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### JUDGING CORPORATE DIRECTORS BY THE COMPANIES THEY KEEP: RESULTS FROM AN INTERACTIVE SIMULATION ABOUT THE MOTIVATIONS OF CORPORATE DIRECTORS

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*The directors of major corporations are hugely powerful in charting the course of industrial civilization. Who selects those directors, and how those directors make decisions, are therefore both topics of critical importance. Various legal frameworks, such as the Accountable Capitalism Act currently under consideration by the United States Congress, have proposed that shareholders and/or employees should have a say in the director-selection process. We conducted an interactive simulation*

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*experiment, based on the Accountable Capitalism Act and Delaware corporate law, with human participants acting as three different types of directors: shareholder-selected directors, employee-selected directors, plus a third, novel form of director, “environment-selected directors.” In this paper, we integrate quantitative and qualitative findings from this experiment to provide novel results about the behaviors of these participants, and the deeper motivations underlying their behaviors. We found a range of potential motivations that could affect directors’ behavior, including obeying regulations, being responsive to changes unfolding in the world, feelings of obligation to the stakeholders that selected them, and pre-existing biases toward or against particular stakeholders. We also found a strong penchant on the part of directors to engage in balancing of interests, even when instructed to favor only one interest, suggesting tension between existing corporate law and the preferences of individual directors. By providing experimental evidence into the motivations that may influence such directors’ behaviors, and in particular exploring the possibility of environment-selected directors, this paper seeks to lay the legal groundwork for broader stakeholder representation on corporate boards.*

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## INTRODUCTION

Corporations have a great deal of power in human civilizations. They control vast flows of resources, determine how billions of people live their lives, produce profound impacts on society and the environment, and exert substantial influence on law and policy.

The directors of corporations are responsible for directing the behavior of those corporations. As such, corporate directors are correspondingly powerful.

Understanding how corporate directors make decisions, and what factors influence their choices, is therefore exceedingly important. However, getting access to the motivations influencing their decisions is challenging. Corporate directors are in positions of power, and therefore may not feel the need to disclose their motivations. They may be unwilling to acknowledge the rationales for their own behavior. Or their motivations may involve corporate secrets.

Understanding the behavior of corporate directors is particularly difficult in the context of laws that have not yet been passed. When no directors have operated under a particular legal framework, how can one have evidence for how such directors may act? While laws may seek to affect corporate behavior, exactly how they will do so remains difficult to ascertain.

To provide some purchase on these difficult issues, we created an interactive online business simulation and recruited 400 human participants to act as corporate directors setting the direction for simulated corporations.<sup>1</sup>

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<sup>1</sup> This article is one in a series of articles produced using this simulation framework. While each of these articles shares text describing the implementation and evaluation framework, the key findings presented here, relating to director motivations and rigorous analysis of qualitative findings from this study, are novel and have not been published previously.

One hundred of these participants were told that they were operating under a summary of Delaware corporate law—a common legal framework for U.S. corporations. The remaining 300 were instructed via a summary of the Accountable Capitalism Act, a piece of legislation currently under consideration by the U.S. Congress. Of these 300, 100 were told that they had been selected by shareholders—the default way that directors are selected under Delaware corporate law, and the way that up to 60% of directors would be selected under the Accountable Capitalism Act. An additional 100 were told they had been selected by employees, the way that at least 40% of directors would be selected under the Accountable Capitalism Act. The final 100 were told they had been selected by a committee of scientists who study the environment. These so-called “environment-selected directors” represent a way of selecting directors that is not present in any extant or proposed legislation but one that previous work has suggested could be effective at broadening stakeholder representation on corporate boards.<sup>2</sup>

In this Article we present novel findings from the interactive simulation, integrating previously published quantitative results with novel qualitative results to shed new light on the behavior of corporate directors under existing, proposed, and hypothetical legislation. Whereas previously published work has identified *how* such directors may act,<sup>3</sup> here we go into depth on *why* they act in those ways. These results are especially powerful because, as mentioned earlier, getting access to the motivations of corporate directors under existing legislation is challenging at best, and getting access to director motivations under proposed or hypothetical legislation is effectively impossible outside of an experimental simulation context. This simulation system provides one of the first experimental platforms for interrogating how directors would behave under novel forms of legislation.

In this Article, we synthesize previous quantitative findings with a rigorous qualitative analysis of free-text responses by all 400 participants across the four experimental conditions to identify the range of motivations influencing participants’ behavior. Specifically, we found that the following factors were most prominent in the behavior of multiple participants:

- a desire for balance across various stakeholder groups,
- pre-existing biases toward or against particular stakeholders,

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<sup>2</sup> Bill Tomlinson et al., “*Environment-Selected Directors*”: *An Interactive Simulation Experiment of Environmental Representation on Corporate Boards*, 178 *ECOLOGICAL ECON.*, no. 106795, 2020, at 5–6, 8 (2020).

