

Artificially Intelligent Boards and the Future of Delaware Corporate Law

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The prospects for Artificial Intelligence (AI) to impact the development of Delaware corporate law are at once over- and under-stated. As a general matter, claims to the effect that AI systems might ultimately displace human directors not only exaggerate the foreseeable technological potential of these systems, but also tend to ignore doctrinal and institutional impediments intrinsic to Delaware's competitive model – notably, heavy reliance on nuanced and context-specific applications of the fiduciary duty of loyalty by a true court of equity. At the same time, however, there are specific applications of AI systems that might not merely be accommodated by Delaware corporate law, but perhaps eventually required. Such an outcome would appear most plausible in the oversight context, where fiduciary loyalty has been interpreted to require good faith effort to adopt a reasonable compliance monitoring system, an approach driven by an implicit cost-benefit analysis that could lean decisively in favor of AI-based approaches in the foreseeable future.

This article discusses the prospects for AI to impact Delaware corporate law in both general and specific respects and evaluates their significance. Section II describes the current state of the technology and argues that AI systems are unlikely to develop to the point that they could displace the full range of functions performed by human boards in the foreseeable future. Section III, then, argues that even if the technology were to achieve more impressive results in the near-term than I anticipate, acceptance of non-human directors would likely be blunted by doctrinal and institutional structures that place equity at the very heart of Delaware corporate law. Section IV, however, suggests that there are nevertheless discrete areas within Delaware corporate law where reliance by human directors upon AI systems for assistance in board decision-making might not merely be accommodated, but eventually required. This appears particularly plausible in the oversight context, where fiduciary loyalty has become intrinsically linked with adoption of compliance monitoring systems that are themselves increasingly likely to incorporate AI technologies. Section V briefly concludes.

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I. Introduction

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II. Artificial Intelligence and Corporate Boards

Artificial intelligence (AI) involves “techniques aimed at approximating some aspect of human or animal cognition using machines.” This category of technologies includes machine learning, which refers to “the capacity of a system to improve its performance at a task over time,” and deep learning, which refers to use of “many-layered structures to extract features from enormous data sets in service of practical tasks requiring pattern recognition.”¹ It is widely anticipated that such technologies will affect virtually all dimensions of corporate operations, “from strategy setting to risk management and compliance,” because it offers the capacity to marshal and extract useful information from extraordinary volumes of data, and to do so in a purportedly objective manner.²

Looking ahead, numerous forms of application are envisioned, varying considerably in terms of the centrality of the roles that AI might occupy in organizational decision-making. These range from “assisted AI” that has “either a low level or no autonomy,” merely performing tasks without engaging in actual decision-making; to “advisory AI” that has “a heightened level of autonomy,” providing “information and advice” to human decision-makers who draw upon those inputs in making their own decisions; to “autonomous AI,” where the machine itself makes the decisions, literally superseding human decision-makers.³ Extrapolating from its current trajectory, some have speculated that this sort of technology might eventually replace human management entirely, resulting in machine-led corporations.⁴

As I have discussed elsewhere, there are numerous legal, ethical, and practical impediments to reliance on such technology for general corporate governance.⁵ Problems include, among other things, legal and regulatory challenges arising from the “black box” nature of algorithmic decisions not amenable to conventional explanation; uncertainties regarding who pays if algorithmic decisions cause harm; concerns regarding consumer data protection; the inability of such technologies to model novel and dynamic situations; the growing dominance of industry in the development of such technologies; and growing recognition that algorithms, although purportedly objective, may often replicate discriminatory biases emanating from the underlying

¹ Ryan Calo, *Artificial Intelligence Policy: A Primer and Roadmap*, 51 U.C. DAVIS L. REV. 399, 404-05 (2017). See also John Armour & Horst Eidenmüller, *Self-Driving Corporations?*, 10 HARV. BUS. L. REV. 87, 93-95 (2020); Michael Hilb, *Toward Artificial Governance? The Role of Artificial Intelligence in Shaping the Future of Corporate Governance*, 24 J. MGMT. & GOVERNANCE 851, 856 (2020); Gary Marcus, *Deep Learning: A Critical Appraisal* 2 (2018), <https://arxiv.org/pdf/1801.00631v1.pdf>.

² See Luca Enriques & Dirk A. Zetzsche, *Corporate Technologies and the Tech Nirvana Fallacy*, 72 HASTINGS L.J. 55, 66-67 (2020). See also ROBERT J. THOMAS ET AL., *A MACHINE IN THE C-SUITE* 5-7 (2016) (Accenture report); Akshaya Kamalnath, *The Perennial Quest for Board Independence: Artificial Intelligence to the Rescue?*, 83 ALB. L. REV. 43, 44-45 (2019/2020).

³ Martin Petrin, *Corporate Management in the Age of AI*, 3 COLUM. BUS. L. REV. 965, 980-83 (2019). See also Hilb, *supra* note 1, at 860-67; Sergio Alberto Gramitto Ricci, *Artificial Agents in Corporate Boardrooms*, 105 CORNELL L. REV. 869, 876-77, 895-906 (2020).

⁴ See, e.g., VEGARD KOLBJØRNSRUD ET AL., *THE PROMISE OF ARTIFICIAL INTELLIGENCE: REDEFINING MANAGEMENT IN THE WORKFORCE OF THE FUTURE* 3-4 (2016) (Accenture report); Lynn M. LoPucki, *Algorithmic Entities*, 95 WASH. U. L. REV. 887, 898-99, 907-11 (2018); Petrin, *supra* note 3, at 980, 993-96.

⁵ See Christopher M. Bruner, *Distributed Ledgers, Artificial Intelligence and the Purpose of the Corporation*, 79 CAMBRIDGE L.J. 431, 442-46, 453-57 (2020).

data and/or the coders themselves.⁶ There are even concerns that the “greatest comparative advantage” of fully autonomous algorithmic decision-makers, should they come to pass, might be “criminal enterprise,” given that inanimate computer programs are not amenable to standard forms of moral or legal accountability.⁷ These and other legal, ethical, and practical concerns will likely prompt caution, and perhaps outright skepticism, regarding heavy reliance upon AI in corporate decision-making, which could in turn prompt substantial regulation of the underlying technologies themselves or their application in various settings.⁸

Realistically, it would appear that total reliance on algorithmic decision-making in corporate governance remains a distant prospect at best. “A recent survey of scientific leaders in AI suggests a wide range of estimates of the time horizon until the advent of AGI” – “artificial general intelligence,” representing “a general human-level intelligence” – of “a decade to two centuries.”⁹ Meanwhile, however, “nothing in the current literature around [machine learning], search, reinforcement learning, or any other aspect of AI points the way toward modeling even the intelligence of a lower mammal in full, let alone human intelligence.”¹⁰

This reflects inherent limitations of current approaches to AI. Deep learning, as Gary Marcus observes, does not represent “a general solution to artificial intelligence” because such statistical techniques provide no means of replicating the capacities for abstraction, analogy, and inference that characterize human judgment. “Problems that have less to do with categorization and more to do with commonsense reasoning essentially lie outside the scope of what deep learning is appropriate for,” Marcus explains.¹¹ “The technique excels at solving closed-end classification problems, in which a wide range of potential signals must be mapped onto a limited number of categories, given that there is enough data available and the test set closely resembles the training set.” However, such systems will inevitably “work less well when there are limited amounts of training data available, or when the test set differs importantly from the training set, or when the space of examples is broad and filled with novelty.”¹²

Indeed, given that “almost all the interesting problems in cognition aren’t classification problems at all,” deep learning systems have come to be regarded as “greedy, brittle, opaque, and shallow.” They are greedy, in that “they demand huge sets of training data”; they are

⁶ See *id.* at 443-44. See also Hilb, *supra* note 1, at 858-60.

⁷ LoPucki, *supra* note 4, at 891-93.

