article suggests that increased dependence on AI in the boardroom might require embracing a new prototypical identity for corporate directors fully capable of embracing and shepherding the new AI technology. Finally, this Article concludes that although AI might not supplant human beings on corporate boards, AI might very well enhance the integrity and humanity of corporate decision-making.

II. THE ERA OF ARTIFICIAL INTELLIGENCE

Realizing the paramount importance of a renewed dedication to fiduciary governance principles in the AI era requires some basic understanding of the increasing role AI technologies play in advancing corporate strategies and business practices. According to a 2017 global survey of business executives conducted by the MIT Sloan Management Review and The Boston Consulting Group, less than half of surveyed companies have actually implemented or experimented with AI strategies.[35] The current trepidation towards AI seems fleeting, however, with almost 85% of executives reporting that AI would enable them to obtain a competitive advantage[36] and more than 60% of respondents believing that implementation of AI remained an urgent business priority.[37] A contemporaneous Price Waterhouse Coopers study predicted that an extraordinary

33. *Id.* at 8.

34. *See id.* at 7 ("Adoption of and adherence to the principles of *The New Paradigm* is consistent with the fiduciary duties of boards of directors to their corporations and shareholders, and of asset managers to investors and the underlying beneficiaries for whom they are acting.").

35. Bughin et al., *supra* note 8.

36. S. Ransbotham et al., *Reshaping Business with Artificial Intelligence: Closing the Gap Between Ambition and Action*, 59 MIT SLOAN MGMT. REV. 1, 1 (2017).

37. *Id.* at 12.

worldwide proliferation of AI technologies over the next decade "could contribute up to $15.7 trillion to the global economy in 2030, more than the current output of China and India combined."[38] Although increased AI utilization may substantially alter the way businesses operate, this Part in no way intends to provide a comprehensive survey of the myriad ways in which businesses might harness AI technologies. Instead, the goal is simply to demonstrate that AI plays an increasingly central role in corporate strategies and practices. Focusing on just a few important current uses of AI should make clear that AI will inevitably cause a paradigmatic shift in corporate decision making at the highest levels.

A. Defining Artificial Intelligence

Before exploring some important applications of AI for corporate governance, just what does AI mean? Although perhaps a bit frustrating, "artificial intelligence" remains quite a protean concept.[39] Because AI covers a broad range of evolving technologies[40] and fields of study, including computer science, psychology, philosophy, and linguistics,[41] pinning down a precise definition of AI becomes problematic.[42] In order to make discussions of important issues surrounding AI development and utilization more focused, some eschew broad definitions.[43] Instead, important ethical and practical considerations of AI get tethered to discrete AI applications or component technologies, such as image recognition, voice recognition, predictive modeling, customer communication, and a host

38. ANAND S. RAO & GERARD VERWEIJ, PWC, SIZING THE PRIZE: WHAT'S THE REAL VALUE OF AI FOR YOUR BUSINESS AND HOW CAN YOU CAPITALIZE? 3 (2017), https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf.

39. *See* Iria Giuffrida et al., *A Legal Perspective on the Trials and Tribulations of AI: How Artificial Intelligence, the Internet of Things, Smart Contracts, and Other Technologies Will Affect the Law*, 68 CASE W. RES. L. REV. 747, 752 (2018) ("[A]lthough AI is talked about in the media almost every day, there is still no generally accepted definition of the term. Individual definitions run the gamut from a super-intelligent, humanoid, sapient, world-conquering robot to an app that suggests that the weather justifies wearing a coat.").

40. *See* JACQUES BUGHIN ET AL., MCKINSEY GLOBAL INST., ARTIFICIAL INTELLIGENCE: THE NEXT DIGITAL FRONTIER 8 (2017), https://www.mckinsey.com/~/media/McKinsey/Industries/Advanced%20Electronics/Our%20Insights/How%20artificial%20intelligence%20can%20deliver%20real%20value%20to%20companies/MGI-Artificial-Intelligence-Discussion-paper.ashx ("Trying to pin down the term more precisely is fraught for several reasons: AI covers a broad range of technologies and applications, some of which are merely extensions of earlier techniques and others that are wholly new. Also, there is no generally accepted theory of 'intelligence,' and the definition of machine 'intelligence' changes as people become accustomed to previous advances." (citations omitted)).

41. *See* STEFAN VAN DUIN & NASER BAKHSHI, DELOITTE, ARTIFICIAL INTELLIGENCE 5 (2018), https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/deloitte-analytics/deloitte-nl-data-analytics-artificial-intelligence-whitepaper-eng.pdf ("AI refers to a broad field of science encompassing not only computer science but also psychology, philosophy, linguistics and other areas."); *see also* Andrea M. Matwyshyn, *The Internet of Bodies*, 61 WM. & MARY L. REV. (forthcoming 2019).

42. *See* Jack Krupansky, *Untangling the Definitions of Artificial Intelligence, Machine Intelligence, and Machine Learning*, MEDIUM (June 13, 2017), https://medium.com/@jackkrupansky/untangling-the-definitions-of-artificial-intelligence-machine-intelligence-and-machine-learning-7244882f04c7 (explaining the meanings of various terms associated with AI).

43. *See* Alan Morrison & Anand Rao, *Machine Learning Overview*, PWC: NEXT IN TECH (Nov. 22, 2016), http://usblogs.pwc.com/emerging-technology/a-look-at-machine-learning-infographic/; Sara Castellanos, *What Exactly Is Artificial Intelligence?*, WSJ PRO (Dec. 6, 2018), [hereinafter Castellanos, *What Exactly Is Artificial Intelligence*], https://www.wsj.com/articles/what-exactly-is-artificial-intelligence-1544120887; DUIN & BAKHSHI, *supra* note 41, at 4–10.

of other AI silos.[44] Of course, to the extent AI applications and component technologies quickly evolve, the siloed approach to considering appropriate limits on AI development and utilization becomes less helpful.[45]

Due to the celerity of technological advances that may make definitional precision impractical,[46] some scholars and commentators embrace a rather simple working definition of AI as "machines that are capable of performing tasks that, if performed by a human, would be said to require intelligence."[47] That commonsense understanding certainly provides an accessible starting point. But, exploring the special challenges of managing AI within the corporate governance context requires a slightly more nuanced definition.

To understand the pressing need for a revitalized dedication to robust fiduciary principles in corporate governance, the definition recently adopted by Price Waterhouse Coopers (PwC) might provide a better starting point:

> Artificial intelligence (AI) is an umbrella term for "smart" technologies that are aware of and can learn from their environments, enabling them to subsequently take autonomous action. Robotic process automation, machine learning, natural language processing, and neural networks all incorporate AI into their operations. What separates AI from general-purpose software is that it enable [sic] machines to respond autonomously to signals from the external world—signals that programmers do not directly control and therefore cannot always anticipate.[48]

Diving deep, however, into the details of robotic process automation,[49] machine learning,[50]

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44. *See* Darrell M. West, *The Role of Corporations in Addressing AI's Ethical Dilemmas,* BROOKINGS INST. (Sept. 13, 2018), https://www.brookings.edu/research/how-to-address-ai-ethical-dilemmas/.

45. *See* Scherer, *supra* note 1, at 360; *see also* Castellanos, *What Exactly Is Artificial Intelligence*, *supra* note 43, at 3.

46. *See* Scherer, *supra* note 1, at 359.

47. Scherer, *supra* note 1, at 362; Shlomit Yanisky Ravid, & Xiaoqiong (Jackie) Liu, *When Artificial Intelligence Systems Produce Inventions: An Alternative Model for Patent Law at the 3A Era*, 39 CARDOZO L. REV. 2215, 2224 (2017).

48. Chris Curran & Anand Rao, *Briefing: Artificial Intelligence*, PWC: NEXT IN TECH (Jan. 22, 2018), http://usblogs.pwc.com/emerging-technology/briefing-ai/.

49. *See Briefing: Robotic Process Automation*, PWC: NEXT IN TECH (Nov. 3, 2017), http://usblogs.pwc.com/emerging-technology/briefing-rpa/ ("[Robotic Process Automation] is a set of concepts and technologies designed to intelligently automate repetitive business, industrial, and other tasks. RPA has little to do with what we commonly understand as 'robots' in the conventional sense of the word. Rather, RPA is defined by algorithms that are built to enhance return on investment (ROI), boost execution speed, and improve the quality of business results.").

50. *See* MICHAEL CHUI & BRIAN MCCARTHY, MCKINSEY & CO., AN EXECUTIVE'S GUIDE TO AI 1 (2018), https://www.mckinsey.com/~/media/McKinsey/Business%20Functions/McKinsey%20Analytics/Our%20Insights/An%20executives%20guide%20to%20AI/An-executives-guide-to-AI.ashx ("Machine-learning algorithms detect patterns and learn how to make predictions and recommendations by processing data and experiences, rather than by receiving explicit programming instruction. The algorithms also adapt in response to new data and experiences to improve efficacy over time.").

natural language processing,[51] artificial neural networks,[52] deep learning,[53] and general AI[54] remains far outside the scope of this Article. What remains essential to understand, however, is that AI continues to develop in unanticipated ways as component technologies evolve. With that technological evolution, AI's autonomous decision-making capacities will grow with whipsaw speed. The fundamental concerns from a corporate governance perspective are not only whether humans can remain in the corporate decision-making loop,[55] but whether human decisions can properly constrain and guide AI technologies[56] that will increasingly exert more autonomous managerial power.[57]

B. The Booming Business of AI

With some basic understanding of what AI entails, a brief exploration of some prominent applications of AI in the business world helps shape the consideration of whether existing principles of corporate governance remain sufficient to guide and constrain AI utilization. To be sure, the business of AI is booming. International Data Corporation, a global market intelligence firm, predicts that "global spending on artificial intelligence is expected to hit $35.8 billion this year, up 44% over last year . . . The AI

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51. *See* DUIN & BAKHSHI, *supra* note 41, at 14 ("Natural Language Processing, or NLP in short, is a term for everything from speech recognition to language generation, each requiring different techniques . . . [including] Part-of-Speech tagging, Named Entity Recognition, and Parsing.").

52. *See id.* at 13 ("Animals are able to process (visual or other) information from their environment and react adaptively to a changing situation. They use their nervous system to perform such behavior. Their nervous system can be modeled and simulated and it should be possible to (re)produce similar behavior in artificial systems. Artificial Neural Networks (ANN) can be described as processing devices that are loosely modeled after the neural structure of a brain.").

53. *See* CHUI & MCCARTHY, *supra* note 50, at 6 ("Deep learning is a type of machine learning that can process a wider range of data resources, requires less data preprocessing by humans, and can often produce more accurate results than traditional machine-learning approaches. In deep learning, interconnected layers of software-based calculators known as 'neurons' form a neural network. The network can ingest vast amounts of input data and process them through multiple layers that learn increasingly complex features of the data at each layer. The network can then make a determination about the data, learn if its determination is correct, and use what it has learned to make determinations about new data.").

54. *See* DUIN & BAKHSHI, *supra* note 41, at 6 ("The holy grail of AI is a General AI, a single system that can learn about any problem and then solve it. This is exactly what humans do: we can specialize in a specific topic, from abstract maths to psychology and from sports to art, we can become experts at all of them.").

55. *See* Pyle & San José, *supra* note 7 ("It's true that change is coming (and data are generated) so quickly that human-in-the-loop involvement in all decision making is rapidly becoming impractical.").

56. *See* H. James Wilson & Paul R. Daugherty, *Collaborative Intelligence: Humans and AI Are Joining Forces*, HARV. BUS. REV. (July–Aug. 2018), https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces [hereinafter Wilson & Daugherty, *Collaborative Intelligence*]; *See* Bughin et al., *A Survey of 3,000 Executives*, *supra* note 8 ("And as AI continues to converge with advanced visualization, collaboration, and design thinking, businesses will need to shift from a primary focus on process efficiency to a focus on decision management effectiveness, which will further require leaders to create a culture of continuous improvement and learning.").

57. *See* Pyle & San José, *supra* note 7, at 9 ("If distributed autonomous corporations act intelligently, perform intelligently, and respond intelligently, we will cease to debate whether high-level intelligence other than the human variety exists. In the meantime, we must all think about what we want these entities to do, the way we want them to behave, and how we are going to work with them."); Castellanos, *Companies Need Help*, *supra* note 11 ("Concerns about transparency and ethics are barriers in implementing AI. For example, about 60% of 5,000 executives polled in a recent study by International Business Machines Corp.'s Institute of Business Value said they were concerned about being able to explain how AI is using data and making decisions in order to meet regulatory and compliance standards. That's up from 29% in 2016.").

market shows no sign of slowing down, with AI spending projected to more than double to $79.2 billion by 2022, a compound annual growth rate of 38%."[58] As adopters continue to mount, some predict AI will result in an overall increase in business revenues of $3 trillion as early as 2021.[59] Even if the prediction misses the mark by a wide-margin, the business case for AI seems to secure its position as an increasingly significant force in driving the world economy.

The following Parts certainly do not discuss every way in which AI affects business practices or society generally.[60] But even a limited anecdotal investigation demonstrates how AI has already fundamentally changed the way corporations interact with consumers, investors, corporate stakeholders, and the communities those corporations inhabit.

1. Automation and Systems Organization

One of the more obvious potential applications of AI in the corporate setting lies in honing automation and systems techniques.[61] According to a recent survey, 47% of companies report using AI to improve automated production.[62] Although less than 17% of executives surveyed were familiar with specific AI robotic applications, 42% of the respondents believed that AI automation technologies would be "widely deployed" at their firms within three to five years.[63] Tracking that reported interest by business executives, a prominent AI research firm recently reported that companies developing AI robotic automation technologies rank among the most attractive for funding by venture capitalists.[64]

The automation processes to which AI can be applied, however, are not limited simply to manufacturing or physical tasks. Instead, AI automation and systems organization technologies serve almost all areas of business operations, including highly nuanced and intuitive functions.[65] For instance, human resources operations have been significantly

58. John McCormick, *Worldwide AI Spending to Hit $35.8 Billion in 2019*, WSJ PRO (Mar. 13, 2019), https://www.wsj.com/articles/worldwide-ai-spending-to-hit-35-8-billion-in-2019-11552516291.

59. *See id.*; Press Release, Gartner, Inc., Gartner Says By 2020, Artificial Intelligence Will Create More Jobs Than It Eliminates (Dec. 13, 2017), https://www.gartner.com/en/newsroom/press-releases/2017-12-13-gartner-says-by-2020-artificial-intelligence-will-create-more-jobs-than-it-eliminates.

60. For detailed insights into the myriad ways AI might permanently change society, for better or worse, see generally PAUL R. DAUGHERTY & H. JAMES WILSON, HUMAN + MACHINE: REIMAGINING WORK IN THE AGE OF AI (2018); MAX TEGMARK, LIFE 3.0: BEING HUMAN IN THE AGE OF ARTIFICIAL INTELLIGENCE (2017); HAVENS, *supra* note 24 ; NICK BOSTROM, SUPERINTELLIGENCE: PATHS, DANGERS, STRATEGIES (2014).

61. *See* Dimple Agarwal et al., *AI, Robotics, and Automation: Put Humans in the Loop*, DELOITTE (Mar. 28, 2018), https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2018/ai-robotics-intelligent-machines.html?id=us:2ps:3gl:confidence:eng:cons:111617:nonem:na:jlGgeatw:1100004742:268089541385:b:RLSA_Human_Capital_Trends:Automation_BMM:nb (examining how various industries use AI).

62. *Id.*

63. *Id.*

64. *See* Adam Janofsky, *Facial Recognition, Robotic Process Automation Companies Among Most-Funded AI Startups*, WSJ PRO (Feb. 14, 2019), https://www.wsj.com/articles/facial-recognition-robotic-process-automation-companies-among-most-funded-ai-startups-11550138401 (observing that AI robotic automation companies are attractive to venture capital).

65. *See* JAMES MANYIKA, MCKINSEY GLOBAL INST., WHAT'S NOW AND NEXT IN ANALYTICS, AI, AND AUTOMATION (2017), https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Digital%20Disruption/Whats%20now%20and%20next%20in%20analytics%20automation/Final%20PDF/MGI-Briefing-Note-Automation-final.ashx (discussing the future steps in AI).

augmented through AI strategies.[66] As a recent management analysis from Deloitte observed:

> Software can now recognize faces and identify gender, listen to voices and identify mood, and decode video interviews to identify education level, lying, and cognitive ability. Analytics tools are intelligently selecting candidates, identifying employees' career options, and coaching managers on improving their leadership skills. And the potential doesn't end there: AI is even being used to create chatbots that can interact with job candidates, identify and score video interviews, and understand the sentiment of engagement surveys. Every major human capital management cloud provider is now implementing algorithms, making it important for organizations to maintain accurate data and carefully review these tools for accuracy and potential bias.[67]

Thus, in addition to increasing the speed or accuracy of production, AI robotic technologies now reach into many "non-traditional" areas.[68] With that expanded reach, the very concept of AI automation will certainly change.

Regardless of the specific automation or systems organization tasks AI technologies attempt to tackle, to the extent robotic technologies increase profitability, the proliferation trend will continue. As a 2017 McKinsey & Company study predicted, "[a]t a macroeconomic level, based on our scenario modeling, we estimate automation alone could raise productivity growth on a global basis by 0.8 to 1.4 percent annually. In short, businesses and the economy need the productivity boost from automation."[69] Although investment in automation and systems organization may currently benefit larger firms that can afford the expense of specially tailored AI applications, as the modes of AI development become more streamlined, the availability and accessibility of AI to smaller companies will necessarily increase.[70]

2. Risk Management and Compliance

Predictive risk management provides another burgeoning area for AI technologies in the corporate realm.[71] As corporations get larger and more complex, attempting to predict future risks and vulnerabilities becomes more challenging.[72] Sophisticated AI cognitive computing software can take account of those complexities much more accurately and

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66. *See* Sara Castellanos, *HR Departments Turn to AI-Enabled Recruiting in Race for Talent*, WALL ST. J. (Mar. 14, 2019, 5:54 PM), https://www.wsj.com/articles/hr-departments-turn-to-ai-enabled-recruiting-in-race-for-talent-11552600459 (describing the impact of AI on various facets of human resources operations).

67. Agarwal, *supra* note 61.

68. For a description of efforts to expand AI robotics to nontraditional areas, see Greg Nichols, *DARPA Seeks "Non-Traditional" Robotics Innovators*, ZDNET (Nov. 18, 2015), https://www.zdnet.com/article/darpa-seeks-non-traditional-robotics-innovators/.

69. MANYIKA, *supra* note 65, at 6.

70. *See* Daniel Faggella, *Is Artificial Intelligence for Small Business? Factors to Consider for Technology Adoption*, EMERJ (Feb. 12, 2019), https://emerj.com/ai-executive-guides/is-artificial-intelligence-for-small-business/ (describing the potential for AI adoption in small businesses).

71. *See generally* SAMIR HANS, DELOITTE, WHY ARTIFICIAL INTELLIGENCE IS A GAME CHANGER FOR RISK MANAGEMENT (2016), https://www2.deloitte.com/content/dam/Deloitte/us/Documents/audit/us-ai-risk-powers-performance.pdf (discussing the intersection between artificial intelligence and business).

72. *See id.* (stating that internal and external data has increased, and AI can follow patterns and learn to predict fraud and suggest strategies).

efficiently than previously imagined.[73] Whether with respect to cyber security, organizational weaknesses, personnel inefficiencies, financial irregularities, or any area of corporate performance,[74] AI software can develop targeted assessments of risk exposure that might impose costs or liabilities on the firm.[75]

Beyond simply protecting against harm, however, AI risk management strategies can identify new opportunities for business growth and development.[76] As a recent Deloitte report stated,

> Cognitive analytics allow businesses to quickly tap unstructured information, personalize services, and reduce subjectivity in decision making. Among the arenas where this approach to data is useful are healthcare, retail, and even litigation, where computers are 'trained' to discover specific information in millions of legal documents and perform any necessary global language translation.[77]

As a result of the combined power of AI strategies to enhance the effectiveness of risk management practices while identifying areas for new business development, current predictions peg investment in artificial cognitive risk management at over $60 billion by 2025.[78] While in the mergers & acquisitions (M&A) realm, the focus of AI has been gleaning a more accurate and cost-effective assessment of target company values, the aim of AI in the risk management realm targets predictions of vulnerability as well as avenues for growth.

3. Mergers & Acquisitions

One of the most lucrative applications of AI involves M&A. Companies seek combinations or acquisitions for a variety of reasons, including economies of scale, economies of scope, diversification, market domination, technology development, and vertical integration, among others.[79] The process of determining a proper fit involves an incredibly expensive and time-consuming process of due diligence.[80] During that time,

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73. *See* Ipsita Pradhan, *Artificial Intelligence: The New Normal*, INST. RISK MGMT., https://www.imperial.ac.uk/business-school/blogs/executive-education/artificial-intelligence-new-normal/ (finding that traditional methods of risk management are unable to handle the large amounts of data storage in companies); Anthony Petrucci, *How Artificial Intelligence Will Impact Corporate Communications*, FORBES (Apr. 20, 2018), https://www.forbes.com/sites/forbescommunicationscouncil/2018/04/20/how-artificial-intelligence-will-impact-corporate-communications/#678194da1dc6 ("AI will enable faster responses to crises, following preset parameters as part of human-centric contingency plans. AI bots will be programmed to assist crisis communication leaders—and they won't be swayed by emotions in heated crisis situations.").