<sup>3</sup> *Id.* at 5–6; Bill Tomlinson et al., *A Participatory Simulation of the Accountable Capitalism Act*, CHI '20: PROC. 2020 CHI CONF. ON HUM. FACTORS COMPUTING SYS., Apr. 2020, at 2, 5, 7 [hereinafter Tomlinson et al., *Participatory Simulation*]; Bill Tomlinson et al., *Accountability with a Capital “Ism”*: *A Computational Simulation of the Accountable Capitalism Act vs. Delaware Corporate Law*. 17 *OHIO ST. TECH. L. J.* (forthcoming 2020-21) [hereinafter Tomlinson et al., *Accountability*].

- a desire to be responsive to changes unfolding in the business world,
- feelings of obligation to the stakeholders that selected them, and
- an obedience to the law under which they were operating.

Different configurations of legislation and director selection mechanism led to different frequencies of particular motivations. For example, shareholder-selected directors under the Accountable Capitalism Act mentioned “balance” and related concepts significantly more frequently than shareholder-selected directors did under Delaware corporate law ( $p=0.0168^*$ ), while shareholder-selected Delaware directors mentioned the law or rules significantly more than shareholder-selected Accountable Capitalism Act directors did ( $p=0.00094^{**}$ ). Perhaps most salient is that only a subset of these motivations is responsive to legislation, while other motivations may be directly at odds with the goals of particular legislation (e.g., pre-existing biases). In addition, some aspects of legislation (e.g., who selects a director) create effects beyond those explicitly stated in the legislation (e.g., feelings of obligation to the stakeholder group that selected them).

In sum, the motivations of corporate directors are difficult to ascertain, but exceedingly important to the way human civilizations operate. Legislation is designed to affect these motivations, but only impacts a subset of them, and impacts them in ways that may not always be explicit or obvious. We present the first instance of experimental investigation into the motivations of directors operating under proposed and hypothetical future legislation. As such, this article offers a significant contribution to legal scholarship, and to the ways in which the law influences the future behavior of human civilizations.

## I. RELATED WORK

In most cases, a group of executive officers manages a corporation. This group takes the form of a Board of Directors unless planned otherwise in the corporation’s charter. The board possesses the ultimate managerial authority, which is inherent in the statute.<sup>4</sup>

### A. *The Traditional Shareholder Primacy Norm*

Traditionally, corporate directors in many legal frameworks are accountable to the company’s shareholders. Under Delaware corporate law, the default rule is that shareholders elect directors by a *plurality* of the votes

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<sup>4</sup> DEL. CODE ANN. tit. 8, § 141(a) (2020) (“The business and affairs of every corporation under this chapter shall be managed by or under the direction of a board of directors . . .”).

of shares.<sup>5</sup> Such voting rights are protected by law, where a director acting with the *primary purpose* of preventing or impeding the exercise of stockholder voting power is forbidden.<sup>6</sup> Shareholders may also remove directors, with or without cause.<sup>7</sup>

In general, directors ought only to be motivated by shareholders' interests. By law, each director has a fiduciary duty to the shareholders of their company.<sup>8</sup> For example, the Delaware Supreme Court once found that directors' fiduciary duty requires that the directors not act in ways that are intentionally designed to *not* maximize the economic value of a corporation for the benefit of the shareholders.<sup>9</sup> It is also a violation of the fiduciary duty to implement a plan that would limit future corporate policy from maximizing profitability.<sup>10</sup> Due to this regulation of fiduciary duty, directors are obligated by law to operate a corporation to maximize the interest of shareholders.

Despite the legally compelling fiduciary duty imposed upon directors, Jill E. Fisch has argued that the limited scope of this duty claim "provides a mechanism for institutional specialization in responding to the needs of different corporate stakeholders."<sup>11</sup> Fisch criticized the approach taken by most empirical researchers; this approach is based on the presumption of shareholder primacy norm and neglects other stakeholders "whose interests in the firm may not be reflected in an assessment of shareholder value . . . ."<sup>12</sup> She warned that such flawed assumptions, relied upon in many empirical studies, counsel against allowing shareholder wealth effects to dominate regulatory policy.<sup>13</sup>

In addition to fiduciary duty, corporate law specifically created "corporate opportunity doctrine" to address the scenario in which a director's

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<sup>5</sup> *Id.* § 216(3) ("Directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors . . . .").