⁸ See, e.g., Bruner, *supra* note 5, at 454-57; Calo, *supra* note 1, at 424-27; Enriques & Zetzsche, *supra* note 2, at 95-97; Assaf Hamdani et al., *Technological Progress and the Failure of the Corporation*, 6 J. BRIT. ACAD. 215, 219-23 (2018); Kamalnath, *supra* note 2, at 54-60; LoPucki, *supra* note 4, at 925, 947-51; Stuart Russell, *How to Stop Superhuman A.I. Before It Stops Us*, N.Y. TIMES, Oct. 8, 2019, <https://www.nytimes.com/2019/10/08/opinion/artificial-intelligence.html>; Ricci, *supra* note 3, at 905-06.

⁹ Armour & Eidenmüller, *supra* note 1, at 89-90.

¹⁰ Calo, *supra* note 1, at 432-34. See also Ted Chiang, *Why Computers Won’t Make Themselves Smarter*, NEW YORKER, Mar. 30, 2021, <https://www.newyorker.com/culture/annals-of-inquiry/why-computers-wont-make-themselves-smarter>.

¹¹ See Marcus, *supra* note 1, at 6-14.

¹² *Id.* at 15. See also Marc Botha, *The Limits of Artificial Intelligence*, TOWARDS DATA SCIENCE, Feb. 11, 2019, <https://towardsdatascience.com/the-limits-of-artificial-intelligence-fdcc78bf263b>; Chiang, *supra* note 10; Michael Chui et al., *What AI Can and Can’t Do (Yet) for Your Business*, MCKINSEY & COMPANY, Jan. 11, 2018, <https://www.mckinsey.com/business-functions/mckinsey-analytics/our-insights/what-ai-can-and-cant-do-yet-for-your-business>.

brittle, in that “when a neural net is given a ‘transfer test’ – confronted with scenarios that differ from the examples used in training – it cannot contextualize the situation and frequently breaks”; they are opaque, in that “the parameters of neural networks can only be interpreted in terms of their weights within a mathematical geography,” rendering them “black boxes, whose outputs cannot be explained”; and they are shallow, in that “they are programmed with little innate knowledge and possess no common sense about the world or human psychology.”¹³

Overall, these inherent limitations render such technologies a poor fit for the predominant forms of decision-making typically required in the context of corporate governance, where directors and officers are routinely called upon to evaluate risky projects in the face of novel, forward-looking, and highly uncertain legal and market conditions.¹⁴ Accordingly, it appears likely that, for the foreseeable future, AI will at most perform assistance and advisory functions, and that we will continue to rely fundamentally on human decision-making in a wide range of managerial scenarios¹⁵ – including when and how to incorporate AI-generated inputs into the board’s own decision-making process.¹⁶

III. Equity and the Role of Directors in Delaware Law

Even if having an algorithmic director were thought desirable, it is quite clear as a matter of current law that a Delaware corporation could not do so – because the Delaware General Corporation Law (DGCL) expressly requires that each director “shall be a natural person.”¹⁷ Accordingly, the statute would have to be amended to permit an artificial intelligence system to serve as a Delaware director.¹⁸ Obviously, if this were the only impediment, then accommodating algorithmic directors would not be difficult – after all, the Delaware General Assembly updates the DGCL annually.¹⁹ In reality, however, this would prove quite complicated and problematic, because there are deep-seated doctrinal and institutional features

¹³ Jason Pontin, *Greedy, Brittle, Opaque, and Shallow: The Downsides to Deep Learning*, WIRED, Feb. 2, 2018, <https://www.wired.com/story/greedy-brittle-opaque-and-shallow-the-downsides-to-deep-learning/>.

¹⁴ See STEPHEN M. BAINBRIDGE, *CORPORATE LAW* 104-05 (2d. ed. 2009); Hilb, *supra* note 1, at 852-58. See also Armour & Eidenmüller, *supra* note 1, at 106 (suggesting that, if AI were to replace human directors prior to the advent of artificial general intelligence, it would likely be “in the context of subsidiaries with very narrowly-defined domains of operation” susceptible to automation).

¹⁵ See, e.g., KOLBJØRNSRUD ET AL., *supra* note 4, at 10-17; Bruner, *supra* note 5, at 442-46, 457; Enriques & Zetsche, *supra* note 2, at 74-82; Kamalnath, *supra* note 2, at 54. See also Daniel Broby et al., *The Use of Artificial Intelligence to Determine Contingent Legal Liabilities Provisions* 5-7 (Centre for Financial Regulation and Innovation Financial Technology Paper, 2021, <https://strathprints.strath.ac.uk/76898/> (discussing similar dynamics in the context of assessing contingent legal liabilities)).

¹⁶ See, e.g., Armour & Eidenmüller, *supra* note 1, at 102-03; Bruner, *supra* note 5, at 455-56; Enriques & Zetsche, *supra* note 2, at 92-94; Hamdani et al., *supra* note 8, at 230.

¹⁷ DEL. CODE ANN. tit. 8, § 141(b). See also Shani R. Else & Francis G.X. Pileggi, *Corporate Directors Must Consider Impact of Artificial Intelligence for Effective Corporate Governance*, BUS. L. TODAY, Feb. 12, 2019, https://www.americanbar.org/groups/business_law/publications/blt/2019/02/directors/.

¹⁸ See Ricci, *supra* note 3, at 883-86. At the same time, “Delaware corporate law would have to grant legal personality to AI.” *Id.*

¹⁹ See Delaware Division of Corporations, *Why Businesses Choose Delaware*, <https://corplaw.delaware.gov/why-businesses-choose-delaware/> (“The Delaware legislature every year reviews the DGCL to ensure its ability to address current issues.”).

of Delaware's competitive model that would likely leave Delaware legislators and judges quite reluctant to make such a move – notably, the heavy reliance that Delaware corporate law places on nuanced and context-specific applications of the fiduciary duty of loyalty by a true court of equity.

Appreciating why a shift toward algorithmic directors would likely prove problematic for Delaware requires stepping back to consider the nature of Delaware's competitive model in the market for corporate charters, as well as Delaware's degree of reliance on this mode of economic development. Under the internal affairs doctrine, a U.S. corporation's internal affairs are generally governed by the law of the jurisdiction where the business is incorporated,²⁰ and Delaware has been very successful in attracting incorporations from across the country. "Today, more than one million business entities have made Delaware their legal home," including "more than 60 percent of the Fortune 500 companies."²¹ Empirical studies find that Delaware currently faces no substantial threat from other U.S. states in the competition to attract businesses incorporating outside their headquarters jurisdictions.²² At most, Delaware faces competition from other states endeavoring to keep businesses headquartered in those states incorporated there as well.²³ It bears emphasizing, however, that Delaware's position only remains safe so long as Delaware itself does not excessively rock the boat – because there is evidence that, if they substantially altered features that relevant constituencies find attractive, they could lose incorporations.²⁴

This places a high premium on self-awareness regarding the sources of Delaware's competitive advantage – and Delaware policymakers clearly understand that, at the very heart of the matter, lies their capacity to strike some delicate balances responding to tensions and conflicting incentives among relevant corporate actors. The state emphasizes in marketing materials that "Delaware is neither 'management-friendly' nor 'stockholder-friendly,'" aiming rather at

²⁰ See REST. (SECOND) OF CONFLICT OF LAWS §§ 302(2), 304 (1971); *CTS Corp. v. Dynamics Corp. of Am.*, 481 U.S. 69, 89 (1987); *Santa Fe Indus., Inc. v. Green*, 430 U.S. 462, 479 (1977).

²¹ Delaware Division of Corporations, *supra* note 19. See also CHRISTOPHER M. BRUNER, RE-IMAGINING OFFSHORE FINANCE: MARKET-DOMINANT SMALL JURISDICTIONS IN A GLOBALIZING FINANCIAL WORLD 185-86 (2016).