74. Jim Arndts et al., *A Call to Arms-How Machine Intelligence Can Help Banks Beat Financial Crime*, RISK.NET (Sept. 6, 2018), https://www.risk.net/technology/5915361/a-call-to-arms-how-machine-intelligence-can-help-banks-beat-financial-crime.

75. Jeanne Boillet, *Why AI Is Both a Risk and a Way to Manage Risk*, EY (Apr. 1, 2018), https://www.ey.com/en_gl/assurance/why-ai-is-both-a-risk-and-a-way-to-manage-risk.

76. *See* HANS, s*upra* note 71 (stating AI can allow businesses to make better, quicker decisions).

77. *Id.*

78. *Id.*

79. *See generally* STEPHEN M. BAINBRIDGE, MERGERS AND ACQUISITIONS (3d ed. 2012) (addressing some of the reasons for mergers).

80. *See* Richard D. Harroch et al., *A Comprehensive Guide to Due Diligence in Mergers and Acquisitions*, FORBES (Mar. 27, 2019), https://www.forbes.com/sites/allbusiness/2019/03/27/comprehensive-guide-due-diligence-issues-mergers-and-acquisitions/#1a7343a82574.

parties (although mostly the acquiring party) typically review enormous amounts of data, conduct personal interviews, visit asset sites, and prepare detailed written reports, all in an effort to ascertain the appropriate price for the transaction and to structure the legal documents governing the deal in a manner that reflects observed circumstances.[81] The due diligence process involves a highly coordinated effort among company personnel, accountants, lawyers, investment bankers, and many other experts whose opinions might inform deal value and structure.

Within the last decade, consulting firms developed specialized AI assisted due diligence software services that accomplish many essential due diligence tasks more accurately and less expensively than if conducted by humans.[82] Those consulting companies offer a variety of AI strategies that not only summarize and categorize the enormous volume of corporate data necessary to gain an accurate assessment of the target company, but also identify potential areas of risk that might require special attention in the acquisition agreements.[83] In essence, the AI software enhances the likelihood the various human actors utilizing the technology (lawyers, accountants, investment bankers, and company personnel) will be able to negotiate a more accurate price and an appropriately tailored deal structure.[84]

Although some traditional elements of due diligence practice remain, the growth of AI within the M&A realm has been quite astonishing.[85] A recent study suggests that over 60% of large cap companies are utilizing (either on their own or through intermediaries) AI tools for M&A transactions.[86] In all aspects of the M&A process, from investment origination to post-merger integration,[87] AI technology is being used to enhance the efficiency of the transaction, the likelihood of post-acquisition success, and the overall

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81. *See* Christopher Steiner, *IT Due Diligence: How to Separate AI Experts from Pretenders*, FORBES (Apr. 18, 2018), https://www.forbes.com/sites/christophersteiner/2018/04/18/it-due-diligence-how-to-separate-ai-experts-from-pretenders/#66352d7b63f8 (suggesting various ways of confirming AI expertise).

82. *See* William Choe et al., *Powering Opportunity: How Dealmakers Are Harnessing AI*, WHITE & CASE (Aug. 7, 2018), https://mergers.whitecase.com/highlights/powering-opportunity-how-dealmakers-are-harnessing-ai ("The due diligence process has proven particularly suitable for the application of AI. Rather than hiring huge teams of people to sift through all a target company's employment, supplier and customer contracts, AI platforms such as Kira, RAVN, eBrevia and Luminance search thousands of uploaded contracts across hundreds of data points. This enables them to present any issues to legal advisers and due diligence providers in a fraction of the time with at least the same level of accuracy. Due-diligence start-up Neotas uses AI to run background checks on management teams by searching the entire internet, including public records and social media, for any issues or red flags.").

83. *See* Press Release, Hampleton Partners, Big IT Players in the Race to Acquire Artificial Intelligence (AI) Assets (June 7, 2018), https://hampletonpartners.com/mediaarticle/hampleton-partners-artificial-intelligence-ai-market-report/ (explaining that AI acquisitions are increasing).

84. *See* Sam Zadeh, *Better, Faster, Stronger: Revamping the M&A Due Diligence Process with Artificial Intelligence Platforms*, DEAL L. WIRE (Mar. 27, 2018), https://www.deallawwire.com/2018/03/27/better-faster-stronger-revamping-the-ma-due-diligence-process-with-artificial-intelligence-platforms/ (explaining how AI will simplify contract review).

85. *See* J. Neely, *How to Extract More Value from M&A by Using Artificial Intelligence and Analytics*, MERGERS & ACQUISITIONS (Feb. 20, 2018), https://www.themiddlemarket.com/opinion/artificial-intelligence-and-analytics-are-transforming-m-a (discussing the increase of AI in business).

86. Leon Saunders Calvert, *Using AI to Predict Opportunity in M&A*, REFINITIV (June 20, 2018), https://blogs.thomsonreuters.com/financial-risk/ai-digitalization/using-ai-to-predict-opportunity-in-m-and-a/.

87. *See* Dina Marques et al., *Not Using Analytics in M&A? You May Be Falling Behind: Using AI During M&A Can Help*, DELOITTE, https://www2.deloitte.com/ca/en/pages/finance/articles/analytics-m-and-a-ia.html (last visited Oct. 14, 2019) (explaining how to leverage AI in the M&A lifecycle).

profitability of the deal.[88] That clear cost-effectiveness of AI technologies within the M&A process seems to suggest that AI has found a stronghold from which it is unlikely to lose its grip.

Beyond making the due diligence aspects of M&A transactions less expensive and more accurate, AI tools are increasingly used to identify M&A targets,[89] shape important deal terms,[90] and manage the integration of combined companies post-closing.[91] Investment banks, accounting firms, and technology companies have already developed a variety of AI tools that support and arguably supplant much of the traditional human financial and organizational analysis.[92] Less plagued by human biases that can negatively impact investment decisions, AI tools can sift through vast amounts of financial and non-financial data to select appropriate target companies or opportunities for investment.[93]

Quite simply, companies that fail to utilize AI in making acquisition or divestment decisions face a significant competitive disadvantage.[94] A rather voracious demand for AI applications to inform and improve M&A decision-making continues to fuel the

88. *See* Choe et al., *supra* note 82 ("For deal professionals, AI is not just an exciting source of new transaction flow. It can now be applied to every part of the deal process, from tracking and sourcing deals through to due diligence, execution and post-deal integration.").

89. *See* Leanne Sardiga, *Artificial Intelligence and Deals: Four Moves That Will Turn AI's Potential into M&A Success*, PWC (Sept. 4, 2018), http://usblogs.pwc.com/deals/artificial-intelligence-and-deals-four-moves-that-will-turn-ais-potential-into-mna-success/ ("Advanced use of AI also has enabled our deals professionals to extract deeper insights that could have a big impact on M&A, divestitures and other deals. As the number of structured data sets for a particular industry grows, AI can enhance insights on increasingly complex questions and be more predictive in nature. At PwC, we assist clients with thousands of deals a year, which provides the critical foundation for these types of analytics that enable more confidence in forecasts and synergy estimates ahead of a deal decision.").

90. *See* Marques et al., s*upra* note 87 (explaining that AI can be used in term negotiations).

91. *See* Matt Turner, *Machine Learning Is Now Used in Wall Street Dealmaking, and Bankers Should Probably Be Worried*, BUS. INSIDER (Apr. 4, 2017), https://www.businessinsider.com/jpmorgan-using-machine-learning-in-investment-banking-2017-4 (explaining that investors use IA for recommendations to companies).

92. For examples of new AI investment banking tools that identify acquisition targets and strategies, see Leon Sanders Calvert, *M&A and the Digitalization of Investment Banking*, REFINTIV (June 8, 2018), https://www.refinitiv.com/perspectives/ai-digitalization/ma-and-the-digitalization-of-investment-banking/ ("By co-mingling proprietary content, concerning a bank's clients for instance, with alternative sources of data from third parties, and then stitching these together using AI tools to create connections, investment banks can help drive deal origination ideas."); *Investment Banking 2.0- Predicting M&A Opportunities Through AI*, KOGNETICS (Feb. 26, 2019), https://www.kognetics.com/blogs/investment-banking-2-0-predicting-ma-opportunities-through-ai/.

93. *See* Darin Bifani, *Embracing Artificial Intelligence to Enhance M&A*, ONE TO ONE, https://www.onetoonecf.com/embracing-artificial-intelligence-to-enhance-mna/ (last visited Oct. 15, 2019) ("To begin with, the preliminary application of AI will likely be to assist companies and financial analysts with gathering and processing information that can be used to make different types of M&A-related decisions. While humans can, of course, execute these tasks, AI-supported machines will be able to carry out these activities continuously, much faster and have far better recollections of search results . . . AI could gather information about multiple markets and sectors and compare them to identify acquisition opportunities that likely offer the best ROI.").

94. *See* Leon Saunders Calvert, *AI & Investment Banking Competitive Advantage*, REFINITIV (Nov. 19, 2018), https://www.refinitiv.com/perspectives/ai-digitalization/ai-competitive-advantage-investment-banking/ (discussing the increased use of AI in business and the competitive advantage it provides); Marques et al., *supra* note 87 ("Deloitte is currently developing an M&A market sensing platform that will transform how we monitor market trends and deal insights. The sensing tool will expedite proactive and strategic identification of emerging risks and value creation opportunities to enable our clients to identify transaction opportunities quicker and ahead of the competition.").

development of new AI technologies. Despite the proliferation of AI tools in the M&A realm, the persistent concern remains whether humans can properly guide the technologies as they develop.[95]

4. Customer and Investor Communications

Perhaps one of the most pervasive developments in AI technology involves corporate communications with consumers[96] and investors.[97] On the consumer side, a prominent investment banking advisory firm recently predicted that 85% of customer interactions will be managed without a human by 2020.[98] Paul Daugherty, the Chief Technology & Innovation Officer at Accenture and author of Human + Machine,[99] suggests that AI consumer communication tools will inevitably become the virtual brand of any business.[100] According to Dougherty, "[a]s AI takes over more of the customer experience, it grows beyond just an intelligent interface. With each customer interaction becoming more personalized and natural, AI moves into the role of a company's digital spokesperson—and eventually their digital brand."[101] Whether by addressing consumer complaints,[102] personalizing product and service experiences,[103] anticipating and recommending consumer purchases,[104] facilitating consumer transactions through individually tailored purchase methods,[105] or a host of other applications, AI technology has already

95. *See* Joshua P. Davis, *Artificial Wisdom? A Potential Limit on AI in Law (and Elsewhere)*, 72 OKLA. L. REV. 51, 65–66 (2019) (discussing humans' role in guiding AI machins).

96. *See* Wilson & Daugherty, *Collaborative Intelligence*, *supra* note 56, at 6 ("Human-machine collaboration enables companies to interact with employees and customers in novel, more effective ways.").

97. *See* Michael Pollack, *How Technology Is Changing Investor Relations*, FIN. & CORP. REL. (Mar. 1, 2018), http://www.fcr.com.au/technology-changing-investor-relations/ ("Innovation is paramount to the survival and relevance of investor relations. It is for this reason that many believe big data and artificial intelligence will be the main drivers influencing investor relations in the near future."); Oliver Schutzmann, *Industry View: AI Can Change Everything in IR*, IR MAG. (Feb. 27, 2018), https://www.irmagazine.com/technology-social-media/industry-view-ai-can-change-everything-ir (discussing the increase of AI in investor relations).

98. *See* SOLGANICK & CO, ARTIFICIAL INTELLIGENCE M&A AND VC FUNDING UPDATE 9 (2018), http://solganick.com/wp-content/uploads/2018/08/Solganick-Co-Artificial-Intelligence-MnA-Update-H1-2018.pdf (explaining the future use of AI in the economy).

99. DAUGHERTY & WILSON, HUMAN + MACHINE, *supra* note 60.

100. Nick Johnson, *3 Reasons Why AI Will Boost US Productivity by 35% by 2035*, SALESFORCE (Nov. 14, 2017), https://www.salesforce.com/blog/2017/11/why-ai-will-boost-productivity-by-35-percent.html.

101. *Id.*

102. *See* Rahul Sharma, *How Artificial Intelligence Is Changing Customer Service Forever*, TECHGENIX (Sept. 18, 2018), http://techgenix.com/ai-customer-service/ (improving customer service by reducing costs and response times, and being proactive).

103. *See* Wilson & Daugherty, *Collaborative Intelligence*, *supra* note 56 ("Providing customers with individually tailored brand experiences is the holy grail of marketing. With AI, such personalization can now be achieved with previously unimaginable precision and at vast scale."); Barb Renner et al., *The Adoption of Disruptive Technologies in the Consumer Products Industry*, DELOITTE: INSIGHTS (Jan. 7, 2019), https://www2.deloitte.com/us/en/insights/industry/retail-distribution/disruptive-technologies-consumer-products/potential-of-artificial-intelligence-consumer-products.html ("In the apparel, fashion, and athleisure space, products can be designed to suit a buyer's individual features and needs. Food and beverage companies can customize packaging by using digital printing technology.").

104. *See* CHUI ET AL., *supra* note 26, at 14 (increasing recommendation engagement); Kathleen Holm, *Artificial Intelligence and Marketing: The Next Best Beachhead*, TCS 50 (Mar. 24, 2017), https://www.tcs.com/blogs/artificial-intelligence-and-marketing-next-best-beachhead (anticipating future purchases).

105. *See, e.g.*, Pamela N. Danziger, *6 Global Consumer Trends for 2019, and the Brands That Are Out in*

fundamentally altered the way businesses communicate with consumers.[106]

On the investor relations side, new AI technologies are being developed that not only help companies determine investor preferences regarding the desired content and timing of corporate communications, but also help companies to detect and allay potential investor dissatisfaction. As one investor relations firm reported in 2018:

> [M]achine learning will soon be able to analyse thousands of conference call scripts and be able to tell if there was a change of tone among investors. Furthermore, AI has the capacity to gain access to proprietary sentiment, volatility and investor algorithms for all stocks. This capability will open up the way in which investor relations teams shape their message and provide information to investors, including perhaps what kinds of data they share with investors at key points throughout the year.[107]

Of course, many of the same personalization and targeting applications for AI relevant to the consumer market are being developed in the investor realm as well, such as individualized "investor relations virtual assistants" provided through mobile technology and social media.[108] Through AI technologies, corporate communications could be tailored down to the individual level to best assure investor comfort and confidence.[109]

AI has even transformed how investors communicate with companies and how they assess corporate communications. BlackRock, the largest asset manager in the world, stated that it is using AI algorithms to sift through vast amounts of corporate communications in order "to tease out patterns that might remain obscure to human eyes and brains."[110] According to BlackRock's spokesperson, the technology "include[s] identifying and trying to exploit nonintuitive relationships between securities or market indicators, perusing social media 'to gain insights on employee attitudes, sentiment and preferences,' and monitoring search engines for words being entered on particular topics."[111] The advent of AI by investors creates a more sophisticated corporate communications loop. As investors react in the market to the timing and content of certain corporate communications (perhaps in part based on the reactions of consumers, stakeholders, or members of the community), corporations will use AI tools to adjust their

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Front of Them, FORBES (Jan. 13, 2019), https://www.forbes.com/sites/pamdanziger/2019/01/13/6-global-consumer-trends-and-brands-that-are-out-in-front-of-them-in-2019/#75a68cbb4fe4 ("Technology will not only enable more ways for people to shop along their preferred paths, but retailers will begin using AI to provide personnel on the shop floor with instant information to better serve and advise customers.").

106. TONY SCHOFIELD ET AL., DELOITTE, THE FOURTH REVOLUTION IS NOW: ARE YOU READY?: FUTURE OF OPERATIONS 8 (2017), https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Strategy/gx-strategy-ops-the-fourth-revolution-now.pdf (asserting that in the Fourth Industrial Revolution—a convergence of computing, data, artificial intelligence, and universal connectivity—"companies cannot any longer afford to concentrate on one or two channels of information and influence. They cannot rely on the brand to do all the heavy lifting for them. They have to know their customers at a level of detail and insight that was unimaginable only a decade ago.").

107. Pollack, *supra* note 97.

108. *Id.*

109. *See* Petrucci, *supra* note 73 ("AI will be the method through which a new concept called identity-based corporate communications will emerge. The precision will be impressive, with communications customized to each individual.").

110. Conrad De Aenlle, *A.I. Has Arrived in Investing. Humans Are Still Dominating*, N.Y. TIMES (Jan. 12, 2018), https://www.nytimes.com/2018/01/12/business/ai-investing-humans-dominating.html.

111. *Id.*

communication methods to suit market preferences.[112]

As a final note regarding AI's effect on corporate discourse, AI tools are being used to improve the basic elements of human communication. For example, one recent AI technology, Ambit, teaches business people how to engage more effectively in interpersonal communication, whether for debate, negotiation, collaboration, or for some other purpose.[113] After recording speech samples from participants:

> Ambit's machine learning then performs the analysis by combining acoustic language processing and natural language processing techniques. It measures patterns such as pitch frequency and pauses; the tone of the meeting, such as whether the discussion was negative or positive; the conversation flow, including how often participants took turns speaking; as well as the emotions expressed during the session, such as anger or joy. Ambit then makes links between various patterns and shows participants how they performed, such as whether one individual dominated a discussion or if another pulled back from a possible conflict.[114]

Another AI driven corporate communications company, Quantified Communications, promises that "[w]e train our machine (analytics platform) on the factors that make someone best-in-class, what makes someone a great leadership communicator, what makes someone trustworthy, etc., and then we help people 'optimize' their communication on those factors."[115]

What makes these AI applications especially noteworthy is that they primarily focus inward on improving human character rather than outward on the world we inhabit. That inward focus of some AI on changing what humans should aspire to become represents one of the main concerns about the ability of corporate governance principles to guide appropriately the development, dissemination, and utilization of AI.[116] As John Havens, the Executive Director of the Global Initiative on Ethics and Intelligent Systems stated, "'human-AI augmentation' discussions ignore the critical context of who actually controls people's information and identity. Soon it will be extremely difficult to identify any autonomous or intelligent systems whose algorithms don't interact with human data in one form or another."[117] Losing human agency through increased reliance on AI represents perhaps the worst-case outcome associated with the proliferation of AI.[118] But corporations

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112. *See* Petrucci, *supra* note 73 (listing advantages AI brings to corporate communications).

113. John McCormick, *AI Tool Aims to Improve Communication Skills*, WSJ PRO (Mar. 22, 2019), https://www.wsj.com/articles/ai-tool-aims-to-improve-communication-skills-11553245212.

114. *Id.*

115. Noah Zandan, *The Future of Human Communication: How Artificial Intelligence Will Transform the Way We Communicate*, QUANTIFIED COMM., https://www.quantifiedcommunications.com/blog/artificial-intelligence-in-communication (last visited Sept. 24, 2019).

116. *See* Matt Chessen, *Artificial Intelligence Chatbots Will Overwhelm Human Speech Online; The Rise of MADCOMs*, MEDIUM (Mar. 16, 2017), https://medium.com/artificial-intelligence-policy-laws-and-ethics/artificial-intelligence-chatbots-will-overwhelm-human-speech-online-the-rise-of-madcoms-e007818f31a1 (discussing the dangers of AI bots in chats online).

117. Janna Anderson & Lee Rainie, *Artificial Intelligence and the Future of Humans*, PEW RES. CTR. (Dec. 10, 2018), https://www.pewinternet.org/2018/12/10/artificial-intelligence-and-the-future-of-humans/.

118. *See id.* ("Experts say the rise of artificial intelligence will make most people better off over the next decade, but many have concerns about how advances in AI will affect what it means to be human, to be productive and to exercise free will. . . . The experts predicted networked artificial intelligence will amplify human effectiveness but also threaten human autonomy, agency and capabilities.").

largely control the future of AI.[119] Without paying close attention to the corporate governance principles that ultimately shape the role AI plays in our collective lives, we may blithely march ahead toward realizing our greatest fear.

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This admittedly incomplete survey of a few areas in which the corporate world increasingly depends on AI technology in no way attempts to convey a full understanding of the myriad possible uses of AI and their ultimate effects on our society. Nonetheless, the brief background provides a solid foundation for understanding the fundamental importance of ensuring robust principles of corporate governance exist to shepherd the continued development and utilization of AI in ways that contribute positively to our shared humanity.