<sup>6</sup> *See, e.g.,* Blasius Indus. v. Atlas Corp., 564 A.2d 651, 652 (Del. Ch. 1988) (holding that even when directors act unselfishly based on an honest understanding of the corporation's best interest, they may not act "for the primary purpose of preventing or impeding an unaffiliated majority of shareholders from expanding the board and electing a new majority.").

<sup>7</sup> DEL. CODE ANN. tit. 8, § 141(k) (2020) ("Any director or the entire board may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote at an election of directors," with certain exceptions).

<sup>8</sup> *See, e.g.,* eBay Domestic Holdings v. Newmark, 16 A.3d 1, 26 (Del. Ch. 2010) ("All directors of Delaware corporations are fiduciaries of the corporations' stockholders.").

<sup>9</sup> *See id.* at 29–30 (emphasizing that "rights plans" can be used "inappropriately to benefit incumbent managers and directors at the stockholders' expense," and that such abuses may properly be the subject of shareholder-initiated litigation).

<sup>10</sup> *Id.* at 35 ("Directors of a for-profit Delaware corporation cannot deploy a rights plan to defend a business strategy that openly eschews stockholder wealth maximization—at least not consistently with the directors' fiduciary duties under Delaware law.").

<sup>11</sup> Jill E. Fisch, *Measuring Efficiency in Corporate Law: The Role of Shareholder Primacy*, 31 J. CORP. L. 637, 638 (2006).

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

interest is in conflict with that of the company of which she is a director.<sup>14</sup> A director may not personally take a business opportunity if the company of which she is director is willing and able to exploit this opportunity.<sup>15</sup> This rule effectively limits directors from acting with the motivation of self-benefit in the context of directorship.

Furthermore, corporate law itself holds a director's work performance to a high ethical level. Indeed, a director has a duty of care "to perform his or her functions in good faith, in a manner that he or she reasonably believes to be in the best interests of the corporation, and with the care that an ordinarily prudent person would reasonably be expected to exercise in a like position and under similar circumstances."<sup>16</sup> This duty of care in the corporate context is commonly referred to as the "Business Judgment Rule." Although the Business Judgment Rule does impose ethical obligations on corporate directors, it also allows considerable discretion on the parts of directors. Under the Business Judgment Rule a director is only personally liable if she engages in gross negligence in her role as director.<sup>17</sup>

Although it is possible, in theory, for directors to be motivated by interests other than those of shareholders, there are regulations in place to restrict such a temptation. For example, when a company is up for sale, directors may consider non-shareholder interests *only if there is a rationally relevant benefit to shareholders*.<sup>18</sup> Directors' decisions may act in a way that benefits other stakeholders when it is reasonable to believe that shareholders will be benefited in the long term. For example, the directors of *Time* magazine were once permitted to preserve *Time's* culture of journalistic integrity because the Court believed such integrity would likely help in the long term to maximize shareholder value.<sup>19</sup> Generally, shareholders have broad discretion to authorize the board of directors to account for ethical or

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<sup>14</sup> Guth v. Loft, Inc., 5 A.2d 503, 510–11 (Del. Ch. 1939).

<sup>15</sup> See, e.g., *id.* (noting that the corporate opportunity rule allows corporate officers or directors to pursue individual opportunities in which the corporation has no vested interest but prohibits pursuit of opportunities in the line of the corporation's business and "in which the corporation has an interest or a reasonable expectancy . . .").

<sup>16</sup> PRINCIPLES OF THE LAW OF CORPORATE GOVERNANCE: ANALYSIS AND RECOMMENDATIONS § 4.01(a)(1) (AM. LAW INST. 2018).

<sup>17</sup> See Smith v. Van Gorkom, 488 A.2d 858, 872–73 (Del. 1985), *overruled by* Gantler v. Stephens, 965 A.2d 695 (Del. 2009) (noting that a "gross negligence" standard applies when assessing fault in either a director's duty of care or a board of directors' business judgment).

<sup>18</sup> Revlon, Inc. v. MacAndrews & Forbes Holdings, 506 A.2d 173, 176 (Del. 1986) ("[W]hile concern for various corporate constituencies is proper when addressing a takeover threat, that principle is limited by the requirement that there be some rationally related benefit accruing to the stockholders.").