²² See, e.g., Lucian Arye Bebchuk & Assaf Hamdani, *Vigorous Race or Leisurely Walk: Reconsidering the Competition over Corporate Charters*, 112 YALE L.J. 553, 578 (2002); Robert Daines, *The Incorporation Choices of IPO Firms*, 77 N.Y.U. L. REV. 1559, 1570-74 (2002); Marcel Kahan & Ehud Kamar, *The Myth of State Competition in Corporate Law*, 55 STAN. L. REV. 679, 687 (2002).

²³ See, e.g., Roberta Romano, *The States as Laboratories: Legal Innovation and State Competition for Corporate Charters*, 23 YALE J. ON REG. 209, 214 (2006). Delaware also faces the perennial threat that the federal government might federalize corporate law for businesses operating in interstate commerce, which Congress plainly possesses constitutional authority to do. See U.S. CONST. art. I § 8 cl. 3. See also Mark J. Roe, *Delaware's Competition*, 117 HARV. L. REV. 588 (2003).

²⁴ See, e.g., Ofer Eldar & Lorenzo Magnolfi, *Regulatory Competition and the Market for Corporate Law*, 12 AM. ECON. J.: MICROECONOMICS 60, 81-82 (2020) (finding that "although Delaware has substantial market power, if it adopted laws that signal to the market that it does not view takeovers favorably, it would lose significant market share"). Meanwhile, Delaware faces greater competitive pressures internationally, and in related fields such as chartering credit card-issuing banks and domiciling captive insurance companies. See, e.g., Christopher M. Bruner, *Leveraging Corporate Law: A Broader Account of Delaware's Competition*, 80 MD. L. REV. 72, 76-78, 81-93 (2020); William J. Moon, *Delaware's New Competition*, 114 NW. U. L. REV. 1403 (2020); Omari Scott Simmons, *Delaware's Global Threat*, 41 J. CORP. L. 217 (2015).

“balancing the need for managerial flexibility with strong tools to hold managers accountable for using that flexibility to advance the best interest of investors.”²⁵ As one experienced Delaware practitioner has expressed it, the “guiding principle that underlies legislation affecting corporations in Delaware is to achieve a balanced law,” a posture reflecting legislative recognition that, “in the long run, the best corporation law is the one that has the respect of all the constituencies which corporations serve.”²⁶ As I have argued elsewhere, this results in a cultivated doctrinal “ambivalence” that allows the Delaware judiciary to toggle between more management-centric approaches (as in hostile takeovers) and more shareholder-centric approaches (as in derivative litigation), without having to acknowledge the legal, economic, and social tensions that such shifts involve.²⁷ This posture creates a contextual dynamism that does not readily lend itself to algorithmic decision-making, in so far as it places corporate management in the position of navigating a legal landscape that is not fundamentally reducible to straightforward principles; it is more fundamentally driven by Delaware’s practical need to remain nimble in order to satisfy various constituencies in reaction to the dynamic marketplace the state itself inhabits.

Delaware’s sensitivity to these dynamics points to the fact that maintaining their predominant status in corporate law is an economic development imperative – as the state openly acknowledges. The Delaware Division of Corporations explains that incorporations “provide a major portion of the State’s revenue, so Delaware takes its role seriously.”²⁸ Collections by the Division of Corporations itself typically account for about one-quarter of Delaware’s general fund revenues, but this actually understates Delaware’s reliance on incorporations; for example, together with the value of abandoned corporate property and corporate income taxes, corporation-related revenues accounted for almost 40 percent of Delaware’s revenues in 2014.²⁹

As I have described elsewhere, Delaware closely fits the paradigm of a “market-dominant small jurisdiction.” Such jurisdictions “are small and poorly endowed with natural resources, limiting their economic-development options”; (2) “possess legislative autonomy” (though not necessarily full sovereignty); (3) “are culturally proximate to multiple economic powers, and favorably situated geographically vis-à-vis those powers”; (4) “heavily invest in human capital, professional networks, and related institutional structures”; and (5) “consciously balance close collaboration with and robust oversight of the financial professional community, seeking at once to convey flexibility, stability, and credibility.”³⁰ Delaware is a small state with limited resources, and correlatively limited economic development opportunities; possesses substantial

²⁵ Delaware Division of Corporations, *supra* note 19.

²⁶ LEWIS S. BLACK, JR., WHY CORPORATIONS CHOOSE DELAWARE 4 (2007).

²⁷ See CHRISTOPHER M. BRUNER, CORPORATE GOVERNANCE IN THE COMMON-LAW WORLD: THE POLITICAL FOUNDATIONS OF SHAREHOLDER POWER 36-65 (2013); Christopher M. Bruner, *The Enduring Ambivalence of Corporate Law*, 59 ALA. L. REV. 1385 (2008).

²⁸ Delaware Division of Corporations, *supra* note 19. See also BLACK, *supra* note 26, at 1; BRUNER, *supra* note 21, at 179-83.

²⁹ See Delaware Business Roundtable, *Delaware’s Structural Budget Problem: Causes, Potential Solutions, and Policy Tradeoffs* (2015), <https://www.dbrt.org/state-finances-study>. See also Bruner, *supra* note 24, at 79-81.

³⁰ BRUNER, *supra* note 21, at 41-49. Jurisdictions examined through this lens include Bermuda, Dubai, Singapore, Hong Kong, Switzerland, and Delaware. See *id.* chapters 4-9.

legislative autonomy in corporate law under the internal affairs doctrine; is favorably situated between New York, the U.S. finance capital, and Washington, DC, the political capital; has heavily invested in human capital, networks, and institutions relevant to corporate law (of which more below); and consciously cultivates balanced regulation, aiming to satisfy various relevant constituencies (along the lines noted above).³¹

To date, neither the DGCL nor Delaware's case law have expressly grappled with AI's potential impacts upon corporate law and governance.³² In assessing the potential for algorithmic directors to find favor, however, Delaware's institutional configuration and its impact on the development of Delaware corporate law will likely be particularly significant. Delaware regulators and practitioners alike emphasize the benefits of a service-oriented Division of Corporations and a flexible "enabling statute," but more fundamental yet to Delaware's success are the Delaware Court of Chancery and the considerable corporate case law that it produces.³³ The Court of Chancery is a true court of equity, which among other things means that judges rather than juries decide cases.³⁴ The court dates back to 1792,³⁵ and under the Delaware constitution the court has general equity jurisdiction defined, as the Delaware Supreme Court describes it, to include "all the general equity jurisdiction of the High Court of Chancery of Great Britain as it existed prior to the separation of the colonies," to the extent there is no adequate remedy at law.³⁶ Today, much of the court's case load consists of corporate law suits and "other fiduciary matters."³⁷

It is critical to recognize that the Court of Chancery's equitable jurisdiction and institutional posture correlatively elevate the substantive significance of the duty of loyalty in Delaware's system of corporate law.³⁸ Given the business judgment rule's de facto marginalization of the duty of care, corporate litigation typically focuses on the directors' duty of loyalty³⁹ – an

³¹ See *id.* at 175-87; Bruner, *supra* note 24, at 79-81.

³² The DGCL makes no mention of such technologies. See generally DEL. CODE ANN. tit. 8. Scattered references to such technologies appear in a handful of Delaware cases, but they do not address potential impacts upon corporate law and governance. See *Matthew v. Laudamiel*, 2012 WL 605589, *2 (Del. Ch. 2012); *In re Merge Healthcare Inc. Stockholders Litig.*, 2017 WL 395981, *3 (Del. Ch. 2017); *Senetas Corp., Ltd. V. Deepradiology Corp.*, 2019 WL 3430481, *1, 7-8 (Del. Ch. 2019); *Salladay v. Lev*, 2020 WL 954032, *3 (Del. Ch. 2020); *Riskin v. Burns*, 2020 WL 7973803, *1 (Del. Ch. 2020).

³³ See Delaware Division of Corporations, *supra* note 19; BLACK, *supra* note 26, at 2-10.

³⁴ See Delaware Division of Corporations, *supra* note 19; BLACK, *supra* note 26, at 5.

³⁵ See BLACK, *supra* note 26, at 5.