III. ENCAPSULATED TRUST AND THE CORPORATION

Properly assessing the role AI might play in the boardroom requires an examination of the fiduciary duties that directors and officers owe to the corporation and the philosophy of trust from which those duties arise. The investigation demonstrates that in order for corporate managers to fulfill their fiduciary duties of trust, shareholders must legitimately possess a rational expectation that their interests are adequately taken into account during corporate decision-making processes. Of course, officers and directors certainly need not heed every expressed shareholder whim to fulfill their fiduciary duties. But making decisions in a vacuum wholly divorced from authentic shareholder interests does violence to the fundamental sense of trust designed to guide and corral corporate actors. Instead, fulfilling a fiduciary duty of trust requires that officers and directors competently attempt to encapsulate the interests of shareholders in steering the corporation. Moreover, to the extent shareholders possess genuine interests that extend beyond maximizing profits (e.g., paying living wages to employees, pursuing environmentally sustainable business practices, combating consumer fraud, ensuring gender equality, or promoting social justice), paying adequate fidelity to the duty of trust owed to shareholders may require targeted consideration of other stakeholder and community interests as well.

Employing a robust sense of "encapsulated trust" to assess whether officers and directors remain faithful to their fiduciary duties remains both philosophically sound and essential in practice. Nonetheless, existing corporate governance principles produce much less coherent, consistent, and effective notions of corporate fiduciary duties. The advent of AI makes such a fuzzy fiduciary framework utterly untenable. Perhaps ironically, however, the very proliferation of AI technologies facilitates easy adoption of a robust sense of "encapsulated trust" to refine and strengthen corporate fiduciary duties. Blithely marching ahead in the era of AI guided by mucky corporate governance principles, however, risks sullying our social fabric. Only by reinvigorating corporate fiduciary duties through a dedication to "encapsulated trust" can we ensure the integrity and ultimate humanity of corporate decisions.

A. The Mucky Swamp of Corporate Fiduciary Duties

Directors and officers owe fiduciary duties of care and loyalty to their corporations

119. *See generally* AMY WEBB, THE BIG NINE: HOW THE TECH TITANS AND THEIR THINKING MACHINES COULD WARP HUMANITY (2019) (discussing that companies are in control of the future of AI).

and shareholders.[120] Embedded in most state statutes and pervading the common law of corporate governance in every jurisdiction,[121] those two fundamental duties provide the primary protections to shareholders against managerial misconduct and corruption.[122] The duties themselves arise out of the law of agency, a set of quasi-contractual fiduciary obligations with jurisprudential roots dating back thousands of years.[123] Of course, the fiduciary obligations in agency law and current corporate law stem from the philosophy of trust.[124] Because the very notion of a fiduciary relationship connotes a duty of trust,[125] articulating the precise contours of how existing corporate duties should guide and constrain managerial conduct would seem to require specifying the philosophical tenets of trust from which those duties emanate.[126]

The fundamental problem with current corporate fiduciary obligations results from the lack of a consistent dedication to any single philosophical concept of trust.[127] Throughout history, trust has remained a rather amorphous philosophical concept.[128] As

120. *See* Mary Szto, *Limited Liability Company Morality: Fiduciary Duties in Historical Context*, 23 QUINNIPIAC L. REV. 61, 86–105 (2004) (describing the evolution of corporate fiduciary duties from ancient times). *See generally* Lyman P.Q. Johnson & David Millon, *Recalling Why Corporate Officers Are Fiduciaries*, 46 WM. & MARY L. REV. 1597 (2005) (discussing fiduciary duties of corporate officers); D. Gordon Smith, *The Critical Resource Theory of Fiduciary Duty*, 55 VAND. L. REV. 1399 (2002) (reviewing fiduciary duties and the Critical Resource Theory).

121. Justice Joseph T. Walsh, *The Fiduciary Foundation of Corporate Law*, 27 J. CORP. L. 333, 338 (2002).

122. JERRY W. MARKHAM, A FINANCIAL HISTORY OF MODERN U.S. CORPORATE SCANDALS FROM ENRON TO REFORM 246–310 (2006).

123. *See* Jonathan Atkins et al., *The Inequities of AEDPA Equitable Tolling: A Misapplication of Agency Law*, 68 STAN. L. REV. 427, 444 n.73 (2016) (discussing the pitfalls of agency law); *see also* TAMAR T. FRANKEL, FIDUCIARY LAW 79–96 (2011) (examining objectives of fiduciaries in all sectors of society).

124. *See* Melanie B. Leslie, *Trusting Trustees: Fiduciary Duties and the Limits of Default Rules*, 94 GEO. L.J. 67, 76–80 (2005) (discussing the evolution and basic role of fiduciary duties under corporate law).

125. *See* Richard N. Ottaway, *Defining Trust in Fiduciary Responsibilities*, *in* TRUST, RESPONSIBILITY, AND CONTROL: THE ETHICS OF ACCOUNTING ACCT. & FINANCE 3, 3 (W. Michael Hoffman et al. eds., 2000) ("In some ways, there is no role in fiduciary relationships other than trust."); Sarah Helene Duggin & Stephen M. Goldman, *Restoring Trust in Corporate Directors: The Disney Standard and the "New" Good Faith*, 56 AM. U.L. REV. 211, 256–65 (2006); Lawrence E. Mitchell, *The Importance of Being Trusted*, 81 B.U. L. REV. 591, 614–17 (2001) (discussing the essential nexus between trust and fiduciary relationships).

126. *See* Frank B. Cross, *Law and Trust*, 93 GEO. L.J. 1457, 1461 (positing in the context of economic transactions, "[w]hile we have a generalized understanding of the concept of trust, it is not readily amenable to clear definition"); *see also id.* at 1461 n.6 (listing a host of scholarly opinions regarding the ambiguity of trust in corporate law).

127. *See* Lawrence E. Mitchell, *Fairness and Trust in Corporate Law*, 43 DUKE L.J. 425, 428 (1993) (discussing the "mystery" of fiduciary duties in corporate law).

128. *See, e.g.*, Valerie Braithwaite, *Communal Exchange Trust Norms: Their Value Base and Relevance to Institutional Trust*, *in* TRUST & GOVERNANCE 46 (Valerie Braithwaite & Margaret Levi eds., 1998) (describing trust as a product of shared social values); Philip Pettit, *Republican Theory and Political Trust*, *in* TRUST & GOVERNANCE 295 (Valerie Braithwaite & Margaret Levi eds., 1998) (linking notions of trust to civic political theory); ROBERT C. SOLOMON & FERNANDO FLORES, BUILDING TRUST: IN BUSINESS, POLITICS, RELATIONSHIPS, AND LIFE 7 (2001) (characterizing trust as an emotional skill that arises in the context of a variety of dynamic, ongoing relationships); Tom R. Tyler & Roderick M. Kramer, *Whither Trust?*, *in* TRUST IN ORGANIZATIONS 5–7 (Roderick M. Kramer & Tom R. Tyler eds., 1996) (setting forth various social conceptions of trust rooted in moral psychology); ERIC M. USLANER, THE MORAL FOUNDATIONS OF TRUST (2002) (arguing that trust represents a moral commitment independent of personal interactions); Cross, *supra* note 126, at 1461 (articulating a concept of trust based on cognitive and emotional affect); Oliver E. Williamson, *Calculativeness, Trust, and Economic Organization*, 36 J.L. & ECON. 453, 453–86 (1993) (advancing trust as a product of rational expectation of future cooperation).

Professor Margaret Levi contends, "[t]rust is not one thing and does not have one source. It has a variety of forms and causes."[129] As a result, many suggest that relying on a fiduciary framework to govern corporate conduct inevitably produces inconsistent if not incoherent results.[130] While not condemning trust as wholly irrelevant to sustaining personal relationships or promoting corporate effectiveness, critics focus on the inability of rather vague and varying philosophical conceptions of trust to provide sufficiently concrete answers to knotty questions involving potential managerial fidelity to shareholder interests.[131] Rather than clumsily clinging to vague philosophical concepts to govern corporate behavior, opponents of trust suggest statutory or market-based codes to delineate clear boundaries for managerial conduct,[132] just as many have advocated with the proliferation of AI.[133]

Proponents of fiduciary principles to guide corporate conduct counter with a simple need for greater clarity in defining the sense of trust at stake and its contours.[134] Emphasizing the need for greater fidelity to corporate constituencies and integrity in corporate decision-making processes, proponents of a fiduciary framework remain skeptical of what inflexible statutes, self-regulation, or market preferences might portend.[135] Why? Stilted statutes often become quickly stale, especially with the celerity of technological innovation and its effects on social, economic, and political practices.[136] Often attributing the increasing spate of corporate scandals to diminishing appreciation for trust,[137] sympathetic scholars, judges, and even market professionals,[138] call for a return to

129. Margaret Levi, *A State of Trust*, *in* TRUST AND GOVERNANCE 79 (Valerie Braithwaite & Margaret Levi eds., 1998).

130. MICHAEL P. DOOLEY, FUNDAMENTALS OF CORPORATION LAW 610 (1995) (suggesting fiduciary standards remain extremely vague in corporate law); Deborah A. DeMott, *Beyond Metaphor: An Analysis of Fiduciary Obligation*, 1988 DUKE L.J. 879, 879 (1988) (describing trust based fiduciary duties as "elusive concepts"); Douglas G. Baird & M. Todd Henderson, *Other People's Money*, 60 STAN. L. REV. 1309, 1320 (2008) (arguing that fiduciary duty obligations seem inconsistently applied).

131. *See* Smith, *supra* note 120 (discussing the indeterminacy in construing fiduciary duties by courts); Baird & Henderson, *supra* note 130, at 1320.

132. *See* Baird & Henderson, *supra* note 130, at 1314–15 ("Our understanding of capital structures is simply too primitive for us to do much more than enforce the contracts that are written as best we can. The default rules we devise—and fiduciary obligations are simply one of these—should be in service of these contracts.") (citations omitted); Remus D. Valsan & Moin A. Yahya, *Shareholders, Creditors, and Directors' Fiduciary Duties: A Law and Finance Approach*, 2 VA. L. & BUS. REV. 1, 14–17 nn.46–47 (2007) (discussing various alternative approaches to a standard fiduciary duty framework for regulating corporate actors).

133. *See, e.g.*, Scherer, *supra* note 1, at 393–98; Gary E. Marchant & Yvonne A. Stevens, *Resilience: A New Tool in the Risk Governance Toolbox for Emerging Technologies*, 51 U.C. DAVIS L. REV. 233 (2017) (discussing the risk that comes with emerging technology); Ariel Ezrachi & Maurice E. Stucke, *Artificial Intelligence & Collusion: When Computers Inhibit Competition*, 2017 U. ILL. L. REV. 1775 (2017) (arguing that artificial intelligence can create additional antitrust violations regarding ease of collusion).

134. *See* William W. Bratton, *Game Theory and the Restoration of Honor to Corporate Law's Duty of Loyalty*, *in* PROGRESSIVE CORPORATE LAW 45, 139–85 (Lawrence M. Mitchell ed., 1995); MARKHAM, *supra* note 122, at 246–310; David M. Walker, *Restoring Trust After Recent Accountability Failures*, *in* GOVERNING THE CORPORATION 21–47 (Justin O'Brien ed., 2005).

135. *See, e.g.*, Am. Bar Ass'n, *Preliminary Report of the American Bar Association Task Force on Corporate Responsibility*, 54 MERCER L. REV. 789, 790–92 (2003) (reasoning that corporate responsibility springs, at a minimum, from the exercise of fiduciary duties, and this corporate responsibility leads to public trust in corporate integrity).

136. *See* Siebecker, *Trust & Transparency*, *supra* note 27, at 167.

137. *See* Duggin & Goldman, *supra* note 125, at 256–73.

138. *See id.* at 273–74; *see generally* JAY WILLIAM LORSCH ET AL., RESTORING TRUST IN AMERICAN

a revitalized sense of trust to rebuild confidence in corporate institutions.[139] Still, without a clear sense of trust to define the ambit of corporate duties, the existing fiduciary framework seems ill-equipped to stave corporate corruption and malfeasance in the era of AI.[140]

B. Encapsulated Trust Revitalized

Although current corporate governance jurisprudence might languish in a haze of ambiguity, embracing the particular philosophically robust sense of "encapsulated trust" could form the basis for a coherent set of fiduciary duties to ensure the integrity and humanity of corporate decision-making. The following Parts provide an explication of the basic tenets of encapsulated trust and a description of how that reinvigorated fiduciary construct might improve corporate governance.

1. Tenets of Encapsulated Trust

Although philosopher Russell Hardin receives credit for originating the concept of encapsulated trust generally,[141] the sense of encapsulated trust relevant to corporate fiduciary principles and to the AI era stems from my prior work.[142] An understanding of the basic elements and applications of encapsulated trust provides a necessary foundation for demonstrating that only by investing our existing corporate fiduciary framework with a rigorous account of encapsulated trust can we ensure the fidelity of officers and directors to legitimate corporate purposes.

First, encapsulated trust manifests itself through a basic agency relationship.[143] In that sense, encapsulated trust can exist only if we can expect that those in whom we place our trust are motivated to act on our behalf and for our benefit.[144] Understanding encapsulated trust through the lens of agency law is particularly helpful, because the law that governs

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BUSINESS (2004).

139. *See, e.g.*, Siebecker, *Trust & Transparency*, *supra* note 27; Joan MacLeod Heminway, *Sex, Trust, and Corporate Boards*, 18 HASTINGS WOMEN'S L.J. 173 (2007).

140. *But see* 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, 1160–63 (discussing the role of AI information fiduciaries).

141. Although a variety of trust scholars embrace a similar account of trust, the encapsulated interest account of trust is generally originally attributed to Russell Hardin. RUSSELL HARDIN, TRUST (2006) [hereinafter HARDIN, TRUST]; RUSSELL HARDIN, TRUST AND TRUSTWORTHINESS (2002) [hereinafter HARDIN, TRUSTWORTHINESS]; Russell Hardin, *Distrust: Manifestations and Management*, *in* DISTRUST 3, 3–33 (Russell Hardin ed., 2004); Russell Hardin, *Trusting Persons, Trusting Institutions*, *in* THE STRATEGY OF CHOICE 185 (Richard J. Zeckhauser ed., 1991).

142. Because this Article attempts to apply to the AI Era a particular fiduciary construct of trust that I fully articulated in my prior work, the following two sections recapitulate limited aspects of a fuller description of encapsulated trust found in Siebecker, *Trust & Transparency*, *supra* note 27, at 148–62.

143. *See* HARDIN, TRUSTWORTHINESS, *supra* note 141, at 10–13; Russell Hardin, *Trust in Government*, *in* TRUST AND GOVERNANCE 12–13 (Valerie Braithwaite & Margaret Levi eds., 1999).

144. *See* HARDIN, TRUSTWORTHINESS, *supra* note 141, at 10; *see also* Russell Hardin, *Do We Want Trust in Government?*, *in* DEMOCRACY AND TRUST 26 (Mark E. Warren ed., 1999) [hereinafter Hardin, *Trust in Government?*] ("To say that I trust you with respect to some matter means that I have reason to expect you to act in my interest with respect to that matter because you have good reasons to do so, reasons that are grounded in my interest. In other words, to say that I trust you means I have reason to expect you to act, for your own reasons, as my agent with respect to the relevant matter. Your interest encapsulates my interest.").

agency relationships places legal boundaries on the motivations and incentives for other's agents to act on the principal's behalf.[145] At its definitional foundation, an agency relationship can only exist with an explicit or implicit grant of authority to act on another's behalf and a reciprocal acceptance by the agent of the same obligation.[146] Thus, construed as an outgrowth of agency law, encapsulated trust entails an essential motivational bond that circumscribes the actions of those in whom we place our trust. Only if those agents who act on our behalf remain animated by a desire to advance our interests can encapsulated trust thrive.[147]

Second, encapsulated trust exists as a three-part relationship.[148] Properly framed, encapsulated trust remains tethered to actions and choices; it cannot exist simply as an unadorned emotional connection between two individuals.[149] Specificity of context marks an essential attribute of encapsulated trust. Quite simply, the rationality of our expectations that others would be motivated to act on our behalf depends on the particular circumstances at stake. As Hardin suggests, "I trust you to return the money for your morning cup of coffee, but I might not trust you with an unsecured loan of thousands of dollars for your down payment on a house."[150] Given the variety of circumstances we inhabit in our lives, no ethereal sense of encapsulated trust meaningfully exists. Instead, the basic concept of encapsulated trust remains tethered to the ground and limited to the precise contexts within which individuals interact.[151]

Third, encapsulated trust remains inextricably tied to rational expectations.[152] But the rationality at stake goes beyond inductive reasoning about what the future holds.[153] To sustain a sense of encapsulated trust, we must rationally expect that those in whom we place our trust will be motived to act in our best interests. Even absolute certainty that another person will act in a particular way cannot sustain our trust in inevitable outcomes. Instead, encapsulated trust requires an assessment of the rationality of our expectations that those inevitable outcomes were motivated to serve our interests.[154] Without focusing our rationality on the motivations for certain actions, nothing would separate trust from mere expectation.[155] At first blush, this distinction may seem of little moment. But a simple example sheds some light on what's at stake. Although I may predict confidently that *The Washington Post* will publish a paper each day, I cannot properly describe that expectation as trust unless I rationally expect the *Post* was motivated by my particular interests in following that predictable course of action. What separates mere expectation from trust, then, is the motivation impetus rationally predicted behavior.[156]

Even though encapsulated trust must focus on the motivational spark for predicted

145. Siebecker, *Trust & Transparency*, *supra* note 27, at 149.

146. RESTATEMENT (THIRD) OF AGENCY § 1.01 (2008).

147. *Id.*; Siebecker, *Trust & Transparency*, *supra* note 27, at 149.

148. *See* HARDIN, TRUST, *supra* note 141, at 7, 9–10. *But see* Russell Hardin, *Conceptions and Explanations of Trust*, *in* TRUST IN SOCIETY 13–16 [hereinafter Hardin, *Explanations*] (discussing conceptions of trust based on a two-part relationship taking the form, for example, "I trust her").

149. Hardin, *Trust in Government?*, *supra* note 144, at 26.

150. *Id.*; *see also* HARDIN, TRUST, *supra* note 141, at 9–10.

151. *See* KAREN S. COOK ET AL., COOPERATION WITHOUT TRUST? 8 (2005).

152. HARDIN, TRUST, *supra* note 141, at 7–9.

153. *Id.* at 13–14; Siebecker, *Trust & Transparency*, *supra* note 27, at 150–51.

154. *Id.*

155. *Id.*

156. *See* COOK ET AL., *supra* note 151, at 6–7.

actions, nothing beyond rational expectation will support the trust relationship.[157] Remember that trust thrives within a subset of all rationally predicted outcomes—a subset comprising only those stemming from rational expectations about the motivations for others' actions.[158] Although those in whom we trust might be motivated to act on our behalf by non-rational reasons (such as faith in God, hope, fidelity, etc.), nothing more than a rational expectation on our part can support encapsulated trust.[159] For example, my brother may be motivated to act in my interests based on his promise to my mother on her deathbed that he will care for me. But unless I can rationally predict that the sense of maternal fidelity will in fact motivate my brother to act on my behalf, I cannot trust him. For if my brother regularly ignored his death bed promises and behaved exactly to the contrary, I would lack a sufficient rational foundation to trust him. In the end, not only does trust require a special focus for rational expectation (i.e., on the motivations of others), nothing but rational expectation will sustain our trust in others.[160]

Fourth, as suggested above, the interests and motivations involved in a trusting relationship may stem from both non-rational and latent interests.[161] Although this may seem somewhat at odds with the requirement of rational expectation, the slight discomfort helps reveal the nuance at issue. Encapsulated trust can only exist based on a rational expectation that others will take my interests into account when pursuing any particular action.[162] My interests and the motivations of others, however, need not be confined to purely rational ends.[163] To the contrary, the interests and actions of the parties in a trust relationship may be predicated upon a variety of non-rational interests, such as love, faith, fidelity, and hope.[164] The lynchpin of encapsulated trust remains rational expectation, but my ultimate interests and the motivations for others' actions need not be confined to purely rational goals. Instead, they extend to the full panoply of actual human interests.[165] Moreover, even if I do not explicitly state my interests, I can still trust another to act on my behalf if some rational basis exists for expecting that perspicacity in another. As long as I can reasonably expect you to take my (rational or non-rational; expressed or latent) interests into account in making a (rational or non-rational) decision how to behave in a specific context, encapsulated trust can endure.[166]

Although this philosophical nuance might seem difficult to understand at first, an example might help clear the cobwebs. Consider three good friends, Michael, John, and Adrienne, traveling on a vacation to Moscow, Russia.[167] John, a very experienced traveler who has planned several successful trips for the group in the past, decides to facilitate

157. Hardin, *Explanations*, *supra* note 148, at 20; Hardin, *Trust in Government?*, *supra* note 144, at 14–16.

158. HARDIN, TRUST, *supra* note 141, at 13–14.

159. HARDIN, TRUSTWORTHINESS, *supra* note 141, at 14–16.

160. Siebecker, *Trust & Transparency*, *supra* note 27, at 150–52.

161. HARDIN, TRUST, *supra* note 141, at 5 ("A fully rational analysis of trust would depend not solely on the rational expectations of the truster but also on the commitments, not merely the regularity of the trusted."); Hardin, TRUSTWORTHINESS, *supra* note 141, at 20–21.