<sup>19</sup> Paramount Commc'ns v. Time Inc., 571 A.2d 1140, 1152 (Del. 1989) (finding that *Time* executives and directors were committed to "seeing to the preservation of *Time's* 'culture,' i.e., its perceived editorial integrity in journalism," and thereby were acting in the corporation's best interests).

philanthropic considerations.<sup>20</sup> Some scholars believe that directors are already motivated by the interest of other stakeholders. For example, William J. Carney famously argued that the pre-existing contract formation and post-contractual performance with a company's stakeholders already "serve[d] constituencies well<sup>21</sup>", and that "in well-run corporations little would change if constituency representation were added.<sup>22</sup>" Carney concluded that "constituency representation would lead to only trivial differences in corporate behavior."<sup>23</sup>

### *B. Stakeholder Theory and Constituency Statutes*

Traditionally, the shareholder primacy norm where directors are motivated primarily by shareholders' interests is dominant.<sup>24</sup> Debates have swirled around the intersection of corporate social responsibility and the law for decades; the proposed Accountable Capitalism Act investigated here is only one of the most recent substantial moves in these debates. Yet over the decades, courts have incrementally given directors more leeway to take into account stakeholders' interests beyond those of the shareholders. For example, in *A.P. Smith Manufacturing Co. v. Barlow*, the New Jersey Supreme Court upheld a statute that allowed directors to make charitable giving on behalf of the company.<sup>25</sup> This case coincides with the rising corporate social responsibility doctrine and the implementation of constituency statutes. As early as 1991, Katherine Van Wezel Stone stated

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<sup>20</sup> See Rebecca E. Wolitz, *A Corporate Duty to Rescue: Biopharmaceutical Companies and Access to Medications*, 94 IND. L.J. 1163, 1181 (2019) (noting that "corporations have the discretion to attend to moral obligations" regardless of whether that attention produces corporate profit or shareholder gain); Ian B. Lee, *Efficiency and Ethics in the Debate About Shareholder Primacy*, 31 DEL. J. CORP. L. 533, 583 (2006) ("[T]here is no doubt that shareholder proposals on social responsibility grounds are permissible."; Anthony J. Fejfar, *Corporate Voluntarism: Panacea or Plague? A Question of Horizon*, 17 DEL. J. CORP. L. 859, 938 (1992) (recommending adoption of corporate responsibility principles that account not only for profit production but also for ethical and social concerns).

<sup>21</sup> William J. Carney, *Does Defining Constituencies Matter?*, 59 CIN. L. REV. 385, 389 (1990).

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> See *supra* Section I.A; see also GA. CODE ANN. § 14-2-202(b)(5) (2020) (mandating that while "discharging the[ir] duties" in the "best interests of the corporation," directors are obligated to consider the effects of their actions on "the corporation or its shareholders.").

<sup>25</sup> See *A.P. Smith Mfg. v. Barlow*, 98 A.2d 581, 590 (N.J. 1953) (sanctioning the "validity of the donation by the plaintiff" directors as "a lawful exercise of the corporation's implied and incidental powers under common-law principles" that "came within the express authority of the pertinent state legislation.").



that the constituency statutes over the past few decades created fiduciary duties for directors to stakeholders *other than* shareholders.<sup>26</sup>

The debate between stakeholder theory and shareholder primacy theory is not new to legal scholars. Stephen M. Bainbridge noted the long-time debates around corporate social responsibility dating back to the 1930s.<sup>27</sup> Bainbridge summarized the contention between Professors Adolf Berle and Merrick Dodd, where the former believed the directors should “operate the corporation for the sole benefit of the shareholders,”<sup>28</sup> whereas the latter “saw shareholders as absentee owners whose interests can be subjugated to those of other corporate constituencies and those of society at large.”<sup>29</sup> Bainbridge further explained how this debate coincides with the rise of nonshareholder constituency statutes.<sup>30</sup> These state statutes permit directors to consider stakeholders’ interests<sup>31</sup>, which gives leeway for directors’ broad motivations. In his article, Bainbridge proposes a new model to mitigate the tension between the two schools of opinion.<sup>32</sup> Under his proposal, directors are allowed to consider nonshareholder stakeholders’ interests, but only in making operational decisions, not structural ones.<sup>33</sup>

Andrew Keay also analyzed this issue.<sup>34</sup> After comparing and evaluating the arguments in support of and against stakeholder theory, he concluded that stakeholders should be ends instead of means in the course of corporate governance.<sup>35</sup> Keay pointed out that this issue ultimately turns on the trustworthiness of the management of corporations.<sup>36</sup> Indeed, as Keay explained, despite the value of fairness associated with stakeholder theory, questions remain regarding the practicality and transparency surrounding its implementation.<sup>37</sup> Marc A. Greendorfer has recently

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<sup>26</sup> See Katherine Van Wezel Stone, *Employees as Stakeholders Under State Nonshareholder Constituency Statutes*, 21 STETSON L. REV. 45, 46–47 (1991) (“The nonshareholder constituency statutes, also called stakeholder statutes . . . create fiduciary duties on the part of corporate directors toward stakeholders other than shareholders.”).