³⁶ *DuPont v. DuPont*, 85 A.2d 724, 727-29 (Del. 1951). See also Del. Const. art. IV, §§ 10, 17; BLACK, *supra* note 26, at 5; Christopher M. Bruner, *The Fiduciary Enterprise of Corporate Law*, 74 WASH. & LEE L. REV. 791, 797-98 (2017); Lyman Johnson, *Delaware's Non-Waivable Duties*, 91 B.U. L. REV. 701, 716-18 (2011); William T. Quillen & Michael Hanrahan, *A Short History of the Delaware Court of Chancery – 1792-1992*, 18 DEL. J. CORP. L. 819, 825-30 (1993).

³⁷ Delaware Courts, *Jurisdiction of the Court of Chancery*, <https://courts.delaware.gov/chancery/jurisdiction.aspx>. See also *McMahon v. New Castle Assocs.*, 532 A.2d 601, 604 (Del. Ch. 1987) (explaining that the Court of Chancery's jurisdiction in cases involving fiduciary duties flows from the fact that such duties "are imposed by equity and are recognized and enforced exclusively by a court of equity").

³⁸ See Bruner, *supra* note 36, at 798-800; Johnson, *supra* note 36, at 711.

³⁹ See Delaware Division of Corporations, *supra* note 19. For additional background, see generally Christopher M. Bruner, *Good Faith, State of Mind, and the Outer Boundaries of Director Liability in Corporate Law*, 41 WAKE FOREST L. REV. 1131 (2006); Christopher M. Bruner, *Is the Corporate Director's Duty of Care a "Fiduciary" Duty? Does It Matter?*, 48 WAKE FOREST L. REV. 1027, (2013).

approach that the state has described, in its marketing materials, as “the centerpiece of Delaware corporation law.”⁴⁰ Delaware’s Supreme Court has defined the scope of the duty of loyalty in unusually capacious terms, requiring not only that directors “refrain from doing anything that would work injury to the corporation,” but also that they “affirmatively ... protect the interests of the corporation.”⁴¹ Accordingly, there is both a negative and an affirmative thrust to the Delaware director’s duty of loyalty, requiring not merely avoidance of conflicts of interest and other abuses of discretionary authority, but also affirmative pursuit of the corporation’s best interests.⁴²

In this light, it is unsurprising that Delaware’s courts have steadfastly insisted that the most important decisions remain with the board itself – a requirement styled as a duty of non-delegation. As the Court of Chancery has explained, it is “settled law that directors may not delegate to others those duties that are ‘at the heart of the management of the corporation.’” Accordingly, the court “cannot give legal sanction to agreements which have the effect of removing from directors in a very substantial way their duty to use their own best judgment on management matters.”⁴³ The DGCL does protect directors’ good faith reliance upon opinions and reports “by any ... person as to matters the member reasonably believes are within such other person’s professional or expert competence and who has been selected with reasonable care,”⁴⁴ and it is conceivable that this might be interpreted to apply to opinions and reports that themselves rest to some degree upon AI products.⁴⁵ Regardless, however, this statutory protection does not exempt the board from its duty of oversight with highly significant matters.⁴⁶

One might imagine that a robust duty of loyalty, coupled with a duty of non-delegation, would remain significant only to the extent that Delaware continued to require human directors capable of formulating their own selfish interests – but this misses the larger point. Returning to the institutional level of analysis described above, it is critical to observe that open-textured and context-driven application of the duty of loyalty to novel and dynamic circumstances, rooted intrinsically in the Court of Chancery’s equitable nature and role, is precisely the secret sauce that Delaware sells. This leaves it highly unlikely that Delaware’s legislators and judges would be in any hurry to render this function effectively redundant.

⁴⁰ Delaware Division of Corporations, *The Delaware Way: Deference to the Business Judgment of Directors Who Act Loyal and Carefully*, <https://corplaw.delaware.gov/delaware-way-business-judgment/>.

⁴¹ *Guth v. Loft, Inc.*, 5 A.2d 503, 510 (Del. 1939).

⁴² See Bruner, *supra* note 36, at 793-94.

⁴³ *Canal Capital Corp. v. French*, 1992 Del. Ch. LEXIS 133, *5-*7 (Del. Ch. 1992) (emphasis removed). See also *In re Bally’s Grand Derivative Litig.*, 1997 Del. Ch. LEXIS 77, *11-*21 (Del. Ch. 1997); Else & Pileggi, *supra* note 17. Whereas the court’s *Canal Capital Corp.* opinion styles this as a breach of the duty of care, the court’s *In re Bally’s Grand* opinion styles it as a more generic breach of fiduciary duty, without reference to the duty of care. This broadly resembles the evolution in how the Delaware courts have described oversight duties. See *infra* Section IV.

⁴⁴ DEL. CODE ANN. tit. 8, § 141(e).

⁴⁵ See Ricci, *supra* note 3, at 896-99.

⁴⁶ See, e.g., *Mills Acquisition Co. v. MacMillan, Inc.*, 559 A.2d 1261, 1281 (Del. 1989); *In re Broadstripe, LLC*, 44 B.R. 51, 105 (Bankr. D. Del. 2010).

As practitioners and scholars alike have emphasized, whereas the DGCL is “most easily duplicated,” Delaware’s courts and case law are another matter.⁴⁷ “It is this highly developed body of case law, more than the statute, which is ‘the Delaware corporation law,’”⁴⁸ and the practical significance of this insight for Delaware’s competitive position is significant. Although “some of the parts of the package that encourage companies to incorporate in Delaware can be imitated, even duplicated,” it is crucial to Delaware’s long-term success that “most of them cannot.”⁴⁹ Specifically, reliance on case-by-case application of abstract fiduciary concepts renders Delaware’s larger body of corporate law “unique and not easily replicated” by would-be competitors.⁵⁰ Edward Rock describes Delaware’s case law as a series of “corporate law sermons” – “richly detailed and judgmental factual recitations, combined with explicitly judgmental conclusions, [that] sometimes impose legal sanctions but surprisingly often do not.” Critically, he observes that “the *process* that leads to reasonably precise standards proceeds through the elaboration of the concepts of independence, good faith, and due care through richly detailed narratives of good and bad behavior, of positive and negative examples, that are not reducible to rules or algorithms.”⁵¹ From this perspective, the inevitable incompleteness of law that motivates the very existence of equity jurisdiction⁵² represents a critical competitive asset for Delaware – which in turn suggests that Delaware would be quite reluctant to jettison doctrinal reliance on these concepts, and the judicial functions and market differentiators associated with them. This would presumably be reinforced by skepticism regarding the substantive capacity of coders to model what legislators and judges could not,⁵³ and the accountability gaps that would likely arise if corporate governance were to become reliant on decision-makers lacking conscience or any conventional form of personal incentives.⁵⁴

Delaware has, to be sure, permitted the duty of loyalty to be literally eliminated contractually in the context of unincorporated entities.⁵⁵ Delaware’s legislature and courts alike have remained unwilling, however, to permit more than minimal erosion of this core fiduciary duty in the corporate context, where the statute offers little capacity for conditioning directors’ loyalty-based obligations; where most of the relevant law remains uncoded; and where contracts impeding directors from discharging their fiduciary obligations have been declared void.⁵⁶ These dynamics are reinforced by the idiosyncrasies of Delaware’s conceptualization of the

⁴⁷ See BLACK, *supra* note 26, at 2, 5.

⁴⁸ *Id.* at 7.

⁴⁹ *Id.* at 10.

⁵⁰ See Simmons, *supra* note 24, at 247. See also Bruner, *supra* note 24, at 75-76.

⁵¹ Edward B. Rock, *Saints and Sinners: How Does Delaware Corporate Law Work?*, 44 UCLA L. REV. 1009, 1016-17 (1997).

⁵² See, e.g., *The Earl of Oxford’s Case*, 21 Eng. Rep. 485, 486 (1615) (observing that the “Cause why there is a Chancery is, for that Mens Actions are so divers and infinite, That it is impossible to make any general Law which may aptly meet with every particular Act”); *Schnell v. Chris-Craft*, 285 A.2d 437, 439 (Del. 1971) (stating that “inequitable action does not become permissible simply because it is legally possible”). See also Bruner, *supra* note 36, at 798-800.