162. HARDIN, TRUST, *supra* note 141, at 23.

163. Siebecker, *Trust & Transparency*, *supra* note 27, at 151–52.

164. *Id.*; *see also* Hardin, *Trust in Government?*, *supra* note 144, at 24–25.

165. Siebecker, *Trust & Transparency*, *supra* note 27, at 151–52; Hardin, *Trust in Government?*, *supra* note 144, at 24–25.

166. HARDIN, TRUST, *supra* note 141, at 58–60.

167. Special thanks to Professor Adrienne Davis and John DeGregorio for inspiring and enduring this "hypothetical."

setting the itinerary for the last day of the trip. To do so, John asks Michael and Adrienne what they might like to see or do. Michael suggests a visit to the historical State Tretyakov Gallery and Adrienne expresses a desire to browse some local markets or visit a botanical garden. John knows Michael and Adrienne very well and, after doing some research, he decides that they will go to the Novodevichy Cemetery just outside Moscow. When learning of the agenda, Michael childishly complains, "Why do you ask my opinion if you never do what I want?" Nonetheless, Michael knows John loves to impress with his skill at planning wonderful vacation excursions; John has previously planned lovely holiday outings for the group in the past; and John, as a generous and loyal friend, only wants the best for his good friends, Michael and Adrienne. After apologizing for his petulant outburst, Michael relents and goes to the Novodevichy Cemetery—a historic cemetery filled with monumental tombstones of famous Russian artists, scientists, politicians, and heroes. The cemetery is also lined with beautiful gardens and nearby markets to browse. Because Michael could rationally expect that John would take Michael's (and Adrienne's) interest into account in setting the agenda for the last day of the trip, Michael could trust John even if Michael suspected that John would not implement Michael's (and Adrienne's) expressed wishes. So, in an unexpected application of the Rolling Stones to corporate jurisprudence, even if Michael does not get what he wants, he can still trust John on the encapsulated interest account if he gets what he needs.[168]

Fifth, although encapsulated trust remains tethered to interpersonal relationships, no need for familiarity or special intimacy exists.[169] Remember that encapsulated trust simply requires a rational expectation that another will take my interests into account in determining what action to pursue in a particular context. Although some evidentiary basis must exist to support my expectations of another's motivations, the existence of trust does not require intimacy or even familiarity.[170] Without doubt, a close personal relationship might enable a stronger sense of encapsulated trust due to breadth of shared experiences that better inform motivations, interests, and preferences.[171] As a threshold concern, however, all that is required for encapsulated trust to thrive is my rational expectation that you will take into account my interests in determining how to act.

But how could a lack of intimacy provide the foundation for encapsulated trust, especially given its rigorous requirements? Again, an example might help clear the fog. Consider an introductory undergraduate Philosophy class that contains 500 students. (N.B. Philosopher Michael Sandel's course, Justice, at Harvard University regularly draws more than 1000 students).[172] Assume students know that at the end of each academic year, (a) the professor teaching the course is evaluated for a merit raise and possible promotion based in large part on anonymous student surveys and (b) the professor cannot receive a merit raise or promotion unless they receive an average 4.5 rating (on a 1–5 sliding scale where 1 indicates "strongly disagree" and 5 indicates "strongly agree") to the survey statement, "[t]he professor makes the class entertaining." To the extent a student rationally

168. MICHAEL JAGGER & KEITH RICHARDS, *You Can't Always Get What You Want*, *on* LET IT BLEED (Abkco Music, Inc. 1969).

169. Hardin, *Trust in Government?*, *supra* note 144, at 26.

170. HARDIN, TRUST, *supra* note 141, at 21–23.

171. *Id.* at 23.

172. Andrew Anthony, *Michael Sandel: Master of Life's Big Questions*, THE GUARDIAN (Apr. 7, 2012), https://www.theguardian.com/theobserver/2012/apr/08/observer-profile-michael-sandel ("His long-running Harvard course on justice regularly draws more than a thousand students.").

expects the professor desires a merit raise and possible promotion, a student taking the large class need not even have met the professor to possess a rational expectation that the professor will attempt to take the students' interests into account regarding how the class is taught, *at least with respect to what students find entertaining*. The means by which the professor might accomplish that performance feat do not need to be known for encapsulated trust to occur. Instead, an anonymous student simply needs to have a rational expectation that the professor is motivated to serve the interests of the students with respect to the specific task at hand.

Of course, slightly varying the incentives for the professor might change the outcome of the trust relationship, but not necessarily the integrity of the trust relationship itself. Assume the merit raise and promotion possibility were based on an anonymous survey of the professor's colleagues on the faculty (instead of students) and the professor could not obtain a merit raise or promotion unless they earned an average 4.5 rating (using the same scale as above) regarding the survey statement, "The professor effectively challenges students to improve themselves and the world they inhabit." That "slight" change in the evaluation criteria alters the motivation of the professor but does not undermine the viability of the trust relationship with the students. To the extent a student rationally expects the professor desires a merit raise and possible promotion, a student taking the large class need not even have met the professor to have a rational expectation that the professor will attempt to take the student's interests into account regarding how the class is taught, *at least with respect to what effectively challenges students to improve themselves and the world they inhabit.* Even though the professor's academic colleagues conduct the evaluation in this scenario, the focus remains on the students' interests—here what "effectively challenges students to improve" in their individual and collective lives. As illustrated in the prior discussion,[173] encapsulated trust does not require those in whom we place our trust to heed every one of our expressed interests. Our general interests served can be latent, perhaps even wholly unknown. The essential requirement, however, remains that we must have a rational expectation that those in whom we place our trust will take our interests into account when pursuing a particular action. In this scenario, even if the students do not yet know what pedagogical techniques would "effectively challenge them to improve themselves and the world they inhabit," students could trust the professor to conduct the course in a manner that advances their interests. Therefore, encapsulated trust can endure outside close personal relationships, as long as we can rationally expect others will take our interests into account due to motivational incentive structures that align our interests.[174]

Sixth, sustained competence remains necessary to assess the viability of the trust relationship.[175] Of course, we cannot impart trust in others unless we possess some degree of competence to assess accurately the motivations of those in whom we place our trust.[176] As a definitional foundation, encapsulated trust rests upon rational expectations, credible evidence, and meaningful inferences.[177] Trust is nonsensical if based on mere faith, hope,

173. *See supra* notes 166–68 and accompanying text.
174. Siebecker, *Trust & Transparency*, *supra* note 27, at 152.
175. Hardin, *Explanations*, *supra* note 148, at 6–7; COOK ET AL., *supra* note 151, at 5–6.
176. Hardin, *Trust in Government?*, *supra* note 144, at 28.
177. HARDIN, TRUST, *supra* note 141, at 7–9.

or whim.[178] Certainly, encapsulated trust does not require mathematical certainty or "proof beyond a reasonable doubt,"[179] but maintaining encapsulated trust entails some minimal evidentiary burden and some meaningful ability to process information intelligently.[180] Exactly what satisfies those minimal evidentiary and inferential burdens remains unclear, but the integrity of the trust relationship becomes stronger as confidence in our assessments improves.[181] Moreover, because motivations, interests, and structural incentives may change over time, maintaining competence endures as an ongoing obligation throughout the duration of the trust relationship.[182] In the end, whether based on insufficient information, ignorance, or some other defect in our capacity, a lack of competence in assessing makes trust impossible.[183]

The need for competence also extends to the those in whom we place our trust.[184] The basic definition of encapsulated trust as an agency relationship makes this connection clear.[185] Unless those in whom we place our trust possess some proficiency to advance our interests in the relevant contexts, they simply lack the capacity for trust.[186] For instance, I cannot trust my brother to serve as a lifeguard for my children in a swimming pool if my brother does not know how to swim. No matter how much he might be motivated to serve my interests in saving my children from drowning, the lack of competence with respect to the specific task at hand renders trust impossible. Thus, another person cannot plausibly bear my trust without some degree of competence to affect my interests in the context required.[187]

The notion of competence serves as a necessary companion to the rational expectation component of encapsulated trust.[188] At first blush, the requirement of competence may seem unnecessary considering both rationality and competence seem to target exactly the same ends—the need for minimally sufficient information and logical analysis. So what does competence capture that rationality leaves untouched? Competence moves beyond the base minimum that mere rationality seems to set and aims to enhance the integrity of the analytical process.[189] In many areas of the law—and especially in corporate law—a rationality test merely requires "any conceivable basis"[190] whatsoever to support a conclusion drawn.[191] In contrast, the criterion of competence imposes on the parties to encapsulated trust a more substantial evidentiary and logical nexus. Competence produces

178. *See supra* notes 152–60 and accompanying text.

179. Hardin, *Trust in Government?*, *supra* note 144, at 20–25.

180. HARDIN, TRUST, *supra* note 141, at 68–80.

181. Siebecker, *Trust &Transparency*, *supra* note 27, at 152–54.

182. *See id.* at 153.

183. Hardin, *Trust in Government?*, *supra* note 144, at 22–24.

184. HARDIN, TRUST, *supra* note 141, at 7–8.

185. *See supra* notes 143–47 and accompanying text.

186. *See* Hardin, *Trust in Government?*, *supra* note 144, at 28 (If A is to trust B, then B must have not only the motivation to do x but also the competence. An agent who cannot act on my behalf is a poor agent.).

187. *Id.*

188. Hardin, *Explanations*, *supra* note 148, at 15; HARDIN, TRUSTWORTHINESS, *supra* note 141, at 10–11.

189. Siebecker, *Trust & Transparency*, *supra* note 27, at 152–54; HARDIN, TRUST, *supra* note 141, at 21–24, 58–68.

190. Maria Ponomarenko, *Administrative Rationality Review*, 104 VA. L. REV. 1399, 1401 (2018) ("A statute may be upheld based on *any* conceivable basis, including one that the legislature never considered. Indeed, it may fairly be said that rational basis scrutiny hardly cares about rationality at all.").

191. *Id.*; *see also infra* notes 202–06 and accompanying text.

an enhanced confidence in our rational expectations by requiring something more pithy than what mere rationality insures in other areas of the law.[192] Admittedly, competence remains somewhat amorphous and aspirational. Nonetheless, it provides a metric of gradations, while mere rationality imposes a simple binary—either rational or not. That sensitivity to nuance permits a more useful assessment of the integrity of the trust relationship. As the competence in assessments of motivations and abilities improves, we become more confident in the integrity of the encapsulated trust.

2. Encapsulated Trust in Corporate Contexts

In light of the rigorous tenets of encapsulated trust, does it really seem plausible that we could place our trust in corporations? After all, most corporate actors remain personally unfamiliar to us, whether we are shareholders, consumers, investors, or members of the community the corporation inhabits.[193] Still, achieving trust in corporate contexts remains quite plausible within certain parameters.[194] As long as internal corporate structures—or external laws governing the corporation—allow us to possess a rational expectation that corporate actors will take our interests into account, we can sensibly place our trust in those unfamiliar individuals.[195] Nonetheless, understanding that encapsulated trust requires competent rational expectations about others' motivations, some limitations certainly exist on whom we can trust in the corporate setting and under what conditions.

Perhaps all too often, corporations seem to ignore our interests as impertinent distractions, even when large groups come together to protest or boycott.[196] Yet despite persistent corporate aloofness, a framework already exists upon which to build a robust sense of trust that could encapsulate the interests of various corporate constituencies. How? The bedrock fiduciary duties of care and loyalty underpinning all corporate governance jurisprudence provide fertile ground for nurturing encapsulated trust. Of course, that fiduciary framework focuses on the basic agency relationship between the corporation and its shareholders on one side and the directors and officers who run the corporation on other. As agents of the corporations and its shareholders, corporate managers remain legally bound to act on behalf of those whose interests they serve.[197]

But if that fiduciary bond already exists, what special role might encapsulated trust play in guiding corporate managers? Quite simply, the existing fiduciary framework for guiding and constraining corporate decision-making suffers massive jurisprudential cracks and provides an infirm foundation for supporting the evolving corporation in the era of AI.[198] Reshaping the current fiduciary framework for corporate governance around the

192. Siebecker, *Trust & Transparency*, supra note 27, at 152–54; COOK ET AL., *supra* note 151, at 6–7.

193. Siebecker, *Discourse Theory*, *supra* note 20, at 180–81; Siebecker, *Bridging Troubled Waters*, *supra* note 21, at 113–16.

194. HARDIN, TRUSTWORTHINESS, *supra* note 141, at 20–23; Hardin, *Trust in Government?*, *supra* note 144, at 22.

195. Siebecker, *Trust & Transparency*, supra note 27, at 158–59.

196. *See* Philip Aldrick, *Companies Can't Continue to Ignore Shareholders on Urgent Social Issues*, THE TIMES (Feb. 23, 2019), https://www.thetimes.co.uk/article/shareholders-concerns-over-ethics-must-be-listened-to-tsx82n5tz; Ciara Torres-Spelliscy, *Campaign Finance, Free Speech, and Boycotts*, 41 HARV. J.L. & PUB. POL'Y 153 (2018).

197. Johnson & Million, *supra* note 120, at 1652–53.

198. *See* Smith, *supra* note 120, at 1411–15 (discussing the indeterminacy in construing fiduciary duties by courts); *see also* Baird & Henderson, *supra* note 130, at 1320 (arguing that fiduciary duty obligations seem

rigorous tenets of encapsulated trust would not just putty the existing cracks that effectively incentivize corporate managers to ignore the interests of their constituencies. Instead, a revitalized commitment to encapsulated trust would essentially repour the philosophical foundation from which concrete corporate governance principles could grow more securely. The improved framework would cause corporate actors and affected constituencies to work together in reshaping important internal structures, especially those related to effective communication among the corporation and its constituencies.[199] While existing corporate law fiduciary principles lack sufficient grit to withstand the storm of change AI will inevitably bring to the corporate realm, encapsulated trust can help harness the energy of AI in a manner that fosters simultaneously corporate growth and human integrity.

Nonetheless, the starting point for embracing encapsulated trust remains the present fiduciary duties of care and loyalty that bind corporate managers in an essential relationship of trust with the corporation and shareholders they serve. But unlike current corporate jurisprudence that embraces the feckless "business judgment rule"[200] as the guiding light for assessing the legitimacy of corporate decision-making, sustaining encapsulated trust requires much more than avoidance of fraud, illegality, self-interest, or wholly irrational behavior.[201] Within the confines of encapsulated trust, shareholders would have to possess a rational expectation that corporate managers would take shareholder interests into account when making any particular decision.

As we know by now, encapsulated trust requires a degree of competence beyond the kind of "mere rationality" that renders virtually impotent current corporate fiduciary obligations.[202] Not only would shareholders need to perceive that a set of institutional incentives exist to motivate corporate managers to take shareholder interests into account, but corporate mechanisms would also need to exist for managers to seek out and appropriately consider shareholder views.[203] The notion that encapsulated trust cannot thrive unless shareholders can rationally expect that corporate officers and directors could competently take shareholder interests into account simply helps corporate actors accomplish what they already promise under existing fiduciary principles. The existing fiduciary regime, however, often enables officers and directors to escape liability simply

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inconsistently applied).

199. *See* Siebecker, *Trust & Transparency*, *supra* note 27, at 169–71 (stating that a fiduciary duty of disclosure promotes engagement by corporate constituencies).

200. *See* Baird & Henderson, *supra* note 130, at 1322–24 (stating that the business judgment rule allows wide latitude in determining what litigation shareholders conduct).

201. For a general discussion of the business judgment rule under Delaware law, see Siebecker, *Bridging Troubled Waters*, *supra* note 21; Michael R. Siebecker, *The Duty of Care and Data Control Systems in the Wake of Sarbanes-Oxley*, 84 CHI.-KENT L. REV. 821, 825–26 (2010) [hereinafter Siebecker, *Care and Data Control*] (discussing the duty of care and the business judgment rule).

202. *See* R. Henry Pfutzenreuter IV, *The Curious Case of Disparate Impact Under the ADEA: Reversing the Theory's Development into Obsolescence*, 94 MINN. L. REV. 467, 481 ("In corporate law, the business judgment rule is a subjective inquiry under which the challenged action must meet a mere test of rationality. It is a principle that establishes judicial reluctance to second-guess the business decisions of corporate officers.").

203. The ability to trust based on the availability of legal sanction seems wholly compatible with the architecture of encapsulated trust, at least to the extent those sanctions directly address the very existence—and enforceability—of encapsulated trust as a fiduciary duty. *But see* HARDIN, TRUSTWORTHINESS, *supra* note 141, at 47–48.

by assuming that all rational shareholders wish to maximize wealth.[204] But as explained more fully below, real shareholders possess interests that extend far beyond short-term wealth maximization.[205] Although obviously not averse to wealth generation, shareholders also possess a host of interests that are not easily monetizable, such as the corporation respecting the environment, adopting non-discriminatory labor practices, enhancing corporate ethics, protecting employee rights, and preserving the communities that corporations inhabit, among others.[206]

Because actual shareholders possess interests that cannot simply be assumed and easily monetized, the competence required for encapsulated trust requires an ongoing factfinding or discourse among corporate managers, shareholders, and the various corporate constituencies about whom shareholders care. To be sure, corporate boards and executives need not follow every shareholder whim or community concern. But just as in the example with the friends traveling to Moscow,[207] some evidentiary basis needs to support an expectation that shareholders and stakeholder interests receive respectful consideration. Even if shareholders or other corporate constituencies remain dissatisfied with any particular action a corporation takes, they may still trust corporate managers if a reasonable basis exists for believing existing corporate mechanisms require decision-makers to encapsulate competently their interests. Take an example of a young boy living in Manhattan who begs his parents to buy him a real shotgun for his 11th birthday. If the boy rationally perceives his parents make decisions motivated by previously expressed and demonstrated love for him, he can still rationally expect his parents were acting to pursue his interests when they purchased a Nerf football instead of the shotgun. Encapsulated trust as the basis for corporate fiduciary duties in no way supplants reasoned corporate management with some overarching populist shareholder democracy.[208] Casting aside shareholder interests or adopting an imaginary notion of shareholder interests unsupported by evidence, however, undermines rather than sustains trust. In essence, only through continual authentic discourse can shareholders trust corporations will follow a path that adequately serves their multifaceted interests.

Thus, establishing enforceable fiduciary duties that require authentic discourse remains essential. Without doubt, insincere discourse will cause encapsulated trust to wither. Threats to the basic viability of the burgeoning market for corporate social

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204. *See* USSIF, THE BUSINESS CASE FOR THE CURRENT SEC SHAREHOLDER PROPOSAL PROCESS 15 (2017), https://www.ussif.org/files/Public_Policy/Comment_Letters/Business%20Case%20for%2014a-8.pdf ("Generally speaking, CEOs can be expected to try to maximize share prices and returns during their tenure, a reality partially responsible for the so-called 'tyranny of short-termism.' But investors saving for retirement and other long-term shareholders have much longer-term interests.").

205. *See infra* notes 257–65 and accompanying text.

206. *See* John M. Conley & Cynthia A. Williams, *Engage, Embed, Embellish: Theory Versus Practice in the Corporate Social Responsibility Movement*, 31 J. CORP. L. 1, 1–2 (2005) (stating that a corporation should include broader objectives as legitimate concerns).

207. *See supra* notes 167–68 and accompanying text.

208. For a discussion of some pitfalls of shareholder "direct democracy," see Bernard Black & Reinier Kraakman, *A Self-Enforcing Model of Corporate Law*, 109 HARV. L. REV. 1911, 1943–44 (1996) (discussing representative democracy and direct democracy).

responsibility (CSR) as a result of corporate "greenwashing"[209] illustrates the concern.[210] In 2019, owners and managers of assets valued in excess of $86 trillion signed the United Nations Principles for Responsible Investment, an international compact whereby signatories pledged to screen investments based on certain environmental, social, and governance issues.[211] In the United States, as of 2018, more than $11.6 trillion gets invested based on one or more socially responsible investing strategies.[212]

As investors and consumers become more vocal about non-monetary concerns, an increasing number of corporations have begun to recognize that heeding consumers and investor preferences can actually increase profitability.[213] To the extent CSR oriented consumers and investors remain willing to pay a premium in product or stock price that exceeds a company's cost of compliance with CSR preferences, a business case exists for corporations to engage in discourse that uncovers those socially responsible opportunities for mutual gain.[214]

Current corporate governance principles and corporate political speech rights afforded by *Citizens United*[215] enable corporations to engage in a sort of strategic ambiguity in their

209. For a general description of the problems associated with corporate greenwashing and its inevitable discovery over time in different contexts, see Miriam A. Cherry & Judd F. Sneirson, *Beyond Profit: Rethinking Corporate Social Responsibility and Greenwashing After the BP Oil Disaster*, 85 TUL. L. REV. 983 (2011).