<sup>27</sup> Stephen M. Bainbridge, *Interpreting Nonshareholder Constituency Statutes*, 19 PEPP. L. REV. 971, 971 (1992).

<sup>28</sup> *Id.* at 972.

<sup>29</sup> *Id.* at 972–73.

<sup>30</sup> *Id.* at 973.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 974.

<sup>33</sup> *Id.* at 974–75.

<sup>34</sup> Andrew Keay, *Stakeholder Theory in Corporate Law: Has it Got What it Takes?*, 9 RICH. J. GLOBAL L. & BUS. 249, 251–52 (2010).

<sup>35</sup> *Id.* at 298.

<sup>36</sup> *Id.* at 285, 299.

<sup>37</sup> *Id.* at 299.

argued that a traditional corporation will have to convert to a benefit corporation in order to implement a stakeholder theory model.<sup>38</sup>

### C. *The Accountable Capitalism Act*

Prior to the proposal of the Accountable Capitalism Act, legal scholars also proposed other models based on stakeholder theory. For example, Edward S. Adams and John H. Matheson proposed that “the best solution is to simply offer a choice to corporations . . . by enacting an opt-out statute,” which “create[s] a default rule that makes consideration of nonshareholder interests mandatory upon incorporation, but allows shareholders to amend the articles to favor themselves if they so choose.”<sup>39</sup>

On top of that, the newly proposed Accountable Capitalism Act aims to create actual motivations for directors to take into account the interests of nonshareholder stakeholders by including these stakeholders into corporations’ voting systems.<sup>40</sup> In his article, Brett McDonnell observed that directors are not currently motivated by non-shareholder stakeholders’ needs despite their awareness of these needs.<sup>41</sup> He therefore argued that this approach could change directors’ behavior by creating new incentives.<sup>42</sup> Specifically, the Act would create a new category of employee directors, who would, at least in theory, be motivated by their own interests.<sup>43</sup> Furthermore, because of the need to solicit stakeholder votes, even those non-employee directors would have a reason to consider their interests.<sup>44</sup> McDonnell did point out, however, that different groups of stakeholders may benefit to different degrees from the Accountable Capitalism Act.<sup>45</sup> Compared to other stakeholder groups, such as the environment or consumers, it is easier for employees to vote collectively; the proposed Act therefore gives them a stronger bargaining chip and more sway in the voting process.<sup>46</sup>

Marleen A. O’Connor similarly argued, when she wrote about the German codetermination system, that giving employees more power in the

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<sup>38</sup> Marc A. Greendorfer, *Discrimination as a Business Policy: The Misuse and Abuse of Corporate Social Responsibility Programs*, 8 AM. U. BUS. L. REV. 307, 351 (2020).

<sup>39</sup> Edward S. Adams & John H. Matheson, *A Statutory Model for Corporate Constituency Concerns*, 49 EMORY L.J. 1085, 1086 (2000).

<sup>40</sup> Accountable Capitalism Act, S. 3348, 115th Cong. (2018).

<sup>41</sup> Brett H. McDonnell, *From Duty and Disclosure to Power and Participation in Social Enterprise*, 70 ALA. L. REV. 77, 102 (2018).

<sup>42</sup> *Id.*

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.* at 103–04.

<sup>46</sup> *Id.*

voting system “restrains opportunistic conduct” by holding directors accountable in the future for implicit employment arrangements.<sup>47</sup>

## II. METHODOLOGY<sup>48</sup>

### A. Simulation

To provide an example of how participatory simulations may be used to understand complex social institutions, the research team developed a participatory simulation relating to US corporate law. In particular, this simulation sought to compare Delaware corporate law to the Accountable Capitalism Act.<sup>49</sup> This simulation focused on two particular elements of the Act, one involving requirements that large corporations (greater than \$1 billion annual gross receipts) have at least two-fifths of the corporation’s directors selected by employees rather than shareholders, and the other requiring those directors to consider the effects of the corporation’s actions on a variety of stakeholders.

#### 1. Simulation structure

The structure of the participatory simulation is as follows. First, participants visit a website where they are shown a tutorial. The tutorial teaches them about the role of corporate directors, assigns them to be a particular type of director (a shareholder-selected director (SSD), employee-selected director (EmSD), or environment-selected director (EnSD), and provides a summarized version of the relevant legal framework (Delaware corporate law (Del) or Accountable Capitalism Act (ACA)). Next, the tutorial introduces the major visual elements of the simulation—the participant’s corporation (represented by a factory icon with a share price above it, which reflects benefits to shareholders)<sup>50</sup> as well as four competitor corporations; 250 employees (represented by small faces that may be smiling, neutral, or frowning, representing the benefits to the employees); 250 employee houses; and the background of the world, which varies from green to brown based on the level of pollution at each location (reflecting benefits to the environment).