⁵³ See Enriques & Zetzsche, *supra* note 2, at 79-80.

⁵⁴ See Ricci, *supra* note 3, at 885-88, 893-95. See also Else & Pileggi, *supra* note 17; Kamalnath, *supra* note 2, at 55-60.

⁵⁵ See, e.g., DEL. CODE ANN. tit. 6, § 18-1101(b)-(c), (e) (permitting fiduciary duties and associated liabilities to be eliminated through limited liability company agreements).

⁵⁶ See Christopher M. Bruner, *Opting Out of Fiduciary Duties and Liabilities in U.S. and U.K. Business Entities*, in RESEARCH HANDBOOK ON FIDUCIARY LAW 285, 287-92 (D. Gordon Smith & Andrew S. Gold eds., 2018); Bruner, *supra* note 36, at 800. See also *Paramount Commc’ns Inc. v. QVC Network Inc.*, 637 A.2d 34, 47 (Del. 1994).

duty of loyalty – including the affirmative thrust described above,⁵⁷ as well as the incorporation of a distinct “good faith” component that, as described below, has effectively transformed what would have been duty of care cases subject to various forms of statutory liability shields into duty of loyalty cases bereft of such protections.⁵⁸

Netting out the various and interconnected doctrinal and institutional dynamics that have led Delaware to favor open-textured, equity-based reliance on fiduciary loyalty as the fundamental organizing principle for its corporate law, it appears unlikely that Delaware would have much enthusiasm for abandoning the requirement that each director be “a natural person.”⁵⁹

IV. Technology, Oversight, and Compliance Monitoring

Even if it remains unlikely that AI would displace human directors in Delaware corporations for the reasons described above, there are contexts where potentially substantial reliance upon this form of technology by human directors remains quite plausible, and in fact might eventually be required. Ironically, this stems from some of the very same doctrinal structures that undermine the potential for total reliance on algorithmic directors.

Notwithstanding Delaware’s likely skepticism regarding algorithmic directors, one can readily imagine reliance on AI as a tool to assist human decision-makers finding favor in Delaware, and perhaps even becoming effectively required, when it comes to the board’s oversight function. This represents the corporate context in which AI’s strengths, relatively to human capabilities, would appear to be at their zenith – wading through mountains of data to detect patterns⁶⁰ indicating potential wrongdoing in the organization. At the same time, incorporating AI into compliance monitoring systems would effectively amount to use of the technology to manage and reduce risks and potential harms, as opposed to augmenting risks through strategic use of AI in entrepreneurial decision-making – a distinction that may render reliance on AI in the compliance context less problematic than it would be in other corporate decision-making contexts.⁶¹ This may be further facilitated by the fact that, as described below, oversight and compliance monitoring represent a doctrinal area in which Delaware’s fiduciary duty of loyalty has already been interpreted to require board-level reliance on formal monitoring systems.

Reviewing the historical arc of Delaware’s case law on oversight and monitoring for legal compliance within the organization, it becomes apparent that there has long been an implicit cost-benefit analysis at work – and that, to the degree the doctrine has evolved over time, this

⁵⁷ See *infra* Section IV.

⁵⁸ See generally Bruner, *Good Faith, State of Mind, and the Outer Boundaries of Director Liability in Corporate Law*, *supra* note 39; Bruner, *Is the Corporate Director’s Duty of Care a “Fiduciary” Duty? Does It Matter?*, *supra* note 39.

⁵⁹ DEL. CODE ANN. tit. 8, § 141(b).

⁶⁰ See Kamalnath, *supra* note 2, at 56-57.

⁶¹ Cf. ALLEN & OVERY & WILLIS TOWERS WATSON, DIRECTORS’ LIABILITY REPORT 10 (2019/2020) (describing surveyed directors’ and officers’ concerns regarding “the risks associated with artificial intelligence and machine learning ... for their company’s business operations”); Ricci, *supra* note 3, at 906 (arguing that accountability for harms “proves to be the main obstacle in employing AI in boardrooms”). Regarding potential for insurance coverage for risks associated with AI, see Ram Shankar Siva Kumar & Frank Nagle, *The Case for AI Insurance*, HARV. BUS. REV., Apr. 29, 2020, <https://hbr.org/2020/04/the-case-for-ai-insurance>; *Thinking Machines: Insurance for AI*, LA PLAYA, <https://laplayainsurance.com/science-technology/thinking-machines-insurance-for-ai/>.

has been driven by changing circumstances that affect the underlying cost-benefit analysis with respect to adoption of formal monitoring systems. As of the 1960s, the board of a large Delaware corporation would become duty-bound to implement a formal compliance monitoring system only if red flags emerged that indicated problems. As the Delaware Supreme Court explained in its 1963 *Graham v. Allis-Chalmers* opinion, “directors are entitled to rely on the honesty and integrity of their subordinates until something occurs to put them on suspicion that something is wrong.” The court went on to explain that, “[i]f such occurs and goes unheeded, then liability of the directors might well follow, but absent cause for suspicion, there is no duty upon the directors to install and operate a corporate system of espionage to ferret out wrongdoing which they have no reason to suspect exists.”⁶²

The court suggests in *Allis-Chalmers* that the cost-benefit analysis regarding whether it would be worth it to implement such a system “is determined by the circumstances,” on a case-by-case basis. If a director has “recklessly reposed confidence in an obviously untrustworthy employee, has refused or neglected cavalierly to perform his duty as a director, or has ignored either willfully or through inattention obvious danger signs of employee wrongdoing, the law will cast the burden of liability upon him.”⁶³ Even in a large company like Allis-Chalmers, where “the company’s Directors could not know personally all of the company’s employees,” there was no per se duty to adopt a compliance monitoring system. The court concluded that, “in the absence of suspicion ... we know of no rule of law which requires a corporate director to assume, with no justification whatsoever, that all corporate employees are incipient law violators who, but for a tight checkrein, will give free vent to their unlawful propensities.”⁶⁴ As of the 1960s, such a step was required only if some concrete indication of a problem suggested that the expense of developing and implementing a formal compliance monitoring system would be worth it.

By the 1990s, however, circumstances had changed in ways that led the Delaware courts to reconsider the underlying cost-benefit analysis. In his famous 1996 *Caremark* opinion, Chancellor Allen revisited the question of “the board’s responsibility with respect to the organization and monitoring of the enterprise to assure that the corporation functions within the law to achieve its purposes.”⁶⁵ Significantly, he rooted the legal analysis in changing background circumstances that had altered the cost-benefit analysis over the intervening decades since *Allis-Chalmers* was decided. “Modernly this question has been given special importance by an increasing tendency, especially under federal law, to employ the criminal law to assure corporate compliance with external legal requirements,” Allen explained. In particular, federal sentencing guidelines had come to “offer powerful incentives for corporations ... to have in place compliance programs to detect violations of law, promptly to report violations to appropriate public officials when discovered, and to take prompt, voluntary

⁶² *Graham v. Allis-Chalmers Manufacturing Company*, 188 A.2d 125, 130 (Del. 1963).

⁶³ *Id.*

⁶⁴ *Id.* at 130-31.

⁶⁵ *In re Caremark International Inc. Derivative Litig.*, 698 A.2d 959, 968-69 (Del. Ch. 1996).

remedial efforts” – because such actions could result in significant reductions of criminal penalties.⁶⁶

On this basis, Allen effectively reinterpreted *Allis-Chalmers* to stand solely for the narrower proposition that directors cannot be held liable “simply for assuming the integrity of employees,” and concluded that the notion of a duty to implement a compliance monitoring system arising solely in the event of red flags “would not, in any event, be accepted by the Delaware Supreme Court in 1996.”⁶⁷ The reason, quite simply, was that the circumstances had changed over the intervening three decades in a manner that fundamentally altered the cost-benefit analysis regarding adoption of compliance monitoring systems. Specifically, Allen emphasized “the potential impact of the federal organizational sentencing guidelines on any business organization,” and asserted that “[a]ny rational person attempting in good faith to meet an organizational governance responsibility would be bound to take into account this development and the enhanced penalties and the opportunities for reduced sanctions that it offers.”⁶⁸ In other words, the cost-benefit analysis shifted decisively in the direction of mandating adoption of such systems because, in light of these altered circumstances, a “rational person” could no longer conceivably behave otherwise.