210. Michael R. Siebecker, *Securities Regulation, Social Responsibility, and a New Institutional Approach to the First Amendment*, 29 J.L. & POL. 535, 550–51 (2014).

211. PRINCIPLES FOR RESPONSIBLE INV., ANNUAL REPORT 2019 (2019).

212. US SIF FOUND., REPORT ON SUSTAINABLE AND RESPONSIBLE INVESTING TRENDS IN THE UNITED STATES 2018 1 (2018), https://www.ussif.org/files/Trends/Trends%202018%20executive%20summary%20 FINAL.pdf.

213. Siebecker, *Trust & Transparency*, *supra* note 27, at 125–26.

214. For evidence of a "business case" for CSR that justifies corporate compliance with consumer and investor preferences, see Lisa M. Fairfax, *Board Diversity Revisited: New Rationale, Same Old Story?*, 89 N.C. L. REV. 855, 860–64 (2011). *See also* Archie B. Carroll & Kareem M. Shabana, *The Business Case for Corporate Social Responsibility: A Review of Concepts, Research and Practice*, 12 INT'L J. MGMT. REV. 85, 95–102 (2010); Marya N. Cotten & Gail A. Lasprogata, *Corporate Citizenship & Creative Collaboration: Best Practices for Cross-Sector Partnerships*, 18 J.L. BUS. & ETHICS 9, 13 n.22 (2012); Heather R. Dixon-Fowler et al., *Beyond "Does It Pay to Be Green?" A Meta-Analysis of Moderators of the CEP-CFP Relationship*, 112 J. BUS. ETHICS 353, 362 (2013); Neil Gunningham, *Corporate Environmental Responsibility: Law and the Limits of Voluntarism*, *in* THE NEW CORPORATE ACCOUNTABILITY: CORPORATE SOCIAL RESPONSIBILITY AND THE LAW 476, 498 (Doreen McBarnet et al. eds., 2007); Satish Kumar & Ritesh Tiwari, *Corporate Social Responsibility: Insights into Contemporary Research*, 10 IUP J. CORP. GOVERNANCE 22, 29 (2011) ("Although there are varied views of different researchers as far as the CSR is concerned, the available literature till [sic] date suggests a positive relationship between the corporate social and financial performance. . . . [A] majority of the studies indicate a positive relationship between these two."); Alison Mackey et al., *Corporate Social Responsibility and Firm Performance: Investor Preferences and Corporate Strategies*, 32 ACAD. MGMT. REV. 817, 830–33 (2007); Michael E. Porter & Mark R. Kramer, *Strategy & Society: The Link Between Competitive Advantage and Corporate Social Responsibility*, HARV. BUS. REV. (Dec. 2006), https://hbr.org/2006/12/strategy-and-society-the-link-between-competitive-advantage-and-corporate-social-responsibility; Pieter van Beurden & Tobias Gössling, *The Worth of Values—A Literature Review on the Relation Between Corporate Social and Financial Performance*, 82 J. BUS. ETHICS 407, 413–16 (2008). For contrary evidence of the absence of a substantial link between financial performance and CSR, see Roberto Garcia-Castro et al., *Does Social Performance Really Lead to Financial Performance? Accounting for Endogeneity*, 92 J. BUS. ETHICS 107, 121 (2010); Philipp Schreck, *Reviewing the Business Case for Corporate Social Responsibility: New Evidence and Analysis*, 103 J. BUS. ETHICS 167, 183 (2011).

215. Citizens United v. FEC, 130 S. Ct. 876, 877 (2010).

communications with consumers and investors.[216] Although officers and directors certainly face personal liability under state and federal securities laws for fraudulent behavior,[217] in the wake of *Citizens United*, corporations may engage in an "artful alchemy"[218] of mixing otherwise commercial disclosures with minimal political content to create an amalgam of politically tinged corporate speech wholly immune from regulation or liability.[219] Without sufficiently potent mechanisms to ensure transparency in corporate discourse, corporations could dissemble to earn a premium in stock or product price without actually complying with desired CSR preferences. Over time, that lack of transparency would make it irrational for consumers and investors to pay any CSR premium and the market for CSR would eventually collapse.[220] Thus, as the precarious viability of the $86 trillion market for CSR demonstrates, a meaningful fiduciary framework governing corporate cannot exist without the ability to encourage and enforce transparent corporate communication.

So how would a revitalized sense of trust cure that transparency tragedy plaguing current corporate law?[221] Without much change to existing corporate doctrines, courts could use the tenets of encapsulated trust to assess more stringently what compliance with the fiduciary duties of care and loyalty require. If any board action were challenged, directors would simply need to demonstrate that they competently took into account the actual preferences of shareholders in making any particular action. Although that might seem like a minimal hurdle for directors to overcome, it far exceeds the "mere rationality" test under the current business judgment rule.[222] Instead of escaping liability based on assumed interests of fictional shareholders (e.g., all shareholders remain interested only in short-term wealth maximization), directors and officers would need to provide some evidence that they attempted to ascertain the full panoply of interests possessed by real shareholders and that they attempted to take those interests into account in steering the corporation in a particular direction. In essence, encapsulated trust entails a process-based

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216. The term "strategic ambiguity" refers to the practice of corporations to communicate "in ways that may not be completely open" in order to protect corporate interests. Eric M. Eisenberg & Marsha G. Witten, *Reconsidering Openness in Organizational Communication*, 12 ACAD. MGMT. REV. 418, 418 (1987); *see also* Eric M. Eisenberg, *Ambiguity as Strategy in Organizational Communication*, 51 COMM. MONOGRAPHS 227, 228–30 (1984); Siebecker, *Trust & Transparency*, *supra* note 27, at 115.

217. Michael R. Siebecker, *Corporate Speech, Securities Regulation, and an Institutional Approach to the First Amendment*, 48 WM. & MARY L. REV. 613, 651–55 (2006) [hereinafter Siebecker, *Corporate Speech*]; *see also* THOMAS LEE HAZEN, PRINCIPLES OF SECURITIES REGULATION 13–15 (2005); Lawrence A. Cunningham, *The Sarbanes-Oxley Yawn: Heavy Rhetoric, Light Reform (and It Just Might Work)*, 35 CONN. L. REV. 915, 941–42 (2003) (stating that new anti-fraud provisions under Sarbanes-Oxley "were already in effect due to requirements imposed by stock exchanges, regulators, state law, or other provisions of federal law. Others were widely accepted and followed as best practices"); David A. Skeel, Jr., *Icarus and American Corporate Regulation*, 61 BUS. LAW. 155, 155–68 (2005) (describing the two-tier system of state and federal corporate fraud regulation).

218. Siebecker, *Corporate Speech*, *supra* note 217, at 213.

219. For a discussion of the incoherence in the Supreme Court's corporate speech jurisprudence and the need for a "new institutional" approach to corporate speech rights, see generally Siebecker, *First Amendment*, *supra* note 22; Siebecker, *Corporate Speech*, *supra* note 217; Siebecker, *Building a "New Institutional" Approach to Corporate Speech*, 59 ALA. L. REV. 247 (2008).

220. *See generally* Siebecker, *Trust & Transparency, supra* note 27 (presenting an overview of the current state of CSR).

221. *See id.* at 115 (describing corporations' "strategic ambiguity" that results in this lack of transparency).

222. *See* Pfutzenreuter, *supra* note 202, at 481 (describing the business judgment rule as "establish[ing] judicial reluctance to second-guess the business decisions of corporate officers").

standard that requires efforts at robust discourse among corporate managers, shareholders, and other corporate constituencies that enhances the likelihood that the strong fiduciary bonds remain secure.[223] Improved discourse may not create a panacea for all corporate malfeasance. Nonetheless, continual transparent communication between the corporation and its constituents at least ensures a greater attentiveness to the interests of those whom corporate managers remain bound to serve.

IV. SHEPHERDING AI THROUGH ENCAPSULATED TRUST

With a firm understanding of what encapsulated trust entails, the next step involves applying those reinvigorated fiduciary principles to the special challenges posed by the proliferation of AI in the corporate world and in society more generally. Although manifold benefits flow from shaping corporate fiduciary principles around encapsulated trust, three seem especially important to shepherding the development, utilization, and dissemination of AI. First, a fiduciary duty regime predicated on encapsulated trust would greatly enhance the quality, integrity, and efficiency of corporate communication.[224] As a result, encapsulated trust would cause corporate officers and directors to use AI to engage more authentically with the corporate constituencies they serve rather than to use AI to manipulate maliciously the preferences of consumers, investors, and corporate stakeholders. Second, a dedication to encapsulated trust would stem the culpable blindness in tolerating corporate criminality that existing fiduciary principles permit.[225] While current fiduciary principles almost encourage willful ignorance to corporate malfeasance, encapsulated trust would require using AI to ferret out and possibly prevent malicious corporate actions. Third, encapsulated trust would encourage greater attention to morality in making business decisions.[226] As AI technologies facilitate a more accurate understanding of important social, environmental, and even political concerns driving consumers and investors, encapsulated trust would require attending to those non-monetary interests. Of course, this Article does not pretend to predict which specific AI technologies would be necessary to realize these important economic and societal benefits. Instead, the intent is to suggest that a corporate governance regime based on encapsulated trust could effectively shepherd the development of AI in a manner that helps rather than harms society.

A. Enhanced Corporate Discourse

Within the encapsulated trust framework, corporate managers could not possibly comport with their duties without competently assessing the interests of corporate constituencies. That requirement of competent assessment requires continual communication among corporate managers, shareholders, stakeholders, and members of the communities that corporations inhabit. Taking the tenets of encapsulated trust seriously would cause corporate managers to use AI not only to gain a better sense of the content of shareholder interests but also to ascertain how best to incorporate those concerns in making

223. *See* Siebecker, *Bridging Troubled Waters*, *supra* note 21, at 134 (defending efforts to increase meaningful dialogue with corporate constituencies from a moral and cost-saving standpoint).

224. *See infra* Part III.A.

225. *See infra* Part III.B.

226. *See infra* Part III.C.

corporate decisions. To the extent shareholders possess genuine interests that extend beyond maximizing profits (e.g., paying living wages to employees, pursuing environmentally sustainable business practices, combating consumer fraud, ensuring gender equality, or promoting social justice), paying adequate fidelity to the duty of trust owed to shareholders may require targeted consideration of other stakeholder and community interests as well. Currently, however, a tragedy of transparency infects corporate communication where input from non-corporate insiders gets cast aside as nettlesome distractions.[227] AI directed at bridging that communicative gap could more fully and efficiently fulfill the fiduciary promise directors and officers owe to their corporate constituents.

A variety of related factors fuel the need for robust reciprocal discourse among corporate managers, shareholders, and the variety of stakeholders affected by corporate actions.[228] First, as shareholders, interest groups, and community activists become increasingly vocal in a manner that potentially threatens corporate profits, corporate managers have attempted to identify strategies to turn potentially corrosive attention into opportunities for revenue creation. Existing corporate law principles, however, provide little impetus for making sense of discordant voices that more typically distract corporate managers. Cavalierly ignoring rather than respectfully considering the voices of corporate shareholders and their constituencies only fuels a social animus that threatens the corporate bottom line. Second, the inability of the current fiduciary framework to instill a sense of trust in the collection, reporting, and disclosure of social data threatens the basic viability of the $89 trillion market for corporate social responsibility (CSR).[229] The market for morality in corporate decision-making ineluctably depends on transparency. Despite growing, frequent claims that corporations abide the market's preferences for CSR, to the extent consumers and investors cannot trust the data that would enable them to verity corporate compliance, the market for CSR will most certainly collapse. Third, by continuing to harness AI technologies without appropriate discourse-based fiduciary safeguards, corporate managers could irreversibly surrender human agency and political sovereignty to the exponentially increasing dominance of corporations in all aspects of social, political, and economic life. To stave such a cataclysmic surrender of human providence over our collective lives, corporate law doctrine must secure a robust sense of legitimacy in corporate decision-making. Existing corporate governance law seems utterly ill-equipped to fend off the growing spate of corporate scandals that reveal the gnawing pathology of current corporate organization. Systemically privileging the personal predilections of corporate boards and their appointed executives reveals a cancerous apathy to shareholder interests, stakeholder concerns, and the common good of the communities that corporations inhabit. A fiduciary structure that permits blind pursuit of wealth

227. *See* Siebecker, *Trust & Transparency*, *supra* note 27, at 122–36 (describing the loss of efficiency and predicted demise of CSR due to this practice).

228. This Article attempts to illustrate how a fiduciary framework based on encapsulated trust would require shepherding the corporate development and utilization of AI to cure the corporate communication failures resulting from the existing corporate governance failures. I fully articulated in my prior work those corporate communication failures. *See generally* Siebecker, *Discourse Theory*, *supra* note 20 (advocating for a new perspective for corporate governance in the wake of *Citizens United* and SEC rule changes); Siebecker, *Bridging Troubled Waters*, *supra* note 21 (describing corporate indifference to major shareholder concerns).

229. *See* PRINCIPLES FOR RESPONSIBLE INV., ANNUAL REPORT 2018, at 6 (2018) [hereinafter PRINCIPLES FOR RESPONSIBLE INV.] (includes a graphic depicting signatories' net market assets).

maximization while ignoring shareholder interests threatens the very legitimacy of our democratic society as some of the most important decisions governing our daily lives get made behind closed doors of corporate boardrooms. Without a fiduciary framework that promotes just discourse among the corporation and its various affected constituencies, the power of AI technology could cause corporations to capitulate our collective humanity for a price we never even get to negotiate.

Although shareholders, corporate stakeholders, and other interest groups clamor for greater attention from corporate managers, the prevailing fiduciary framework does not provide appropriate guidance on which voices to heed (or potentially ignore).[230] In the midst of that foggy fiduciary framework, a growing number of market professionals, business advisors, and academics urge corporate executives to pay closer attention to the expressed, and even perceived, but unspoken, interests of various interests throughout the market.[231] Unsurprisingly, the debate about whether and how to account for shareholders and stakeholder preferences focuses on the existence of a business case for making the effort. As Professor Ed Rock suggests:

> We live in an era of empowered shareholders . . . That new reality requires rethinking the relationship between shareholders and the firm. Learning how to interact productively has never been more important to shareholders or firms. From a regulatory perspective, we need to reconsider some current limitations that treat shareholders like children.[232]

While corporations might now face a new era of shareholder and stakeholder activism, business leaders do not agree on a singular strategy to deal effectively with the new and increasingly loud voices in debates about corporate policy and planning.[233]

For companies that recognize the inevitability of increased shareholder activism, greater sensitivity to investor (and consumer) interest represents a means to generate enhanced brand attractiveness and open new avenues for growth.[234] A number of studies suggest shareholder activism, particularly by large institutional investors, increases firm

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230. *See* ANDREW L. FRIEDMAN & SAMANTHA MILES, STAKEHOLDERS: THEORY AND PRACTICE 181–84 (2006); Siebecker, *Discourse Theory*, *supra* note 22, at 179–89 (discussing the evolution of shareholder activism and the legal status of shareholders in affecting corporate policies).

231. *See* Elizabeth Warren, *Companies Shouldn't Be Accountable Only to Shareholders*, WALL ST. J. (Aug. 14, 2018), https://www.wsj.com/articles/companies-shouldnt-be-accountable-only-to-shareholders-1534287687; Michael R. MacLeod, *Emerging Investor Networks and the Construction of Corporate Social Responsibility*, 34 J. CORP. CITIZENSHIP 69, 79 (2009) (arguing the recent growth of institutional investors led to "a sharp rise in investor (or shareholder/shareowner) activism (or engagement), which covers a broad spectrum of investor activities including selling shares, private discussion or public communication with corporate boards and management, press and other public campaigns, openly talking and/or organising with other shareholders, putting forward shareholder resolutions, [and] calling shareholder meetings"); Edward B. Rock, *Shareholder Eugenics in the Public Corporation*, 97 CORNELL L. REV. 849, 851–53 (2012) (describing a new "era of empowered shareholders").

232. Rock, *supra* note 231, at 853.

233. *See* Mary Jo White, Chair, SEC, Remarks at the 10th Annual Transatlantic Corporate Governance Dialogue (Dec. 3, 2013) (acknowledging that corporate managers and shareholder interest groups may disagree about the proper shape shareholder engagement should take). *But see* Gretchen Morgenson, *Memo to Shareholders: Shut Up*, N.Y. TIMES (Feb. 11, 2007), https://www.nytimes.com/2007/02/11/business/yourmoney/11gret.html (discussing how shareholder activism is gaining traction).

234. Bernard Sharfman, *A Theory of Shareholder Activism and Its Place in Corporate Law*, 82 TENN. L. REV. 791, 808–09 (2015).

performance and overall shareholder value.[235] Additional evidence indicates that many equity analysts ascribe enhanced value to a company's stock based in part on effective communication between managers and corporate stakeholders.[236] Moreover, sustained discourse aimed at shareholder and stakeholder interests arguably improves brand reputation at relatively small cost to the company.[237] Important money managers and corporates advisors suggest that taking into account stakeholder concerns can enhance managerial performance and long-term profitability.[238] Acknowledging the dangers of a myopic focus on short-term wealth creation, many academics and market professionals advocate embracing a kind of "enlightened shareholder value"[239] that takes into account the full panoply of interests real shareholders possess.[240] For those who support the

235. *Id.* at 793. *See also* David A. Katz & Laura A. McIntosh, *Shareholder Proposals in an Era of Reform*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Dec. 5, 2017), https://corpgov.law.harvard.edu/2017/12/05/shareholder-proposals-in-an-era-of-reform/ (stating with respect to relaxed securities regulations for shareholder proposals, "[y]et under the right regulatory regime, shareholder proposals can be a valuable piece of the corporate governance framework. SEC Chairman Clayton has expressed support for the type of shareholder proposals that, despite their short-term costs, can ultimately lead to improvements in corporate governance, and he appears committed to reshaping the shareholder proposal process into one that adds value for investors"); Bo Becker et al., *Does Shareholder Proxy Access Improve Firm Value? Evidence from the Business Roundtable's Challenge*, 65 J.L. & ECON. 127, 157 (2013) (discussing proxy access for shareholders and the value gained or lost). *But see* Amy Whyte, *Study: Hedge Fund Activism Has No Meaningful Long-Term Impact*, INSTITUTIONAL INV. (Oct. 22, 2018), https://www.institutionalinvestor.com/article/b1bhhzzp2jqdp5/Study-Hedge-Fund-Activism-Has-No-Meaningful-Long-Term-Impact (describing a long-term study finding that shareholder activism did not increase return on investment).

236. Christian Hoffmann & Christian Fieseler, *Investor Relations Beyond Financials: Non-Financial Factors and Capital Market Image Building*, 17 CORP. COMM. 138, 146–47 (2012) (providing empirical evidence that equity analysts take into account the quality of corporate communications with shareholders, corporate governance policies, socially responsible practices, and image building when assessing the value of a company's stock).

237. *See generally* Erik-Hans Klijn et al., *The Influence of Stakeholder Involvement on the Effectiveness of Place Branding*, 14 PUB. MGMT. REV. 499 (2012) (demonstrating stakeholder engagement enhances brand reputation); D. A. Jeremy Telman, *Is the Quest for Corporate Responsibility a Wild Goose Chase? The Story of* Lovenheim v. Iroquois Brands, Ltd., 45 AKRON L. REV. 291, 295 (2012) ("Corporations seem to recognize the value of permitting social proposals, as they can provide a relatively inexpensive safety valve for dissent and thus permit the kind of beneficial exchange between management and shareholders that promotes the legitimacy of the corporate decisionmaking processes.") (footnote omitted).

238. *See, e.g.*, Larry Fink, Larry Fink's 2019 Letter to CEOs: Purpose and Profit, BlackRock (Jan. 2019), https://www.blackrock.com/corporate/investor-relations/larry-fink-ceo-letter ("Companies that fulfill their purpose and responsibilities to stakeholders reap rewards over the long-term. Companies that ignore them stumble and fail. This dynamic is becoming increasingly apparent as the public holds companies to more exacting standards.)" *See also* GEORGE POHLE & JEFF HITTNER, IBM, ATTAINING SUSTAINABLE GROWTH THROUGH CORPORATE SOCIAL RESPONSIBILITY 1 (2008), https://www.ibm.com/downloads/cas/GZ6JORWR?mhsrc=ibmsearch_a&mhq=attaining%20sustainable%20growth.

239. Virginia Harper Ho, *"Enlightened Shareholder Value": Corporate Governance Beyond the Shareholder-Stakeholder Divide*, 36 J. CORP. L. 59, 95–111 (2010) (arguing for a new metric of enlightened shareholder value to measure the efficacy of management decisions). *See also* Peter Atkins et al., *Social Responsibility and Enlightened Shareholder Primacy: Views from the Courtroom and Boardroom*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Feb. 21, 2019), https://corpgov.law.harvard.edu/2019/02/21/social-responsibility-and-enlightened-shareholder-primacy-views-from-the-courtroom-and-boardroom/(discussing various primacy concerns related to enlightened shareholder value).