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<sup>47</sup> Marleen A. O’Connor, *The Human Capital Era: Reconceptualizing Corporate Law to Facilitate Labor-Management Cooperation*, 78 CORNELL L. REV. 899, 937 (1993).

<sup>48</sup> Portions of this paper are adapted from an earlier conference publication: Tomlinson et al., *Participatory Simulation*, *supra* note 3.

<sup>49</sup> All code for this system is open source and available at <https://github.com/wmt-at-ics-uci-edu/corporate-simulation> [<https://perma.cc/FYG3-KURB>].

<sup>50</sup> *See infra* Figure 1.



Figure 1: The simulated world, with five corporations, 250 workers, and an environment-based background.

Next, the simulation begins, and participants are shown approximately six seconds of the visualization unfolding, followed by a popup asking them to make a decision about how the corporation should act.<sup>51</sup> The popup presents a brief summary of their job as director and the law that applies to them, and asks them to choose between two possible choices that are represented by charts showing how much each of three stakeholder groups (shareholders, employees, and environment) would benefit from either choice. After each choice, the share price of their corporation is updated based on the value that was in the “Shareholder Benefit” column of their selected choice, the happiness of the employees who work at the corporation is updated based on “Employee Benefit,” and the level of pollution around the corporation is updated based on “Environmental Benefit.” In the current simulation, there are no interactions across the three stakeholder groups. For example, low environmental quality does not impact employees living in those regions, and low employee well-being does not impact share price. In future versions of this simulation, we plan to have more complex relationships among income, environmental quality, and other factors, as well as a more engaging experience for participants.<sup>52</sup> Once

<sup>51</sup> See *infra* Figure 2.

<sup>52</sup> KATHERINE ISBISTER, BETTER GAME CHARACTERS BY DESIGN: A PSYCHOLOGICAL APPROACH xix–xx (2006). See generally Bonnie Nardi, Celia Pearce & Jason Ellis,

participants make their choice, the visualization continues, demonstrating the effects of their decision. After twelve rounds of decision-followed-by-visualization, the decision cycle ends, and participants are asked to answer several open-ended questions about their experience.

### Time for director decision 4 out of 12!

The two charts below show which of the three elements (shareholder benefit, employee benefit, and environmental benefit) will be favored most by each possible decision. Weigh your decision carefully and click Decision 1 or Decision 2 to continue. Please keep in mind you that you were selected by shareholders.

Here is a brief summary of the applicable law: "Directors shall manage the corporation in a way that balances the financial interests of its shareholders with the best interests of persons that are materially affected by the conduct of the corporation. In doing so, directors shall consider the effects of any action or inaction on the shareholders of the corporation; the employees of the corporation; and the environment. Directors shall not be required to give priority to a particular interest or factor [for example, shareholders, employees, or the environment] over any other interest or factor."



Figure 2: One of twelve decisions that each participant was asked to make.

## 2. The law

In the tutorial and on each decision popup, there is a brief summary of salient elements of the relevant legal framework. For ease of understanding, the legal text for each framework was reduced to a summary of fewer than 100 words. These summarizations were done in collaboration with a law professor to ensure that the legal meaning was preserved. In doing so, they were adapted slightly, to preserve their meaning as much as possible.

Delaware corporate law<sup>53</sup> is summarized as follows in the instructions given to the participants in the Delaware condition:

Directors owe a fiduciary duty of loyalty and duty of care to the corporation and its shareholders. Directors must act in good faith to advance the best interests of the corporation. The corporation may undertake any lawful business by any lawful means. Directors must exercise good-faith efforts to ensure

*Productive Play: Beyond Binaries*, 2 ARTIFACT 60, 62 (2008) (discussing the idea of "productive play" and virtual environments).

<sup>53</sup> DEL. CODE ANN. tit. 8, § 214 (2020).

that the corporation complies with laws applicable to its operations (such as environmental, labor, and criminal laws). Directors are prohibited from using their positions to advance their own personal interests.<sup>54</sup>

The text explaining the Accountable Capitalism Act<sup>55</sup> that is presented to ACA participants reads as follows:

Directors shall manage the corporation in a way that balances the financial interests of its shareholders with the best interests of persons that are materially affected by the conduct of the corporation. In doing so, directors shall consider the effects of any action or inaction on the shareholders of the corporation; the employees of the corporation; and the environment. Directors shall not be required to give priority to a particular interest or factor [for example, shareholders, employees, or the environment] over any other interest or factor.