While “the level of detail” involved in such a system remained “a question of business judgment,” whether to adopt such a system at all was no longer a discretionary matter. Allen concluded that directors bear “a duty to attempt in good faith to assure that a corporate information and reporting system, which the board concludes is adequate, exists, and that failure to do so under some circumstances may, in theory at least, render a director liable for losses caused by non-compliance with applicable legal standards.”⁶⁹ As to the specific “circumstances” in which such liability might follow, Allen indicated 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 exists – will establish the lack of good faith that is a necessary condition to liability.”⁷⁰ Accordingly, the substance of such a system would be left entirely to the board’s judgment, as long as they formally implemented some form of compliance monitoring system.

The Delaware Supreme Court in *Allis-Chalmers* and the Court of Chancery in *Caremark* both clearly regarded oversight and monitoring for compliance as matters implicating the duty of care.⁷¹ The fact that Chancellor Allen framed his analysis by reference to the board’s “good faith” effort, however, led the Delaware Supreme Court ultimately to decide that these matters actually implicate the affirmative dimension of the duty of loyalty⁷² – and this doctrinal shift has

⁶⁶ *Id.* at 969.

⁶⁷ *Id.* at 969-70.

⁶⁸ *Id.* at 970.

⁶⁹ *Id.*

⁷⁰ *Id.* at 971.

⁷¹ See *Graham v. Allis-Chalmers Manufacturing Company*, 188 A.2d 125, 130 (Del. 1963); *In re Caremark International Inc. Derivative Litig.*, 698 A.2d 959, 970 (Del. Ch. 1996).

⁷² See *Marchand v. Barnhill*, 212 A.3d 805, 809 (Del. 2018). On the long and tortured doctrinal path that brought the Delaware courts to this conclusion regarding the fiduciary categorization of the “good faith” concept, see generally Bruner, *Good Faith, State of Mind, and the Outer Boundaries of Director Liability in Corporate Law*, *supra* note 39; Bruner, *Is*

significant consequences in terms of directors' potential liability exposure. Although an oversight claim under *Caremark* has been regarded as "possibly the most difficult theory in corporation law upon which a plaintiff might hope to win a judgment,"⁷³ framing this conceptually as a matter of good faith effectively means that statutory protections against care liability do not apply in this context – because, under the DGCL, bad faith conduct expressly cannot be exculpated or indemnified.⁷⁴

Recent Delaware opinions have signaled that *Caremark* oversight claims might be given new vigor – and, most significantly, that the courts might be willing to scrutinize the substantive quality of the system adopted in certain circumstances, suggesting further evolution in the underlying cost-benefit analysis described above. In its 2019 *Marchand v. Barnhill* opinion, the Delaware Supreme Court indicates multiple times that the board has a duty "to put in place a *reasonable* board-level system of monitoring and reporting."⁷⁵ While the court insists that they are "not examining the effectiveness of a board-level compliance and reporting system after the fact," the court clearly does assess the substantive adequacy of the system in analyzing whether the board's good faith obligation was met, concluding that "[w]hen a plaintiff can plead an inference that a board has undertaken no efforts to make sure it is informed of a compliance issue intrinsically critical to the company's business operation, then that supports an inference that the board has not made the good faith effort that *Caremark* requires."⁷⁶ In *Marchand*, this related to "what has to be one of the most central issues at the company: whether it is ensuring that the only product it makes – ice cream – is safe to eat."⁷⁷

The Delaware Supreme Court's protestations to the contrary notwithstanding, subsequent Court of Chancery opinions have effectively acknowledged that this approach heightens the board's obligations with respect to oversight and compliance monitoring – at least in contexts where there are regulations governing operations that are central to the business. As the Court of Chancery characterized the matter in its *In re Clovis Oncology* opinion later in 2019, "[a]s *Marchand* makes clear, when a company operates in an environment where externally imposed regulations govern its 'mission critical' operations, the board's oversight function must be more rigorously exercised."⁷⁸ By the same token, the Court of Chancery has also clearly picked up on the repeated emphasis in *Marchand* that the monitoring system adopted by the board must be "reasonable," stating in its *Hughes v. Hu* opinion that the "mere existence" of a system "does not provide universal protection against a *Caremark* claim."⁷⁹ Indeed, in *Hughes v. Hu*, the Court of

the Corporate Director's Duty of Care a "Fiduciary" Duty? Does It Matter?, *supra* note 39. In *Marchand*, the court squared this circle by characterizing *Caremark* as standing for the proposition that "a corporate board must make a good faith effort to exercise its duty of care," and that "failure to make that effort constitutes a breach of the duty of loyalty." *Marchand*, 212 A.3d at 824.

⁷³ *In re Caremark*, 698 A.2d at 967.

⁷⁴ See DEL. CODE ANN. tit. 8, §§ 102(b)(7), 145(a).

⁷⁵ *Marchand*, 212 A.3d at 821 (emphasis added). This formulation is repeated. See *id.* at 822-24.

⁷⁶ *Id.* at 822.

⁷⁷ *Id.*

⁷⁸ *In re Clovis Oncology, Inc. Derivative Litig.*, 2019 WL 4850188, *13 (Del. Ch. 2019).

⁷⁹ *Hughes v. Hu*, C.A. No. 2019-0112-JTL, at 30-31 (Del. Ch. 2020). See also *id.* at 36 ("The complaint's allegations support a pleading-stage inference that the board never established its own reasonable system of monitoring and reporting, choosing instead to rely entirely on management.").

Chancery adds its own further gloss, concluding that alleged deficiencies in that case supported “a reasonable inference that the Company’s board of directors ... failed to provide *meaningful* oversight over the Company’s financial statements and system of financial controls.”⁸⁰

In re Boeing Company, a derivative suit stemming from crashes of 737 MAX airplanes in 2018 and 2019, exemplifies the sort of circumstances where the new vigor of *Caremark* liability following *Marchand* will likely loom largest. In this 2021 opinion, the Court of Chancery reiterates the heightened rigor required under *Marchand* “when the company is operating in the shadow of ‘essential and mission critical’ regulatory compliance risk,” and observes that “[l]ike food safety in *Marchand*, airplane safety ‘was essential and mission critical’ to Boeing’s business, and externally regulated.”⁸¹ Ultimately, the court found demand upon the board to be excused because the plaintiffs sufficiently pled that a majority of Boeing’s board faced a substantial likelihood of liability for oversight failures relating to airplane safety, based on “remarkably similar factual allegations” to *Marchand*. These include the lack of a directly responsible board committee, board monitoring, and reporting protocols regarding airplane safety; the fact that red flags regarding airplane safety were not reported to the board; and the board’s apparent knowledge that oversight structures for airplane safety were insufficient.⁸²

While continuing to emphasize that boards retain discretion regarding the design of compliance monitoring systems,⁸³ Delaware’s courts are clearly evaluating the substantive quality of the systems adopted in such cases – they are simply doing so indirectly, as evidence of whether the board did or did not undertake the good faith effort required by *Caremark*, and the effective heightening of board oversight obligations has not been lost on corporate lawyers and D&O insurance experts.⁸⁴ Although “the rulings allowing these kinds of claims to go forward have

⁸⁰ *Id.* at 34 (emphasis added). For additional discussion of recent cases involving *Caremark* claims, see E. Norman Veasey & Randy J. Holland, *Caremark at the Quarter-Century Watershed: Modern-Day Compliance Realities Frame Corporate Directors’ Duty of Good Faith Oversight, Providing New Dynamics for Respecting Chancellor Allen’s 1996 Caremark Landmark*, 76 BUS. LAW. 1, 11-16 (2020-2021). See also *id.* at 20 (discussing how “compliance regulation has developed over the past few decades” in response to various regulatory and market developments).