240. *See* Martin Lipton et al., *Stakeholder Governance and the Fiduciary Duty of Directors*, HARV. L. SCH. F. ON CORP. GOVERNANCE AND FIN. REG. (Aug. 24, 2019), https://corpgov.law.harvard.edu/2019/08/24/stakeholder-governance-and-the-fiduciary-duties-of-directors/. *See also* Lipton et al., *supra* note 30, at 8 ("The New Paradigm is a roadmap for an implicit corporate governance and stewardship partnership between

normative goal of enhanced shareholder participation in corporate governance,[241] achieving long-term monetary growth within the context of prevailing social, political, or ethical values remains dependent upon meaningful dialogue between the corporation and the constituencies it affects.[242]

Taking a contrary approach, another set of scholars and market professionals contend that shareholder activism and stakeholder discourse impairs effective management and ultimately harms shareholder value.[243] For opponents of sustained stakeholder engagement,[244] the basic concerns center on distracting management from generating long-term value in order to promote the peculiar goals of special groups.[245] Although support continues to grow for greater shareholder involvement in the nomination of directors and access to corporate proxies,[246] critics fear most shareholders lack sophistication and simply desire to promote personal preferences.[247] As a result, some corporations avoid, if not

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corporations and investors and asset managers to achieve sustainable long-term investment and growth rejects shareholder primacy and is instead premised on the idea that stakeholder governance and ESG are in the best interests of shareholders.").

241. *See* Lisa M. Fairfax, *From Apathy to Activism: The Emergence, Impact, and Future of Shareholder Activism as the New Corporate Governance Norm*, 99 B.U. L. Rev. 1301, *passim* (2019) (explaining why stakeholder engagement strategies are beneficial in the long term).

242. *See* William M. Libit & Todd E. Frier, *Chapman and Cutler Discusses the Importance of Implementing an Effective Stakeholder Engagement Strategy*, THE CLS BLUE SKY (Aug. 13, 2015), http://clsbluesky.law.columbia.edu/2015/08/13/chapman-and-cutler-discusses-the-importance-of-implementing-an-effective-stakeholder-engagement-strategy/ (explaining why stakeholder engagement strategies are beneficial in the long term).

243. *See, e.g.*, Alana Semuels, *Can America's Companies Survive America's Most Aggressive Investors?*, THE ATLANTIC (Nov. 18, 2016), https://www.theatlantic.com/business/archive/2016/11/activist-investors/506330/ (suggesting shareholder activism could ruin the American economy).

244. *See* Martin Lipton, *Bite the Apple; Poison the Apple; Paralyze the Company; Wreck the Economy*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Feb. 26, 2013), https://blogs.law.harvard.edu/corpgov/2013/02/26/bite-the-apple-poison-the-apple-paralyze-the-company-wreck-the-economy/ (in criticizing Einhorn's attack on Apple, Lipton stated, "[t]hese self-seeking activists are aided and abetted by Harvard Law School Professor Lucian Bebchuk who leads a cohort of academics who have embraced the concept of 'shareholder democracy' and close their eyes to the real-word effect of shareholder power, harnessed to activists seeking quick profit, on a targeted company and the company's employees and other stakeholders. They ignore the fact that it is the stakeholders and investors with a long-term perspective who are the true beneficiaries of most of the funds managed by institutional investors").

245. *See* Katz & McIntosh, *supra* note 235 ("The Chamber [of Commerce] observed that the shareholder proposal system's protections for ordinary shareholders have weakened over time, with the result that the process 'has unnecessarily devolved into a mechanism that a minority of interests use to advance idiosyncratic agendas that come at the expense of other shareholders.' Recent data support this view. According to a Manhattan Institute report, half of all shareholder proposals submitted in 2016 addressed a social or policy-related matter, rather than a topic relevant to the long-term performance of the company."). *See also* James R. Copland, Manhattan Inst., *Proxy Monitor 2011: A Report on Corporate Governance and Shareholder Activism*, PROXY MONITOR 3, 19 (2011), http://www.proxymonitor.org/Reports/Proxy_Monitor_2011.pdf (suggesting that shareholder activism provides for "interest-group capture of corporations rather than for mitigating agency costs and improving shareholder returns"); Andrew Ross Sorkin, *'Shareholder Democracy' Can Mask Abuses*, N.Y. TIMES: DEALBOOK (Feb. 25, 2013, 9:30 PM), http://dealbook.nytimes.com/2013/02/25/shareholder-democracy-can-mask-abuses/ (identifying "a perverse game in which so-called activist investors take to the media to pump or dump stocks in hopes of creating a fleeting rise or fall in a company's stock price").

246. *See* Holly J. Gregory et al., *The Latest on Proxy Access*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Feb. 1, 2019), https://corpgov.law.harvard.edu/2019/02/01/the-latest-on-proxy-access/ (analyzing how changes to shareholder involvement affects companies' functioning).

247. *See* Lindsay Frost, *SEC to Mull Stricter Shareholder Proposal Rules*, AM. COUNCIL FOR CAP.

directly oppose, meaningful shareholder and stakeholder engagement.[248]

Between the ends of the spectrum lies a middle ground where cautious uncertainty exists regarding the ultimate value of shareholder or stakeholder involvement in corporate governance.[249] The skepticism perhaps results from a lack of clearly identifiable mutual benefits from robust discourse.[250] From the shareholder perspective, the current regulatory environment often makes challenging corporate policies prohibitively costly, with only the most strident and well-funded shareholders capable of voicing dissent.[251] From the company perspective, the circumspection typically results not necessarily from an antipathy toward stakeholder engagement but a lack of confidence in the available mechanisms to produce meaningful results.[252] Whether due to practical impediments to

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FORMATION (Jan. 14, 2019), http://accf.org/2019/01/14/sec-to-mull-stricter-shareholder-proposal-rules/ (stating the SEC will take up shareholder proposal reform); Stephen M. Bainbridge, Response, *Director Primacy and Shareholder Disempowerment*, 119 HARV. L. REV. 1735, 1751 (2006) (arguing dispersed individual investors are apathetic); Bernard S. Sharfman, *Why Proxy Access Is Harmful to Corporate Governance*, 37 J. CORP. L. 387, 405–06 (2012) (arguing information traders are really the best for proxy access).

248. *See, e.g.*, Gretchen Morgenson, *Chevron Aims at an Activist Shareholder*, N.Y. TIMES (Dec. 8, 2012), https://www.nytimes.com/2012/12/09/business/chevron-takes-aim-at-an-activist-shareholder.html (offering one example of a corporation subpoenaing a shareholder).

249. *See* Chris Ruggeri, *Investor Engagement and Activist Shareholder Strategies*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Feb. 19, 2019), https://corpgov.law.harvard.edu/2019/02/19/investor-engagement-and-activist-shareholder-strategies/#2/ ("In the survey cited previously, we asked how companies are changing their approach to investor relations in response to activism. About half said they had changed very little, with most citing existing programs that were working well. The half that had made substantial changes most often cited increased monitoring of activist activity, enhanced planning in response to activists' concerns, and more proactive communication with investors."); *see generally* Edward B. Rock, *The Logic and (Uncertain) Significance of Institutional Shareholder Activism*, 79 GEO. L.J. 445 (1991) (examining this viewpoint with regard to institutional investors).

250. *See* Yuliya Ponomareva, *Shareholder Activism Is on the Rise: Caution Required*, FORBES (Dec. 10, 2018), https://www.forbes.com/sites/esade/2018/12/10/shareholder-activism-is-on-the-rise-caution-required/#6e6a0e184844 (arguing shareholders are rationally apathetic regarding corporate affairs and proxy rules effectively prohibit shareholders from soliciting proxy votes in director voting); David Benoit & Vipal Monga, *Are Activist Investors Helping or Undermining American Companies?*, WALL ST. J. (Oct. 5, 2015), https://www.wsj.com/articles/activist-investors-helping-or-hindering-1444067712; Iman Anabtawi & Lynn Stout, *Fiduciary Duties for Activist Shareholders*, 60 STAN. L. REV. 1255, 1275 (2008); Tom C.W. Lin, Essay, *The Corporate Governance of Iconic Executives*, 87 NOTRE DAME L. REV. 351, 366–68 (2011) (suggesting that investors lack incentives to engage in informed activism and, as a result, corporate managers possess little interest in heeding existing activist claims).

251. *See* Gail Weinstein et al., *The Road Ahead for Shareholder Activism*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Feb. 13, 2019), https://corpgov.law.harvard.edu/2019/02/13/the-road-ahead-for-shareholder-activism/ ("A small number of top activists, and a small number of campaigns, account for much of the activist activity at issuers of scale."); Anabtawi & Staut, *supra* note 250, at 1275 (arguing shareholders are rationally apathetic and proxy rules effectively prohibit shareholders from soliciting proxy votes in director elections); *but see* White, *supra* note 233 (stating that at least with respect to placing a shareholder proposal on the corporate proxy, "[u]nder the SEC's proxy rules, a shareholder with a relatively small investment in a company's securities has the opportunity to have [their] proposal included in the proxy materials for an annual meeting right beside management's proposals").

252. *See* BSR, THE FUTURE OF STAKEHOLDER ENGAGEMENT TRANSFORMATIVE ENGAGEMENT FOR INCLUSIVE BUSINESS 1, 3 (2016), https://www.bsr.org/reports/BSR_Future_of_Stakeholder_Engagement_Report.pdf ("There is now broad consensus that all companies should engage their stakeholders. However, in most organizations, implementation remains a limited reputational risk exercise that is perceived as providing few benefits."). *See also* Ho, *supra* note 239, at 64–65 (suggesting that early academic optimism regarding shareholder engagement devolved into pessimism "in the face of considerable evidence of institutional investor passivity, short-termism, complex and indeed, conflicting interests, and the limited impact of investor activism

engagement or ineffective mechanisms to secure productive exchanges,[253] some lack confidence that dialogue between the corporation and its stakeholders will necessarily produce mutual gains.[254]

Regardless of whether shareholder activism promotes or undermines profitability, an encapsulated trust account of corporate fiduciary duties requires some minimal engagement. Recall that encapsulated trust reflects a rational expectation by shareholders that corporate managers will take into account shareholder interests when deciding what corporate action to pursue.[255] Absent some legal mandates or other institutional incentives that motivate corporate managers to assess in some competent way the actual interests of shareholders, shareholders lack the evidentiary foundation for encapsulated trust.[256]

Inaccurate assumptions about what animates shareholders creates a special impediment to sustaining encapsulated trust. For example, neoclassical law and economic theory embraces an essential conception of shareholders as primarily focused on wealth maximization.[257] Such a stilted characterization of shareholder identity runs counter to empirical evidence and prevailing behavioral economic theories of the human condition.[258] Actual shareholders often make investment decisions based at least in part on a variety of nonrational or nonmonetizable concerns (e.g., health, equality, freedom, environmental safety, ethics and morals).[259] Without doubt, the very existence of the $89 trillion CSR market[260] convincingly establishes that a vast number of *actual* investors take into account a variety of social, environmental, ethical, and political considerations when deciding to purchase a company's stock.[261] For encapsulated trust to exist, authentic interests cannot be ignored simply because the direct connection to maximizing wealth seems unclear.[262] Moreover, if shareholders authentically make investment decisions based on concerns for other corporate stakeholders (e.g., employees, creditors, consumers, and members of the community that the corporation inhabits), maintaining encapsulated trust requires

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on corporate behavior").

253. *See* TARUN MEHTA, ISS CORP. SERVS., SHAREHOLDER ENGAGEMENT: MAXIMIZING THE SHAREHOLDER RELATIONSHIP 1 (2013), https://www.issgovernance.com/file/publications/MaximizingTheShareholderRelationshipVol_13.3.pdf ("The 'standard' approach to shareholder engagement has often led to a contentious relationship between investors and issuers.").

254. Beurden & Gössling, *supra* note 214, at 416–17 (surveying studies that demonstrate neutral or negative relationships between social discourse, corporate social responsibility, and financial performance).

255. *See* HARDIN, TRUSTWORTHINESS, *supra* note 141, at 10; Hardin, *Trust in Government?*, *supra* note 144, at 26 ; Siebecker, *Trust & Transparency*, *supra* note 27, at 150 (discussing encapsulated interests relying on rational expectation).

256. *See* Siebecker, *Trust & Transparency*, *supra* note 27, at 152–54 (discussing Hardin's notion of competence as an essential component of the trust relationship).

257. *See* Cynthia A. Williams, *A Tale of Two Trajectories*, 75 FORDHAM L. REV. 1629, 1657 (2006) (arguing that primitive law and economics teaching makes future lawyers focus only on cost-benefit analysis).

258. *Id.* For a discussion of the need to assess the actual preferences and profiles of diverse stakeholders in corporate law, see Helen Anderson, *Creditors' Rights of Recovery: Economic Theory, Corporate Jurisprudence and the Role of Fairness*, 30 MELB. U.L. REV. 1, 24–25 (2006); *see also* Maurice E. Stucke, *Morality and Antitrust*, 2006 COLUM. BUS. L. REV. 443, 486 (2006); Douglas A. Kysar, *Sustainability, Distribution, and the Macroeconomic Analysis of Law*, 43 B.C. L. REV. 1, 4–5 (2001).

259. This trend has been acknowledged in criticism of the law and economics school of thought. For examples, see Williams, *supra* note 257, at 1657; *see also* Kysar, *supra* note 258, at 4–5.

260. *See* PRINCIPLES FOR RESPONSIBLE INV., *supra* note 229.

261. Siebecker, *Bridging Troubled Waters*, *supra* note 21, at 126.

262. *See id.* at 126–27 (acknowledging that other interests are present).

corporate managers to consider those ancillary stakeholder interests in order to gain a competent understanding of actual shareholder interests.[263]

In simple terms, encapsulated trust cannot exist absent the ability of corporate managers to engage in continual due diligence that gauges the evolving preferences of shareholders and ancillary stakeholders about whom shareholders care.[264] Likewise, shareholders must continually assess whether corporate actors remain adequately motivated and competent to take shareholder interests into account when pursuing any particular action. So, without continual dialogue between corporate managers, shareholders, and corporate stakeholders, it remains impossible to fulfill the fiduciary duties of care and loyalty within an encapsulated account of trust.[265] Trust and discourse go hand in hand.

The proliferation of AI communication technologies should reduce corporate apathy to shareholder interests and increase transparency in corporate communications. How? With respect to the duty of care, current conceptions of the "business judgment rule"[266] insulate directors from liability for poor business choices, as long as the decisions did not involve fraud, illegality, a conflict of interest, or gross negligence (which can include wholly irrational or wasteful decisions).[267] Corporate managers enjoy extraordinary protection from liability in the absence of the situations that destroy the umbrella of protection the presumption provides.[268] Instances in which courts impose liability represent legal "blips" where board members simply act precipitously without minimally adequate information, reflection, or questioning of the basis for business decisions.[269]

The cascade of current and new AI corporate communication technologies will almost certainly make a failure to engage in transparent shareholder discourse aimed at identifying authentic shareholder interests seem grossly negligent and thus ineligible for protection under the business judgment rule. At the very least, what makes a failure to engage in this minimal due diligence a matter of gross negligence (and arguably waste) is the effect that failing to take into account the manifest preferences of actual shareholders and stakeholders

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263. *See id.* (taking into account the other shareholder's interests); *see also* Martin Lipton et al., *Stakeholder Governance and the Fiduciary Duty of Directors*, HARV. L. SCH. F. ON CORP. GOVERNANCE & FIN. REG. (Aug. 24, 2019), https://corpgov.law.harvard.edu/2019/08/24/stakeholder-governance-and-the-fiduciary-duties-of-directors/ ("A board and management team that is myopically focused on stock price and other discernible benchmarks of shareholder value, without also taking a broader, more holistic view of the corporation and its longer-term strategy, sustainability and risk profile, is doing a disservice not only to employees, customers and other impacted stakeholders but also to shareholders and the corporation as a whole.").

264. *See* Siebecker, *Bridging Troubled Waters*, *supra* note 21, at 126–27.

265. *See* Siebecker, *Trust & Transparency*, *supra* note 27, at 169–71 (discussing the necessity of engagement to meet shareholders expectations).

266. For a general discussion of the business judgment rule in the context of shareholder democracy, see Robert Sprague & Aaron J. Lyttle, *Shareholder Primacy and the Business Judgment Rule: Arguments for Expanded Corporate Democracy*, 16 STAN. J.L. BUS. & FIN. 1, 3 (2010).

267. *See* Geoffrey P. Miller, *A Modest Proposal for Fixing Delaware's Broken Duty of Care*, 2010 COLUM. BUS. L. REV. 319, 324–25 (2010) (showing that the bar to recover for negligence is set very high); Siebecker, *Care and Data Control*, *supra* note 201, at 825–26 (demonstrating that directors have insulation from liability for poor business choices, as long as the decisions did not involve fraud, illegality, a conflict of interest, or gross negligence).

268. *See* Siebecker, *Trust & Transparency*, *supra* note 27 (explaining that managers enjoy extraordinary protection from liability).

269. *See id.* (showing that courts only apply liability where board members simply act precipitously without minimally adequate information).

would have on the viability of the $89 trillion market for CSR. In light of the undeniable empirical evidence that such a market exists and considering the increasing efforts of corporations to court shareholders and consumers with socially responsible preferences,[270] refusal to engage in a minimal effort at identifying those interests is a version of managers simply sticking their heads in the sand. The market for morality will most certainly collapse unless corporate managers adequately take into account market preferences for the collection, reporting, and dissemination of truthful data regarding socially responsible business practices.[271] Ignoring the impending collapse by knowingly embracing a false assumption that all shareholders remain primarily interested in short-term wealth maximization is just as irrational as a child simply covering her eyes to avoid impending harm.

In addition, with respect to the duty of loyalty, an encapsulated trust account of fiduciary duties would require greater transparency and disclosure of corporate information, whether regarding CSR data or corporate political activities.[272] The heightened control corporations exercise in myriad aspects of economic, social, and political life already begs for greater transparency regarding corporate practices. The special concern animating that disclosure is the heightened potential for corporate managers to shirk their fiduciary responsibilities and use the corporation's treasury to advance their own political preferences.[273] The potential for corporations to secretly dominate political agendas and outcomes in a manner inconsistent with shareholder preferences undoubtedly contributed to the recent spike of shareholder proposals regarding corporate political transparency.[274] Without disclosure of CSR data and the political activities of corporations, shareholders cannot effectively hold managers accountable for their actions or know whether purchasing a corporation's stock or product at a particular price satisfies their preferences.[275] An encapsulated interest account of a fiduciary duty of loyalty would require transparency in order for shareholders to assess rationally whether the actions of corporate directors and officers attempted to encapsulate actual shareholder interests. But how does an encapsulated trust account of corporate fiduciary duties provide

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270. *See supra* notes 213–14 and accompanying text.

271. *See supra* notes 216–20 and accompanying text.

272. *See* Amir N. Licht, *State Intervention in Corporate Governance: National Interest and Board Composition*, 13 THEORETICAL INQUIRIES L. 597, 607 (2012) ("In a nutshell, the common law typically responds to agency (power) situations by imposing a duty of loyalty on agents, the core of which comprises a proscription on acting when in a conflict of interests and a duty of full disclosure of material information. Although these are the characteristic features of trust relations, in their very essence, these legal doctrines reflect suspicion and anything but blind trust; trust hinges on accountability and transparency." (citation omitted)); David L. Ponet & Ethan J. Leib, *Fiduciary Law's Lessons for Deliberative Democracy*, 91 B.U. L. REV. 1249, 1257 (2011) (discussing the connection between a duty of loyalty, candor, and deliberative democracy). For a general discussion of the connection between the duty of loyalty, transparency, and candor, see Thomas Hazen & Lisa Hazen, *Duties of Nonprofit Corporate Directors—Emphasizing Oversight Responsibilities*, 90 N.C. L. REV. 1845, 1861–63 (2012).

273. *See* William Alan Nelson II, *Post-Citizens United: Using Shareholder Derivative Claims of Corporate Waste to Challenge Corporate Independent Political Expenditures*, 13 NEV. L.J. 134, 137 (2012) (articulating that the potential for corporate managers to shirk their fiduciary responsibilities and use the corporation's treasury to advance their own political preferences).

274. *See* Che Odom, *Chair Autonomy, Political Spending Most Popular 2013 Proxy Season Proposals*, 16 CORP. GOVERNANCE REP. (BNA) No. 12, at 133–34 (Dec. 2, 2013) (showing potential for corporations to secretly dominate political agendas and outcomes in a manner inconsistent with shareholder preferences).