### 3. Interface

After clicking through each slide of the tutorial, the primary mode of interaction for participants involves a series of decisions between two choices, each represented by a bar chart. Each chart has one bar showing shareholder benefit, one bar for employee benefit, and one bar for environmental benefit.<sup>56</sup> The value of all three bars in any given chart always sums to 1.0. Hence, there is an inherent trade-off between the three stakeholder groups. While this is not an accurate representation of the real world, where there is not always a zero-sum game among different stakeholders, and all possible actions do not have the same total “value,” we chose to represent decisions in this way in order to force hard choices on the participants and more effectively identify the relative values of different stakeholder groups for participants in each condition.

Every player is given the same set of decisions between two charts; however, we randomize both the order in which the decisions are delivered, as well as the order of the choices in each decision are presented, thereby avoiding order effects in both cases.

There are several main types of decisions.

- There are three “balance” decisions, each of which asks participants to choose between a strongly polarized chart, e.g., (1.0, 0.0, 0.0) favoring one of the three stakeholders vs. a balanced chart (0.34, 0.33, 0.33).

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<sup>54</sup> Tomlinson et al., *Accountability*, *supra* note 3.

<sup>55</sup> Accountable Capitalism Act, S. 3348, 115th Cong.

<sup>56</sup> *See supra* Figure 2.

- There are three “forced choice” decisions, one between each pair of the three stakeholders: shareholders vs. employees, shareholders vs. environment, and employees vs. environment. In each of these forced choices, the chart for one choice has 0.8 for one stakeholder and 0.1 for each of the other two, e.g. (0.8, 0.1, 0.1); the chart for the other choice has 0.8 for a different stakeholder and 0.1 for the other two, e.g. (0.1, 0.8, 0.1).
- There are also six other decisions, three of the form (0.5, 0.5, 0.0) vs. (0.5, 0.0, 0.5), and three of the form (0.5, 0.25, 0.25) vs (0.33, 0.33, 0.33).

All quantitative analyses summarized in this paper are based on the three “forced choice” and the three “balance” decisions.

#### 4. End of game questions

After completing all twelve decisions, participants are asked several open-ended questions aimed at exploring participants’ decision-making and understanding of the simulation. Participants are required to write at least 100 characters in response to each question. In addition, the study includes several questions gathering demographic data involving country of residence, age, and gender. Gender is collected in line with best practices established in human-computer interaction research.<sup>57</sup>

### B. Experiments

#### 1. Hypotheses

This study had two main hypotheses regarding the motivations of participants across the various conditions:

- H1: Participants in all conditions will experience a range of motivations that influence their behavior, some of which may be in conflict.
- H2: The legal frameworks through which participants are instructed will influence which motivations are most salient in their decision processes.

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<sup>57</sup> Katta Spiel, Oliver L. Haimson & Danielle Lottridge, *How to Do Better with Gender on Surveys: A Guide for HCI Researchers*, INTERACTIONS, July–Aug. 2019, at 62, 63–64.

To investigate these hypotheses, we conducted a series of experiments using human participants recruited via the Amazon Mechanical Turk<sup>58</sup> crowdsourcing platform (hereafter “AMT”).

## 2. Qualifying quiz

To ensure that participants had read and understood the relevant law, the team deployed a short qualifying quiz through the AMT interface, where AMT workers were asked to read the summary of the Accountable Capitalism Act or Delaware corporate law and answer a few (relatively simple) questions about what they had read, as a preliminary task. For example, participants were asked “Which of the following elements are directors required to balance under the laws described above (select all that apply)?” with three answers derived directly from the text and two plausible-but-fake answers. AMT workers who earned a perfect score were then invited back for the actual experiment. The purpose behind this process was to ensure the competence of the AMT workers and ensure high-quality work.

## 3. Fair payment/treatment

To determine the appropriate rate of pay for the final study, we drew on research by Silberman et al.<sup>59</sup> We wanted to ensure that the rate of pay came out to US\$15 per hour. To establish concretely how long the study would take, we recorded a time stamp when participants clicked the first slide of the tutorial, and another one when they submitted the demographics. We also added several minutes to provide time for AMT workers to take the brief quiz in AMT. We identified the average time to be approximately 17.6 minutes, so we set the pay at \$4.40 for completion of the task. Results from the AMT workers’ free response questions validated that the rate of pay was reasonable, including quotes such as the following:

- “*I thought it was a very good experiment and the pay was very good. Thanks.*”<sup>60</sup>
- “*I also felt compensation was fair when compared to other tasks on MTURK.*”

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<sup>58</sup> This system’s name is unfortunate, especially in light of the history explored by Ayhan Aytes, *Return of the Crowds: Mechanical Turk and Neoliberal States of Exception*, in *DIGITAL LAB.: THE INTERNET AS PLAYGROUND AND FACTORY* 150, 153–57 (2013). We include the full name here for clarity but refer to the system as AMT elsewhere throughout the paper.