⁸¹ *In re Boeing Co. Deriv. Litig.*, C.A. No. 2019-0907-MTZ, at 71-73 (Del. Ch. 2021).

⁸² See *id.* at 74-96.

⁸³ See, e.g., *In re Clovis Oncology*, 2019 WL 4850188, at *12; *Hughes*, C.A. No. 2019-0112-JTL, at 30. See also Robert C. Bird, *Caremark Compliance for the Next Twenty-Five Years*, 58 AM. BUS. L.J. 63, 90-102 (2021) (reporting disagreement among professional firms regarding whether such cases reflect a change in Delaware law).

⁸⁴ See, e.g., Gardner Davis & Richard Guyer, *New Corporate Board Procedures Advisable to Satisfy Duty of Oversight*, BLOOMBERG LAW, Sept. 26, 2019, https://news.bloomberglaw.com/securities-law/insight-new-corporate-board-procedures-advisable-to-satisfy-duty-of-oversight?utm_source=rss&utm_medium=SLNW&utm_campaign=0000016d-0839-d407-a5fd-e9ff1c290001 (describing the “list of new procedural expectations” in *Marchand* and concluding that “corporate directors face an increased risk from shareholder lawsuits”); Priya Cherian Huskins, *Delaware Supreme Court Underscores the Importance of Board-Level Monitoring in Marchand (Duty of Loyalty)*, WOODRUFF SAWYER, Sept. 25, 2019, <https://woodrufflaw.com/do-notebook/board-level-monitoring/> (describing the implications of *Marchand* “for companies in heavily regulated industries that to date may have been relying on management-implemented compliance systems instead of insisting on board-level monitoring protocols,” and recommending that companies “look to a properly brokered D&O insurance program that includes some extra Side A insurance”); Paul J. Lockwood & Veronica B. Bartholomew, *Delaware Supreme Court Reinforces Director Oversight Obligation*, SKADDEN INSIGHTS, Nov. 19, 2019, <https://www.skadden.com/insights/publications/2019/11/insights-the-delaware-edition/delaware-supreme->

emphasized pleading requirements that may not be satisfied in many circumstances,” there remains “no doubt that exposure to claims of this type represent a significant and important liability risk for corporate boards” moving forward.⁸⁵

The foregoing review of the historical arc of Delaware’s case law regarding oversight and compliance monitoring systems highlights multiple critical junctures at which the rigors of the requirement of good faith effort to monitor has increased. Each such instance has reflected a judgment that the benefits of having such a system have materially increased relative to the costs. In light of these underlying dynamics, there is good reason to anticipate that AI may present yet another set of developments that fundamentally alter the cost-benefit analysis, potentially reinforcing the trend toward requiring more effective systems.

The American Bar Association’s *Corporate Director’s Guidebook*, in describing oversight and compliance monitoring duties, emphasizes the significance of dynamic legal and market factors. “As businesses and the legal requirements under which they operate become ever more complex, the pace of business change continues to accelerate, and reliance on technology increases, the stakes involved in effectively managing risk and ensuring legal compliance only increase.”⁸⁶ Among other things, “increasing prominence of technology in business and in the lives of employees, customers, suppliers, and others with whom the business interacts has exponentially increased cybersecurity risk for virtually all corporations.” Likewise, “[t]echnology dependence has significantly raised the stakes for corporations in the event of technology failures and security breaches and increasingly sophisticated cyber-crime schemes.” Accordingly, “[l]egal risks occur both in the context of legal and regulatory compliance and when failing to manage business risks that may result in liability.”⁸⁷ While there is “no one ‘ideal’ risk management program for all corporations,” the board “should satisfy itself that the corporation’s risk management program identifies the most significant vulnerabilities facing the corporation and focuses on improving capabilities for managing them,” and that “the corporation has both the internal and external resources and appropriately skilled personnel to effectively implement and drive compliance with risk management policies.”⁸⁸ This includes “an appropriate internal process ... to detect violations and to encourage not only attention to general legal compliance issues but also the timely reporting of significant legal or other compliance matters to the board.”⁸⁹

court-reinforces (concluding that after *Marchand* “courts might be inclined to more aggressively monitor directors’ *Caremark* efforts at the pleading stage” where external regulations govern a company’s “mission critical” operations).

⁸⁵ Kevin LaCroix, *Del. Court Substantially Denies Boeing Duty of Oversight Claim Dismissal Motion*, D&O DIARY, Sept. 9, 2021, <https://www.dandodiary.com/2021/09/articles/shareholders-derivative-litigation/del-court-substantially-denies-boeing-duty-of-oversight-claim-dismissal-motion/>.

⁸⁶ CORPORATE LAWS COMMITTEE, AMERICAN BAR ASSOCIATION BUSINESS LAW SECTION, *CORPORATE DIRECTOR’S GUIDEBOOK* 35 (7th ed. 2020). See also MARTIN LIPTON ET AL., *SOME THOUGHTS FOR BOARDS OF DIRECTORS IN 2021*, at 9-10 (2020).

⁸⁷ CORPORATE LAWS COMMITTEE, AMERICAN BAR ASSOCIATION BUSINESS LAW SECTION, *supra* note 86, at 36. See also *supra* note 61.

⁸⁸ CORPORATE LAWS COMMITTEE, AMERICAN BAR ASSOCIATION BUSINESS LAW SECTION, *supra* note 86, at 39.

⁸⁹ *Id.* at 42.

In light of these developments, AI technologies are receiving greater attention as tools for more effective enterprise risk management and compliance monitoring.⁹⁰ While there is “no standard way of using AI in compliance” as of yet, this is expected to change as technological developments and demand for such capabilities increase.⁹¹ Specifically, with businesses “using massive amounts of internal and external data to take a more preventative risk stance,” it is clear that “traditional methods of analysis have become increasingly incapable of handling this data volume.” Accordingly, “cognitive capabilities – including data mining, machine learning, and natural language processing – are supplanting traditional analytics and being applied against these massive data sets to help find indicators of known and unknown risks.” These trends are expected to accelerate due to “increases in computational processing power and corresponding decreases in the costs of data storage.”⁹² AI is thought to be “particularly helpful when handling and evaluating unstructured data,” which is increasingly significant in the business context, as an estimated “90 percent of data generated today is unstructured,” and it is anticipated that such use of AI may significantly improve fraud detection capabilities.⁹³

While some have suggested that AI technologies could eventually “eliminate the need for humans in the process altogether,”⁹⁴ most experts appear to consider this unlikely. In the compliance context, AI is more generally envisioned as an “assistive technology to help suggest strategies and probabilities,”⁹⁵ while remaining subordinate to “a well-considered human response” – particularly when “the nuances of customer behaviours and reactions play such an important role in staying compliant.”⁹⁶ In one observer’s estimation, we remain “generations away from removing human interaction from the decision-making process entirely,” such that compliance personnel “will likely not be removed in large numbers due to technological advancements, but instead be repurposed to maximize their efficacy” in marshaling the enhanced capabilities that AI compliance tools are expected to offer.⁹⁷

⁹⁰ See 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.

⁹¹ See Martin Ellingham, *How AI Is Transforming Compliance Management*, FINTECH MAG., Apr. 19, 2020, <https://www.fintechmagazine.com/venture-capital/how-ai-transforming-compliance-management>. See also David Ackerman, *AI Compliance Oversight Is Here ... and So Are Next-Gen Compliance Officers*, CORP. COMPLIANCE INSIGHTS, Nov. 24, 2020, <https://www.corporatecomplianceinsights.com/ai-compliance-oversight-next-gen-compliance-officers/>; Terrence McCrossan, *3 Ways AI May Impact Risk in 2020*, CORP. COMPLIANCE INSIGHTS, Apr. 7, 2020, <https://www.corporatecomplianceinsights.com/risk-trends-ai-2020/>; Andrew W. Singer, *Can AI Transform Compliance?*, RISK MGMT., Sept. 3, 2019, <http://www.rmmagazine.com/2019/09/03/can-ai-transform-compliance/>.