275. *See* Nelson, *supra* note 273, at 137–38.

any meaningful guidance on the development, utilization, and dissemination of AI? Quite simply, the need to avoid liability for gross negligence in ignoring shareholder interests will incentivize the development and adoption of AI corporate technologies to facilitate meaningful shareholder discourse. Within the existing fiduciary framework, officers and directors lack any legal incentive to do so. Moreover, there is no legal consequence for doing just the opposite and harnessing AI communication technologies to dissemble or manipulate the interest of shareholders, investors, or other stakeholders in the community. As some suggest, the incredible pace of technological innovation has created a "Wild West" mentality among corporate managers who find existing legal constructs impotent to constrain corporate control over the technology race itself.[276] Instead of permitting unbridled proliferation of AI, an encapsulated account of trust as the basis for corporate fiduciary duties will have the necessary instrumental effect of enhancing the quality, integrity, and transparency of corporate communications. As one expert predicted, "AI will be able to inform corporate communications personnel of inconsistencies, discrepancies, conflicts and predictions of oncoming issues. AI will also help expose lies and identify deception. Due to the mass oversaturation of society from jacked-up marketing automation, a company's reputation will mean more in the next 5-10 years than it does even today."[277] Of course, encapsulated trust does not ensure the development of AI technologies to facilitate the most robust, inclusive, and accurate discourse among all corporate constituencies. But compared to existing fiduciary duties untethered to a meaningful concept of trust, an encapsulated account of trust will provide some meaningful guidance and constraints on the use of AI to foster our actual interests.

B. Corporate Compliance and Malfeasance

Using a fiduciary framework based on encapsulated trust to guide the development of AI could significantly enhance detection of corporate malfeasance and reduce the continued prevalence of high-profile corporate scandals.[278] As in the case of enhancing shareholder discourse, a dedication to encapsulated trust would provide incentives for the development and adoption of AI compliance technologies that would help restore confidence in corporate practices and the integrity of the capital markets.[279]

The persistent flood of corporate scandals arguably results from a lax set of fiduciary standards governing the oversight obligations of officers and directors. Even when criminal activity pervades corporate operations, the umbrella of protection afforded by the "business judgment rule"[280] consistently insulates directors and officers from liability for arguably casting a blind eye to nefarious corporate conduct.[281] Unless the directors or officers

276. James D. Lamm et al., *The Digital Death Conundrum: How Federal and State Laws Prevent Fiduciaries from Managing Digital Property*, 68 U. MIAMI L. REV. 385, 387 (2014).

277. Petrucci, *supra* note 73.

278. For a full discussion of how existing fiduciary duties permit, if not incentivize, corporate criminality, see generally Siebecker & Brandes, *supra* note 18.

279. This portion of the Article focuses on the common law of Delaware in which the vast majority of public companies are incorporated. *See* Siebecker & Brandes, *supra* note 18, at 397 (focusing on the common law of Delaware).

280. For a general discussion of the business judgment rule under Delaware law, see Siebecker, *Bridging Troubled Waters*, *supra* note 21; Siebecker, *Care and Data Control*, *supra* note 201, at 825–26.

281. *See, e.g.*, BRANDON GARRETT, TOO BIG TO JAIL: HOW PROSECUTORS COMPROMISE WITH CORPORATIONS (2014) (demonstrating how corporate officers can be insulated from liability).

themselves engaged in fraud, illegality, conflicts of interest, or gross negligence,[282] the business judgment rule functions as presumption that corporate managers have complied with their fiduciary duties.[283] Thus, shareholders cannot hold officers and directors accountable for failed oversight unless one of the exceptions to the business judgment rule presumption applies.[284]

With respect to the duty to detect and prevent corporate criminality, two Delaware Supreme Court decisions, *In re Caremark Int'l*[285] and *Stone v. Ritter*,[286] establish the minimal oversight directors and officers must conduct to avoid liability.[287] In *Caremark*, shareholders of a health care company alleged that directors violated their oversight duties for failing to detect and prevent an illegal kickback scheme that ultimately resulted in criminal liability for the company itself.[288] In exculpating the directors, the Court held that "only a sustained or systematic failure of the board to exercise oversight—such as an *utter failure to attempt* to assure a reasonable information and reporting system exits—will establish the lack of good faith that is a necessary condition to liability."[289] In *Stone*, shareholders of a bank claimed that directors failed to detect and prevent flagrant violations of federal money-laundering laws.[290] Ruling in favor of the directors, the Delaware Supreme Court affirmed the *Caremark* standard[291] but added a "red flag" exception in circumstances "showing that the board ever was aware that [the company's] internal controls were inadequate, that these inadequacies would result in illegal activity, and that the board chose to do nothing about problems it allegedly knew existed."[292] According to the Court, that "red flag" liability could result if, after implementing a minimally compliant monitoring and information gathering system, the directors "consciously failed to monitor or oversee its operations thus disabling themselves from being informed of risks or problems requiring their attention."[293] The "utter failure to attempt" threshold in *Caremark* combined with the "red flag" exception in *Stone* have consistently enabled officers and directors to satisfy their fiduciary duties while criminal activity persists within the corporation.[294]

Restructuring corporate compliance and monitoring duties around encapsulated trust would not only correct the incoherence of existing common law standards but would properly guide the implementation of AI compliance technology to reduce instances of corporate corruption. But what would encapsulated trust require regarding detection and

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282. Siebecker, *Political Insider Trading*, *supra* note 19, at 2746.

283. *Id.*; *see also* Edward B. Rock & Michael L. Wachter, *Islands for Conscious Power: Law, Norms, and the Self-Governing Corporation*, 149 U. PA. L. REV. 1619, 1668–69 (2001).

284. *See* Anne Tucker Nees, *Who's the Boss? Unmasking Oversight Liability Within the Corporate Power Puzzle*, 35 DEL. J. CORP. L. 199, 215–24 (2010) (examining different exceptions to the business judgement rule).

285. *In re* Caremark Int'l, 698 A.2d 959 (Del. Ch. 1996).

286. Stone v. Ritter, 911 A.2d 362 (Del. 2006).

287. *See* Siebecker & Brandes, *supra* note 18, at 397 (explaining that although the content of corporate fiduciary principles varies somewhat among state jurisdictions, the extremely high prevalence of public corporations located in Delaware renders Delaware common law the standard for other states to model).

288. *Caremark*, 698 A.2d at 961–62.

289. *Id.* at 971 (emphasis added).

290. *Stone*, 911 A.2d at 365–66.

291. *Id.* at 370.

292. *Id.*

293. *Id.*

294. *See* Nees, *supra* note 284, at 224.

prevention of corporate corruption? The answer depends on whether shareholders could rationally expect any particular corporate compliance policies and practices to encapsulate their interests. So, if the "red flag" and "utter failure" standards embedded in current common law standards tolerate a level of corporate corruption and criminality at odds with shareholder interests, the existing common law standards seem unjustifiable on an encapsulated interest account.

The increasing availability of AI compliance and monitoring technologies might help assess what minimum compliance standards could encapsulate shareholder interests. To the extent instances of corporate corruption undermine shareholder value and offend moral preferences of shareholders, it seems only logical to require corporate managers at least to engage in some minimum cost-benefit analysis regarding available technologies. If AI compliance and monitoring technologies can produce predicted value to the corporation that outweighs the cost of adoption, would a decision to forego adoption of those tools seem like an "utter failure" in judgment? As previously detailed, AI risk monitoring and compliance technologies represent one of the most fast-growing segments of AI. Those AI technologies are rapidly becoming more sophisticated, accurate, and cost-effective. Therefore, an encapsulated interest account of compliance duties might minimally require some cost-benefit analysis in order to assess more accurately what practices serve shareholder interest (especially if the analysis could take into account the negative market effects from moral disapprobation from consumers and investors due to corporate malfeasance). In that sense, a compliance duty based on encapsulated interest could provide some greater clarity than existing "red flag" and "utter failure" standards.

Still, requiring a simple cost-benefit analysis certainly does not mandate adopting any AI compliance technology that cannot prove its value. Does the general proliferation of AI help justify a dedication to a fiduciary framework of encapsulated trust, which in turn would guide the corporate development and utilization of AI? In a sense, the process involves a bit of reverse engineering based on an expanded time horizon for future shareholder value. Assuming AI technologies will continue to proliferate, corporate decisions regarding the development, implementation, and dissemination of AI should attempt to prioritize a sustainable path that promotes long-term shareholder interests. If avoiding corporate corruption and malfeasance represent a necessary element of sustainable AI development over the long term, then short term prioritization of AI compliance and monitoring technologies seems justified. From an encapsulated interest perspective, the very notion that AI technologies can develop in unknown myriad ways might very well require corporate managers to channel AI in a manner that sustains its proliferation and adoption.

The method of justification seems quite similar to those who attempt to make a business case for CSR despite the lack of clearly identifiable short term returns on investment. For instance, some argue that paying a living wage to overseas workers might not enhance corporate profitability in the short run, but in the long term, the policy could still be justified if necessary to create a future pool of consumers with sufficient wealth to purchase company products and services.[295] In a similar vein, the development and adoption of AI compliance technologies might be necessary to secure a sustainable corporate environment to foster future AI technological advances.

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295. *See* Dana Raidgrodski, *Creative Capitalism and Human Trafficking: A Business Approach to Eliminate Forced Labor and Human Trafficking from Global Supply Chains*, 8 WM. & MARY BUS. L. REV. 71 (2016).

In any event, a dedication to encapsulated trust provides much greater guidance to corporate managers than existing fiduciary principles regarding how to assess proper utilization of AI compliance and monitoring technologies. Moreover, by embracing a fiduciary framework based on encapsulated trust, the case for sustainable AI development becomes clear.

C. Morality in the Boardroom

Finally, AI also provides a compelling case for integrating moral considerations into board decision making. This might seem like an especially odd potential benefit of relying on AI technology considering many ethicists complain that an insensitivity to moral precepts represents one of most glaring problems with algorithmic reasoning.[296] But to the extent AI enables boards to consider effectively the nonrational or nonmonetizable values and preferences possessed by shareholders and other corporate stakeholders, a decision-making process assisted by AI engenders a much stronger sense of trust than one that ignores the nonrational facets of human life.

A need for greater sensitivity to the moral preferences of shareholders and stakeholder becomes increasingly pressing as corporations occupy greater power in all aspects of our economic, social, and political lives.[297] Even before the advent of AI, the inevitable domination of corporations seemed all too clear. In the economic sphere, the staggering power of corporations remains undeniable. In 2018, market capitalization of public companies on a worldwide scale well exceeded $87 trillion[298] and total market capitalization of companies listed in the U.S. stock market reached $30 trillion.[299] Moreover, a recent ranking of countries and corporations based on generated revenues revealed that 71 of the top 100 revenue generators in the world are corporations rather than sovereign states.[300] The massive wealth concentrated in multinational corporations effectively allows them to control fundamental decisions about global economic development.[301] The sweeping power of corporations in the economic realm reveals "[w]e

296. *E.g.*, Julia Bossmann, *Top 9 Ethical Issues in Artificial Intelligence*, WORLD ECON. F. (Oct. 21, 2016), https://www.weforum.org/agenda/2016/10/top-10-ethical-issues-in-artificial-intelligence/ (discussing international ethical issues stemming from artificial intelligence).

297. *See* Siebecker, *Discourse Theory*, *supra* note 20, at 169–79. *See also* Eric W. Orts, *War and the Business Corporation*, 35 VAND. J. TRANSNAT'L L. 549, 561–62 (2002) (explaining "[a]s organized institutions composed of human beings, they have moral and political as well as economic responsibilities. Like states, business corporations must therefore develop their own foreign and domestic policies, either implicitly and unconsciously or, much better, explicitly and with awareness. This does not mean that large, global corporations should appoint new vice presidents of war or defense, but it does require corporate leaders to take the larger global issues of war and peace seriously from a moral as well as an economic perspective. In a 'postnational' world, business corporations can no longer simply rely on nation-states to take care of problems of international security, if, indeed, they ever could delegate this responsibility entirely.").

298. WORLD FED'N OF EXCHANGES, 2018 FULL YEAR MARKET HIGHLIGHTS REPORT (2019), https://focus.world-exchanges.org/statistics/articles/world-federation-exchanges-publishes-2018-full-year-market-highlights.

299. Vito J. Racanelli, *The U.S. Stock Market Is Now Worth $30 Trillion*, BARRON'S (Jan. 18, 2018), https://www.barrons.com/articles/the-u-s-stock-market-is-now-worth-30-trillion-1516285704.

300. Milan Babic et al., *Who Is More Powerful—States or Corporations?*, THE CONVERSATION (July 10, 2018), http://theconversation.com/who-is-more-powerful-states-or-corporations-99616.

301. *See* Eddie A. Jauregui, *The Citizenship Harms of Workplace Discrimination*, 40 COLUM. J.L. & SOC. PROBS. 347, 362 (2007) (stating "[b]ecause law and culture are 'reciprocally constituting and mutually supporting,' a corporation's social power may be strong enough to influence mainstream political and social

live in an era where the interplay between state and corporate power shapes the reality of international relations more than ever."[302] Some commentators even contend that sovereign states cannot pursue independent economic agendas that have not been previously endorsed by dominant multinational corporations.[303]

In addition to dominating the economic realm, corporations play an important role in shaping social mores and cultural practices.[304] As the global investment in corporations pursuing socially responsible business practices exceeds $86 trillion, corporations increasingly embed themselves in conversations about what values the corporation, its employees, shareholders, and stakeholders should embrace.[305] Though perhaps motivated to garner greater profits or cheaper access to capital, corporations attempt to reflect, arguably with varying levels of sincerity, the moral characteristics that the market demands.[306] Moreover, calls for enhanced corporate citizenship have caused corporations to reach deeply into stakeholder communities to shape social values and preferences.[307] In August 2019, the Business Roundtable published an open letter (signed by nearly 200 corporate executives) that argued corporations must look beyond maximizing shareholder wealth and promote the interests of employees, suppliers, customers, the environment, and other stakeholders within communities the corporations inhabit.[308] As *The New York Times* reported, the letter represented a significant departure from "decades of long-held business orthodoxy."[309] Despite the recent public proclamation regarding a collective shift in corporate identity away from shareholder primacy and profit maximization, some still suggest that after identifying which social values and practices foster economic gain,

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thinking").

302. Babic et al., *supra* note 300.

303. *See* Allison D. Garrett, *The Corporation as Sovereign*, 60 ME. L. REV. 129, 132 (2008) ("[T]he distinction between corporations and the state is blurring, not only internationally, but also domestically, as corporations act in ways that make them similar to nation-states. The nation-state is not dead, but it is evolving. A pivotal factor in this evolution is the power of the world's largest corporations. Like the vassal whose power overshadows the king's, these companies act similarly to traditional nation-states in some ways. They have tremendous economic power, establish security forces, engage in diplomatic, adjudicatory and 'legislative' activities, and influence monetary policy."); Gary Younge, *Who's in Control – Nation States or Global Corporations?*, THE GUARDIAN (June 2, 2014), https://www.theguardian.com/commentisfree/2014/jun/02/control-nation-states-corporations-autonomy-neoliberalism.

304. Siebecker, *Discourse Theory*, *supra* note 20, at 172–76.

305. *See id.*; *see also* Susan McPherson, *Corporate Responsibility: What to Expect in 2019*, FORBES (Jan. 14, 2019), https://www.forbes.com/sites/susanmcpherson/2019/01/14/corporate-responsibility-what-to-expect-in-2019/#be4610b690f4 ("As corporate responsibility continues to mature, one of the key shifts we've seen in recent years is a move toward 'values.' A company's approach to impact is a reflection of that company's values—and the values of its customers, employees and (increasingly) investors.").

306. *See* Brian Hughes, *Why Corporate Social Responsibility Is Essential for Brand Strategy*, HUFFPOST (Dec. 6, 2017), https://www.huffpost.com/entry/why-corporate-social-resp_b_9282246; V. Kasturi Rangan et al., *The Truth About CSR*, HARV. BUS. REV. (Jan.–Feb. 2015), https://hbr.org/2015/01/the-truth-about-csr.

307. *See* Deven R. Desai, *Speech, Citizenry, and the Market: A Corporate Public Figure Doctrine*, 98 MINN. L. REV. 455, 459–74 (2013) (calling for creation of a corporate public figure doctrine). *See generally* FLORIAN WETTSTEIN, MULTINATIONAL CORPORATION AND GLOBAL JUSTICE: HUMAN RIGHTS OBLIGATIONS OF A QUASI-GOVERNMENTAL INSTITUTION (2009).

308. Press Release, Business Roundtable, Our Commitment (Aug. 19, 2019), https://opportunity.businessroundtable.org/ourcommitment/.

309. *See* David Gelles & David Yaffe-Bellany, *Shareholder Value Is No Longer Everything, Top C.E.O.s Say*, N.Y. TIMES (Aug. 19, 2019), https://www.nytimes.com/2019/08/19/business/business-roundtable-ceos-corporations.html.

corporations implement external and internal business practices that develop desirable social norms and behaviors.[310] Regardless of the impetus for participating in the social realm, the fact remains that corporations play an increasingly important role in shaping our shared values.

In addition to creeping corporate control over our economic and social lives, the dominion corporations exercise over the political realm presents an especially pernicious threat to democratic legitimacy. Even before *Citizens United* gave corporations essentially the same political speech rights as humans, corporations had already become powerful political institutions, with many multinational corporations employing comprehensive rulemaking, adjudicative, and security functions.[311] No longer are corporations mere wealth generation machines. Instead, some of the most significant decisions affecting our society now get made behind the closed boardroom doors rather than in the public square. The celerity with which corporations dominate so many facets of our collective lives all but mandates democratizing more fully the corporate practices and structures.[312] The traditional public sphere continues to shrink away as corporations dominate the political agenda and public opinion. Our bedrock political values of freedom and popular sovereignty now depend on creating internal corporate mechanisms that secure a robust sense of access, fairness, and transparency.[313]

Regardless of whether corporate domination occurs in the economic, social, or political realm, the unifying concern is that corporate managers will advance their personal desires at the expense of shareholder (and stakeholder) interests. As AI technologies enable corporate boards to identify and consider more accurately the full range of economic, social, political, and moral interests that shareholders actually possess, however, a fiduciary framework based on encapsulated trust should reduce our fear in the growth of corporate power. In simple terms, to sustain encapsulated trust, corporate boards would need to shepherd the development, utilization, and dissemination of AI technologies to enhance the board's competence in identifying and heeding actual shareholder values and preferences. In that sense, encapsulated trust would require directing AI technologies to improve continually the quality of the discourse to enable a rational expectation that boards competently take actual shareholder preferences into account. AI technologies may inevitably cause corporations to grow more powerful. But a fiduciary framework built around encapsulated trust would cause corporate managers to harness AI to facilitate consideration of various constituencies in corporate decision-making, disclose more

310. *See* Gerlinde Berger-Walliser & Inara Scott, *Redefining Corporate Social Responsibility in an Era of Globalization and Regulatory Hardening*, 55 AM. BUS. L.J. 167 (2018) (arguing that laws and regulations are rapidly formalizing corporate social responsibility, undermining the notion of corporate social responsibility).

311. *See* Jody Freeman, *Extending Public Law Norms Through Privatization*, 116 HARV. L. REV. 1285, 1308–09 (2003) (discussing how multinational corporations have increasingly encroached on the authority of states).

312. *See generally* Colleen A. Dunlavy, *Social Conceptions of the Corporation: Insights from the History of Shareholder Voting Rights*, 63 WASH. & LEE L. REV. 1347 (2006); Lucas E. Morel, Commentary, *The Separation of Ownership and Control in Modern Corporations: Shareholder Democracy or Shareholder Republic?*, 63 WASH. & LEE L. REV. 1593 (2006); Dalia Tsuk Mitchell, *Shareholders as Proxies: The Contours of Shareholder Democracy*, 63 WASH. & LEE L. REV. 1503 (2006) (discussing the role of democracy in shareholder rights).

313. In prior works, I have developed fully the rise of corporate power and need to preserve democratic legitimacy through enhanced corporate transparency and discourse. *See generally* Siebecker, *Discourse Theory*, *supra* note20; Siebecker, *Political Insider Trading*, *supra* note 19; Siebecker, *Bridging Troubled Waters*, *supra* note 21.

accurately and effectively information relevant to investor preferences, and insure transparency and accountability of corporate managers.

Enhancing the effectiveness of corporate governance through encapsulated trust also affects our collective sense of legitimacy in the political realm. To the extent existing corporate governance structures promote special interests, managerial imperialism, or antidemocratic values, we suffer a diminished sense of citizenship within our polity.[314] Fiduciary duties based on encapsulated trust, however, could stave any such corruption of our basic political values by ensuring just and fair internal corporate structures. If the tenets of encapsulated trust require taking into account the views of all those affected by corporate activities, we retain some ability to participate in the discourse that shapes corporate practices and policies. AI technologies could improve the ability and responsibility of corporations to identify and consider more effectively shareholder and stakeholder interests. By guiding the development and adoption of AI technologies through encapsulated trust, we can help secure our democratic values despite increasing corporate control over our collective lives.