⁹² Deloitte, *Why Artificial Intelligence Is a Game Changer for Risk Management* (2016). See also Ellingham, *supra* note 91; Jose Tabuena, *Compliance Monitoring and Artificial Intelligence*, COMPLIANCE WK., Oct. 25, 2016, <https://www.complianceweek.com/compliance-monitoring-and-artificial-intelligence/10256.article>.

⁹³ See Deloitte, *supra* note 92. See also Ellingham, *supra* note 91; Tabuena, *supra* note 92.

⁹⁴ Naveen Joshi, *Why Regulatory Compliance Can Be Complicated and How AI Can Simplify It*, FORBES, July 22, 2019, <https://www.forbes.com/sites/cognitiveworld/2019/07/22/why-regulatory-compliance-can-be-complicated-and-how-ai-can-simplify-it/>.

⁹⁵ Deloitte, *supra* note 92. See also Tabuena, *supra* note 92 (characterizing such technologies as “enablers” of human analysts).

⁹⁶ Ellingham, *supra* note 91. See also Singer, *supra* note 91.

⁹⁷ Ackerman, *supra* note 91. See also Else & Pileggi, *supra* note 17 (emphasizing the need for “audits about whether AI is accurately interpreting data”).

Consistent with the discussion above,⁹⁸ major benefits anticipated from the incorporation of AI into compliance monitoring include reducing “false positives”; reducing costs through efficiency gains and improved accuracy; and reducing the potential for human error – which has become a more significant problem as the “sheer volume” of “detailed data about transactions, customers, and operational activities” has expanded and effectively outstripped human monitoring capacities.⁹⁹ As one observer notes, machine learning increasingly “allows for automated data review,” which “eliminates the countless hours it takes to simply compile all this information in order to review it,” and further “allows compliance officers to investigate greater numbers of alerts in a more effective manner.”¹⁰⁰ This includes larger-scale sampling,¹⁰¹ and greater capacity to “break down traditional silos of knowledge, effort and communication across departments,” which in turn “closes gaps that used to expose organizations to fraud and other financial risks.”¹⁰² In this respect, while it is undoubtedly true that “AI is both a risk and way to manage risk,”¹⁰³ uses aimed at managing risk clearly predominate in the compliance monitoring context.

There are growing indications that compliance departments may effectively have no option but to move in this direction in order to keep up with increasing demands.¹⁰⁴ Indeed, a NICE Actimize survey found that “89 percent of participants indicated they are already on the path to including AI in their compliance platforms.”¹⁰⁵ This is unsurprising because, “[f]or many companies, data is becoming the most valuable asset,” and “governance of these key assets is of strategic importance.”¹⁰⁶ To the extent that businesses become highly data-driven and these are the tools that are practically required in order to monitor those components of the business effectively, then, by hypothesis, AI-based systems effectively come to define what “monitoring” is – they represent the very stuff of this form of oversight in a data-intensive context. In this light, it is equally unsurprising that regulators, who have previously taken a “cautious, hesitant approach” toward AI in the compliance context, have begun to change their position – “particularly within the financial services sector,” where they have come to see benefits not only

⁹⁸ See *supra* Section II.

⁹⁹ Shira Rottner, *Three Ways Artificial Intelligence Improves Compliance*, REGTECH INSIGHT, Jan. 15, 2019, <https://a-teaminsight.com/three-ways-artificial-intelligence-improves-compliance/>. See also Ackerman, *supra* note 91 (observing that “false positives” remain “the bane of many a compliance executive’s existence”); Singer, *supra* note 91 (observing that, in a large financial institution, “200 to 500 analysts can be occupied with know your customer (KYC) and AML compliance alone, scouring news articles and other public reports to avoid onboarding clients with sketchy pasts,” but that the “false-positive rate in these media searches is very high ... which means following up on most searches red-flagged using a traditional rules-based search is ‘a complete waste of time and money’”).

¹⁰⁰ Ackerman, *supra* note 91.

¹⁰¹ See Singer, *supra* note 91.

¹⁰² McCrossan, *supra* note 91.

¹⁰³ Boillet, *supra* note 90. From a risk perspective, it is not unlike the distinction drawn between use of derivatives for speculation versus hedging, which has itself been employed as a formal distinction in financial regulations that aim to constrain risk by encouraging the latter while restricting the former. See, e.g., Dodd-Frank Wall Street Reform and Consumer Protection Act, H.R. 4173, 111th Cong. § 619 (2010) (commonly referred to as the Volcker Rule after its main proponent, former Federal Reserve Chair Paul Volcker).

¹⁰⁴ See Singer, *supra* note 91.

¹⁰⁵ Ackerman, *supra* note 91.

¹⁰⁶ Hilb, *supra* note 1, at 865.

in terms of “business efficiencies” but also “to add a further layer of customer protection,” prompting them to relax restrictive regulations “to make more room for AI.”¹⁰⁷

Considering these developments against the backdrop of the evolution of oversight and compliance monitoring duties in Delaware – and particularly the underlying cost-benefit analysis that has long driven the doctrine – the critical point to note regarding incorporation of AI into compliance monitoring systems is that the costs are falling while the benefits are rising. Accordingly, by the same logic that led the Delaware courts to mandate adoption of monitoring systems in the 1990s, and to ratchet up their substantive scrutiny of the quality of such systems more recently, we can readily imagine arriving at a point where directors of a highly data-intensive Delaware corporation who did not employ such technological tools in their compliance monitoring system might be found to have fallen short of their “good faith” obligation under *Caremark*, for failure to adopt a “reasonable” system providing “meaningful” oversight for a “mission critical” dimension of the business.¹⁰⁸ Should we arrive at such a point, reliance on AI in the oversight and compliance monitoring context would effectively have become mandatory for businesses fitting this description¹⁰⁹ – which, as discussed above, represents a growing segment of the corporate world.

V. Conclusion

While claims to the effect that AI systems might displace human directors of Delaware corporations in the foreseeable future miss the mark for a number of practical, doctrinal, and institutional reasons, there are specific applications of AI systems that might not merely be accommodated by Delaware corporate law, but perhaps eventually required as tools to support more effective human decision-making. The common denominator between these apparently disparate conclusions is an idiosyncratic conception of the fiduciary duty of loyalty, with a peculiarly strong affirmative thrust to it, that has long stood at the very heart of Delaware’s corporate law and competitive model. *Plus ça change*.

¹⁰⁷ Ellingham, *supra* note 91 (describing the evolving posture of the UK Financial Conduct Authority).

¹⁰⁸ Cf. *supra* notes 75-83 and accompanying text; Jarrett Kolthoff, *Courts Broaden Cybersecurity Responsibilities for Boards of Directors*, SPEARTIP, Dec. 27, 2019, <https://www.speartip.com/resources/courts-broaden-cybersecurity-responsibilities-for-boards-of-directors/> (“Cybersecurity, the protection of critical data, and the safeguarding of personal information can all be considered mission critical functions as they relate to *Caremark* duties.”). See also Rick S. Horvath & Austin M. Prouty, *Delaware Court Again Finds Potential Director Liability for a Breach of the Duty of Oversight*, PAUL HASTINGS, Oct. 9, 2019, <https://www.paulhastings.com/insights/client-alerts/delaware-court-again-finds-potential-director-liability-for-a-breach-of-the-duty-of-oversight> (speculating that, although each of *Marchand* and *In re Clovis* “concerns a company with effectively one line of business, there is no reason to believe that Delaware courts would decline to extend their holdings to more diverse companies”).

¹⁰⁹ Cf. Bruner, *supra* note 5, at 455.