V. DIRECTOR IDENTITY AND AI

The current composition of most corporate boards in the United States remain strikingly homogeneous.[315] White males in their mid-sixties[316] hold approximately 70% of board seats in Fortune 500 Companies.[317] Moreover, turnover on those boards remains very slow[318] with board members' tenure often lasting more than ten years.[319] The risks to such homogeneity are well documented and include poor decision-making, lack of creativity, bias, inability to perceive risks, excessive risk taking, and path dependence, among others.[320] Some studies also directly link poor financial performance to board homogeneity.[321]

Adopting a fiduciary framework of encapsulated trust to guide the development,

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314. *See* JÜRGEN HABERMAS, BETWEEN FACTS AND NORMS 166–67 (William Rehg trans., MIT Press 1996) (1992).

315. *See* Yaron Nili, *Beyond the Numbers: Substantive Gender Diversity in Boardrooms*, 94 IND. L.J. 145, 149–50 (2019) (discussing how women comprise only 16% of corporate boards); Deborah L. Rhode & Amanda K. Packel, *Diversity on Corporate Boards: How Much Difference Does Difference Make*, 39 DEL. J. CORP. L. 377, 379–82 (2014) (explaining how gender and racial diversity has increased in past decades, but largely plateaued recently); Heminway, *supra* note 139, at 184–85 (noting that studies show investors do not trust female corporate leaders).

316. *See* Nili, *supra* note 315, at 170.

317. Deloitte, *Women and Minorities See Modest Gains on Fortune 500 Boards*, WALL ST. J. (Feb. 22, 2017), http://deloitte.wsj.com/riskandcompliance/2017/02/22/women-and-minorities-see-modest-gains-on-fortune-500-boards/.

318. *See* AARON A. DHIR, CHALLENGING BOARDROOM HOMOGENEITY: CORPORATE LAW, GOVERNANCE, AND DIVERSITY 44 (2015) (explaining how few firms have mandatory term limits); N.Y. STOCK EXCH., NYSE: CORPORATE GOVERNANCE GUIDE, at iv (Steven A. Rosenblum et al. eds., 2014) (providing guidance on how to balance issues involving age and length of service on corporate boards).

319. *See* Nili, *supra* note 315, at 168–69.

320. *See generally* Dan M. Kahan et al., *Culture and Identity-Protective Cognition: Explaining the White Male Effect in Risk Perception*, J. EMPIRICAL LEGAL STUD. 1 (2007); Nili, *supra* note 315, at 162–64; Rhode & Packel, *supra* note 315, at 394–96; Frank Dobbin & Jiwook Jun, *Corporate Board Gender Diversity and Stock Performance: The Competence Gap or Institutional Investor Bias*, 89 N.C. L. REV. 809, 810–15 (2011).

321. *See* Rhode & Packel, *supra* note 315, at 384–88 (although expressing a lack of confidence in the financial linkage).

utilization, and dissemination of AI technologies, however, will likely cause a significant change in director identity. The paradigmatic shift in the roles that directors will play on corporate boards and in the basic modes of decision-making will all but necessitate that directors possess certain attributes and attitudes. At its core, AI is a disruptive technology. And there is little reason to believe that the composition and functions of corporate boards should remain immune to AI's disruptive effects.

A. Curious Shepherds

Governance principles based on encapsulated trust will require corporate directors to embody a greater curious flexibility in shepherding the interests of the corporations they serve. Depending on the theory of corporate organization,[322] conceptions of directors' roles range from mere agents of the shareholders who own the corporation to "mediating hierarchs" of competing corporate constituencies.[323] As AI technology becomes more deeply integrated into prevailing business practices and our lives generally, current notions of directorial supervision will necessarily change. As Andrew McAfee, a scholar at MIT Sloan School of Management and author of *The Second Machine Age* recently commented, "I can't think of a corner of the business world (or a discipline within it) that is immune to the astonishing technological progress we're seeing. That clearly includes being at the top of a large global enterprise."[324]

One obvious characteristic that directors will need to possess is a basic affinity for technological innovation and an openness to data driven decision-making. A lack of comfort with evolving technology and big data might explain the existing gap between AI hype and its current adoption described at the outset of the Article. Rather than relying on gut instincts or intuition, directors (and officers) will need to find comfort in using data and accepting support from AI technologies in steering the corporation.[325]

On a related point, directors will need to be much more predictive than reactionary in managing corporate practices and goals. The very nature of AI technologies calls for a much more forward-looking focus on improving corporate practices. For instance, reactive crisis management should take a back seat to shepherding innovations that prevent crises from occurring. The suggestion is not that corporate boards will no longer need to exercise oversight based on historical data. Instead, the point is that AI technologies will continually nudge directors to make prescriptive choices that add future value to the corporation.

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322. For a description of various theories of corporate organization, see Stefan J. Padfield, *Corporate Social Responsibility & Concession Theory*, 6 WM. & MARY BUS. L. REV. 1, 2–15 (2015). *See also* Jeffrey N. Gordon, *Shareholder Initiative: A Social Choice and Game Theoretic Approach to Corporate Law*, 60 U. CIN. L. REV. 347, 352 (1991) (examining the "absolute delegation rule" in shareholder-management relations); Christopher M. Brunner, *The Enduring Ambivalence of Corporate Law*, 59 ALA. L. REV. 1385, 1387–401 (2008) (discussing traditional conceptions of board members).

323. Margaret M. Blair & Lynn A. Stout, *Director Accountability and the Mediating Role of the Corporate Board*, 79 WASH. U. L.Q. 403, 409 (2001).

324. Erik Brynjolfsson & Andrew McAfee, *Artificial Intelligence Meets the C-Suite*, 3 MCKINSEY Q. 1, 6 (2014), https://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/artificial-intelligence-meets-the-c-suite.

325. *See id.* at 7 ("[T]he role of a senior manager in a deeply data-driven world is going to shift. I think the job is going to be to figure out, 'Where do I actually add value and where should I get out of the way and go where the data take me?' That's going to mean a very deep rethinking of the idea of the managerial 'gut,' or intuition.").

Perhaps most importantly, directors in the AI era will need to possess an innate comfort with change itself. AI will inevitably alter the ways in which corporate boards and managers operate at a fundamental level. As one expert suggested, AI technologies will create "a need for senior leaders to 'let go' in ways that run counter to a century of organizational development."[326] In additional to changing managerial and oversight responsibilities, AI will likely cause significant disruptive cultural changes within the corporate setting.[327] Democratization and diffusion of decision-making authority likely represents one of most significant structural repercussions of reliance on AI technologies.[328] Moreover, the exponential growth in AI technologies and their applications will require continuous revision and assessment of management techniques.[329] Describing all the ways in which AI will significantly alter corporate practices and the role of corporate boards remains impossible due to the celerity of technological innovation.[330] But it is the very speed of innovation that requires directors in the AI era to find solace in change and instability.

B. Pareto Utopia or Idiocracy

A fiduciary framework built upon encapsulated trust will cause corporate directors to confront some significant moral questions. As approached through two particular problems with AI technology—bias and pandering—the question boils down to whether encapsulated trust requires directors to pursue a Pareto utopia[331] or enables directors to let us languish in a hedonistic "idiocracy."[332]

As the proliferation of AI relieves corporate boards of many of their traditional oversight functions, the types of decisions board members make will likely change. By their very oversight nature, corporate boards enjoy a degree of dispassionate objectivity in assessing firm performance and policies from a vantage point disconnected from front line

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326. Martin Dewhurst & Paul Willmott, *Manager and Machine: The New Leadership Equation*, 3 MCKINSEY Q. 1, 2 (2014), https://www.mckinsey.com/featured-insights/leadership/manager-and-machine.

327. *See generally* Junko Kaji et al., *The Symphonic C-Suite: Teams Leading Teams*, *in* THE RISE OF THE SOCIAL ENTERPRISE, 2018 DELOITTE GLOBAL HUMAN CAPITAL TRENDS 17, https://www2.deloitte.com/content/dam/Deloitte/de/Documents/human-capital/2018-Global-Human-Capital-Trends-The-symphonic-C-suite.pdf (explaining the need for C-suite to change in response to handle "competitive and digital disruption").

328. *See* Dewhurst & Willmott, *supra* note326, at 4 ("As artificial intelligence grows in power, the odds of sinking under the weight of even quite valuable insights grow as well. The answer isn't likely to be bureaucratizing information, but rather democratizing it: encouraging and expecting the organization to manage itself without bringing decisions upward. Business units and company-wide functions will of course continue reporting to the top team and CEO. But emboldened by sharper insights and pattern recognition from increasingly powerful computers, business units and functions will be able to make more and better decisions on their own.").

329. *See* Bughin et al., *A Survey of 3,000 Executives*, *supra* note 8 ("And as AI continues to converge with advanced visualization, collaboration, and design thinking, businesses will need to shift from a primary focus on process efficiency to a focus on decision management effectiveness, which will further require leaders to create a culture of continuous improvement and learning.").

330. *See* Brynjolfsson & McAfee, *supra* note 324 ("I think people are massively underestimating the impact, on both their organizations and on society, of the combination of data plus modern analytical techniques. The reason for that is very clear: these techniques are growing exponentially in capability, and the human brain just can't conceive of that.").

331. For a general discussion of Pareto efficiency, see generally Edward J. McCaffery, *Slouching Towards Equality: Gender Discrimination, Market Efficiency, and Social Change*, 103 YALE L.J. 595 (1993).

332. Idiocracy refers to a dystopian society depicted in the movie by the same name where inhabitants live to satisfy base human desires. *See* MIKE JUDGE, IDIOCRACY (2006).

operations. But AI may require corporate boards to gain even greater distance to focus on the long-term deleterious effects of AI utilization. Two specific concerns, bias and pandering, deserve special attention.

Bias in AI entities represents an especially pernicious problem that requires continual attention and correction. Bias occurs when "an algorithm produces results that are systematically prejudiced due to erroneous assumptions in the machine learning process."[333] Those prejudices arise because the AI entities are created or supplied with data by individuals who possess conscious or unconscious prejudices themselves.[334] As IBM reports, "AI systems are only as good as the data we put into them. Bad data can contain implicit racial, gender, or ideological biases. Many AI systems will continue to be trained using bad data, making this an ongoing problem."[335] Indeed, the effects of those biases "can get amplified over time as the infected AI technology and its applications evolve."[336]

The effects of AI bias can be terribly damaging to certain communities.[337] When *The Washington Post* recently reported racial bias in Amazon's new AI powered facial recognition tool used by law enforcement, many business executives implored Amazon not to sell the technology to law enforcement entities.[338] According to one researcher, "the potential for weaponization and abuse of facial-analysis technologies cannot be ignored."[339]

AI bias poses significant problems for businesses as well because it could cause fundamental mistakes in guiding the corporation. According to a McKinsey & Company report, "[a]lgorithmic bias is one of the biggest risks because it compromises the very purpose of machine learning. This often-overlooked defect can trigger costly errors and, left unchecked, can pull projects and organizations in entirely wrong directions."[340] Although AI developers and companies that utilize AI software go to great lengths to

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333. Margaret Rouse, *Machine Learning Bias (Algorithm Bias or AI Bias)*, SEARCH ENTERPRISE AI, https://searchenterpriseai.techtarget.com/definition/machine-learning-bias-algorithm-bias-or-AI-bias (last visited Sept. 9, 2019).

334. *Id.*

335. *Many AI Stems Are Trained Using Biased Data*, IBM RESEARCH, https://www.research.ibm.com/5-in-5/ai-and-bias/ (last visited Sept. 9, 2019).

336. John Villasenor, *Artificial Intelligence and Bias: Four Key Challenges*, BROOKINGS INST.: TECHTANK (Jan. 3, 2019), https://www.brookings.edu/blog/techtank/2019/01/03/artificial-intelligence-and-bias-four-key-challenges/.

337. *See* Bernard Marr, *Artificial Intelligence Has a Problem with Bias, Here's How to Tackle It*, FORBES (Jan. 29, 2019), https://www.forbes.com/sites/bernardmarr/2019/01/29/3-steps-to-tackle-the-problem-of-bias-in-artificial-intelligence/#153e1e147a12 ("[T]here's also a very real danger that without proper training on data evaluation and spotting the potential for bias in data, vulnerable groups in society could be hurt or have their rights impinged by biased AI.").

338. *See* Drew Harwell, *Amazon Facial-Identification Software Used by Police Falls Short on Tests for Accuracy and Bias, New Research Finds*, WASH. POST (Jan. 25, 2019), https://www.washingtonpost.com/technology/2019/01/25/amazon-facial-identification-software-used-by-police-falls-short-tests-accuracy-bias-new-research-finds/?utm_term=.0438fbe82223 (discussing Amazon facial recognition technology used by law enforcement had lower accuracy for darker skinned people and how such errors could lead to violent interactions between law enforcement and people incorrectly flagged as wanted criminals).

339. *Id.* (quoting Joy Buolamwini).

340. Tobia Baer & Vishnu Kamalnath, *Controlling Machine-Learning Algorithms and Their Biases*, MCKINSEY & CO. (Nov. 2017), https://www.mckinsey.com/business-functions/risk/our-insights/controlling-machine-learning-algorithms-and-their-biases.

eliminate bias, fixing the problem poses great difficulties.[341]

For corporate boards in the AI era, then, the question of bias poses quite a "big picture" question about the effects of AI utilization in society. What amount of bias should corporate boards tolerate in the AI mechanisms that either make corporate decisions or assist human managers? Does the development and dissemination of biased AI technology undermine our social fabric and impinge on essential rights?

Answering those questions perhaps depends on a consideration of the second problem of pandering.[342] Pandering essentially involves a race to the bottom in terms of preference satisfaction. Rather than taking into account long-term interests, immediate preference satisfaction remains the focus. In the context of AI, the notion of pandering describes an assessment of the short-term, localized effects of AI. Using the example of the facial recognition technology, pandering to the market would ignore the long-term damage to community interests, trust in law enforcement, and sense of social justice. As a result, if the AI facial recognition software proved profitable in the near term despite its deleterious effects, a pandering approach would pursue greater sales. To drive the distinction home, while Amazon decided to continue sales of its reportedly biased AI facial recognition software, Google chose to halt sales of its product over similar concerns.[343]

A discussion of the particular problems of bias and pandering related to AI helps pose a fundamental moral question regarding the fiduciary framework of encapsulated trust. As articulated rather brashly at the outset of this Part, does encapsulated trust require directors to pursue a Pareto utopia? Would corporate fiduciary duties predicated on encapsulated trust allow directors to let us languish in a hedonistic "idiocracy?"

Quite frankly, the dichotomy is false. A Pareto utopia represents an allocation of resources in which no person could be made better off without making another worse. In other words, society rests in a position where no person is willing to make any trades in resources based on their preferences. In essence, the position represents the ultimate outcome of every possible win-win trade.[344] Idiocracy refers to the movie of the same name directed by Mike Judge in which inhabitants led unthinking lives simply aimed at hedonistic preference satisfaction. The dichotomy presented is false because Pareto efficiency takes no stand on the ethics of resource allocation. Similarly, a corporate fiduciary duty says precious little about the content of shareholder interests satisfied. Instead, encapsulated trust requires a process of attentiveness to shareholder interests.

This claim about the agnosticism of encapsulated trust may seem at odds with the prior discussion of a need to consider long-term shareholder interests in the context of using AI technologies to detect and prevent corporate corruption.[345] But no such incompatibility

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341. *See* Karen Hao, *This Is How AI Bias Really Happens—And Why It's So Hard to Fix*, MIT TECH. REV. (Feb. 4, 2019), https://www.technologyreview.com/s/612876/this-is-how-ai-bias-really-happensand-why-its-so-hard-to-fix/ ("Fixing discrimination in algorithmic systems is not something that can be solved easily . . . It's a process ongoing, just like discrimination in any other aspect of society." (internal quotation marks omitted)).

342. For a general discussion of pandering to the market, see Yeon-Koo Che et al., *Pandering to Persuade*, AM. ECON. REV. (2013), http://www.columbia.edu/~yc2271/files/publications/pandering.pdf.

343. *See* Michael Kan, *Google Hits Pause on Selling Facial Recognition Tech Over Abuse Fears*, PC MAG. (Dec. 13, 2018), https://www.pcmag.com/news/365477/google-hits-pause-on-selling-facial-recognition-tech-over-ab (explaining that Google chose not to offer general purpose facial recognition API until addressing policy questions and fears regarding abuse of the technology).

344. *See* Siebecker, *Bridging Troubled Waters*, *supra* note 21, at 149 n.243.

345. *See supra* notes 278–95 and accompanying text.

really exists. In the corporate compliance context, the consideration dealt with the basic sustainability of corporations themselves. In this false dichotomy, no question of sustainability is presented. As a result, encapsulated trust has little guidance to provide.

Determining whether corporate fiduciary duties based on encapsulated trust tolerate AI bias and pandering would require an assessment of the sustainability of those practices. That investigation, taken up in the next Part, would arguably require a moral assessment of what sustainability in the AI era entails.

C. Restoring Civic Republicanism

Guiding the development, utilization, and dissemination of AI through a fiduciary framework based on encapsulated trust ultimately requires directors to engage in deep consideration of fundamental moral and political principles. Although encapsulated trust might not say much about the validity of various shareholder preferences, sustainability occupies the central core of what encapsulated trust targets. The basic purpose of articulating a coherent concept of trust upon which to assess the propriety of corporate conduct is to sustain a strong fiduciary bond between corporate managers and the constituencies they serve. As a result, the primary obligation of directors is to ensure sustainable conditions exist for that fiduciary relation to thrive.

The proliferation of AI raises some knotty practical and philosophical questions about what constitutes a sustainable environment in which humans and AI can coexist. There is little doubt that AI will promote efficiency in providing goods and services. But what will that efficiency really cost in terms of sustaining other important social, political, economic, and environmental values? Some suggest AI will enhance human performance, promote socially minded enterprises, and generally enhance the quality of human existence.[346] Others fear AI threatens the very notion of human agency. Considerations of equality, freedom, democratic legitimacy, and community pervade the discussions the role AI should play in our shared communal lives.[347] The point here is to not to provide any answers, but instead to suggest that within a fiduciary framework of encapsulated trust, directors must consider those questions in shepherding the development, adoption, and dissemination of AI.

In essence, the proliferation of AI requires corporate directors to engage in continual civic republican reflection. Corporate directors simply cannot ensure a sustainable environment for AI and humans without considering basic notions of the common good. Given the incredible reach and power of AI technologies and autonomous entities, corporate directors cannot realistically fulfill their fiduciary duties to their own shareholders looking only at the immediate effects of their decisions. Instead, an encapsulated trust account of corporate fiduciary duties requires considering the long-term effects of corporate decisions on the basic sustainability of the social, political, and

346. DAUGHERTY & WILSON, *supra* note 60, 135–53; JUNKO KAJI ET AL., DELOITTE, THE RISE OF THE SOCIAL ENTERPRISE (2018), https://www2.deloitte.com/content/dam/insights/us/articles/HCTrends2018/2018-HCtrends_Rise-of-the-social-enterprise.pdf.

347. *See, e.g.*, Karl Manheim & Lyric Kaplan, *Artificial Intelligence: Risks to Privacy and Democracy*, 21 YALE J.L. & TECH. 106 (2019); Dirk Helbing et al., *Will Democracy Survive Big Data and Artificial Intelligence*, SCIENTIFIC AM. (Feb. 25, 2017), https://www.scientificamerican.com/article/will-democracy-survive-big-data-and-artificial-intelligence/; Jamie Bartlett, *How AI Could Kill Off Democracy*, NEW STATESMAN AM. (Aug. 15, 2018), https://www.newstatesman.com/science-tech/technology/2018/08/how-ai-could-kill-democracy-0.

economic environment in which the corporation exists.

Because AI could significantly harm rather than enhance human existence, corporate directors must consider how to develop AI mindful of its effects on humanity and our shared community. Of course, in the history of political thought from ancient times to the present, opinions vary wildly on what constitutes the common good or essential aspects of human life. Nonetheless, a fiduciary framework of trust obligates directors to consider those essential moral questions about the role AI should play in our shared society. In a somewhat ironic twist, then, the very power of AI requires corporate directors to consider more thoughtfully the humanity of their decisions.

VI. CONCLUSION

Determining the role AI technologies should play in corporate boardrooms is of paramount importance considering the increasing prevalence of AI throughout a variety of industries in a host of key functions. With the advent of a powerful new technology, important concerns arise regarding the limits on its use and the ends to which it should be directed. Although many ethical questions exist about the effect of AI on our basic humanity, if the proliferation of AI remains inevitable, the task of identifying the proper parameters within which to use AI remains of utmost importance.

Reconceptualizing the fiduciary duties of trust that directors owe to the corporation and its shareholders might enhance the efficacy, integrity, and humanity of corporate decision-making in the era of AI. In particular, a revitalized fiduciary framework based on the philosophy of encapsulated trust would allow corporate decision makers to shepherd effectively the development, utilization, and dissemination of AI. Construing corporate fiduciary duties around encapsulated trust would direct AI utilization to enhance the integrity of corporate discourse, diminish corporate corruption, validate a consideration of morality in business decisions, and require corporate directors to embrace a more pluralistic and inclusive approach to corporate decision making. In the end, although AI might not supplant human beings on corporate boards, AI technologies could very well help make decisions by corporate managers more humane.