<sup>59</sup> See generally M. S. Silberman et al., *Responsible Research with Crowds: Pay Crowdworkers at Least Minimum Wage*, 61 *COMM. ACM* 40–41 (2018) (discussing “crowdsourcing,” “crowdwork,” and appropriate wages for crowdworkers).

<sup>60</sup> Study data on file with authors. Some quotations have been very lightly edited for spelling and grammar.



- “Thanks for the generous hit! It pays very well for the time needed.”

In addition, to ensure fair treatment of the AMT workers and prompt resolution of any possible technical issues or procedural questions, we responded to all queries as soon as possible, and we believe we were able to resolve all issues to the satisfaction of the AMT workers who contacted us.

#### 4. Pilot studies

We conducted three pilot studies to refine the experimental procedures. In line with best practices established in the human-computer interaction literature, for example by Kittur et al.,<sup>61</sup> we sought to make the Human Intelligence Task (HIT) as easy to do correctly as it would be to do it at random. In the first pilot, the qualifying quiz was deployed as a separate HIT from the main study. However, when we deployed the actual experiment to the AMT workers who had succeeded on the qualifying quiz, we found that very few of those AMT workers participated in the second HIT. We had set the pilot study’s level of pay at a rate that was aiming for (and later confirmed to be) at least USD \$15 per hour, which is a relatively high pay rate for AMT, so we decided that it must be the structure of the qualifying quiz, followed by a time lag, followed by the actual experiment, that was causing the low turnout. In the second and third pilot studies, we instead implemented both the quiz and the actual experiment in the same HIT (the quiz in AMT, followed by a link out to the simulation website), deciding that we would simply discard the data from those who received less than a perfect score. Over the course of these pilots, we revised various aspects of the legal wording and interface design.

#### 5. Runs conducted

To assess the hypotheses described above, we deployed four experimental conditions, with 100 participants in each.

- Shareholder-Selected Directors instructed via Delaware corporate law (SSD/Del)
- Shareholder-Selected Directors instructed via the Accountable Capitalism Act (SSD/ACA)
- Employee-Selected Directors instructed via the Accountable Capitalism Act (EmSD/ACA)
- Environment-Selected Directors instructed via the Accountable Capitalism Act (EnSD/ACA)

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<sup>61</sup> E.g., Aniket Kittur, Ed H. Chi & Bongwon Suh, *Crowdsourcing User Studies with Mechanical Turk*, CHI PROC. 453, 455–56 (2008) (discussing the micro-task model for gathering input from users).

## 6. Excluded data

The study team excluded two subsets of the data collected from this analysis. First, as described above, participants who scored less than 100% on the initial quiz were excluded. We discarded their data to ensure that participants had read and understood the law in question. Second, several participants did not write original content in their end-of-game questions as requested, but rather pasted blocks of text from various Internet articles or copied other participants; since these participants were not engaging in good faith, all of their data were excluded. Some individuals fell into both excluded categories (e.g., poor performers on the quiz, as well as copiers of Internet content). In total, after these exclusions, data from 345 participants were included in the study.

### *C. Qualitative Coding*

To investigate the motivations experienced by participants across the various experimental conditions, two members of the research team conducted qualitative coding of participants' responses to the following open-ended survey question: "Please describe how you made your decisions. What factors did you consider when choosing between the two possibilities?"

In the first cycle of coding, data were coded inductively to generate an initial codebook of descriptive and *in vivo* codes. The members of the research team then met to discuss, define codes, and refine the initial codebook. The coders then returned to the data and re-coded using the refined codebook. In the second cycle of coding, the research team compared across the coded data to identify patterns and points of discontinuity in participants' responses and to generate thematic categories.

## III. RESULTS

### *A. Demographics*

We collected demographics about the study population in line with best practices described above. The average age of participants included in the analysis was 38.6 years. This is significantly younger than the average age of many directors (62 years).<sup>62</sup> Of the participants, 57% were men, 42%

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<sup>62</sup> Annalisa Barrett & Jon Lukomnik, *Age Diversity Within Boards of Directors of the S&P 500 Companies*, HARV. L. SCH. F. ON CORP. GOVERNANCE (Apr. 6, 2017), <https://corpgov.law.harvard.edu/2017/04/06/age-diversity-within-boards-of-directors-of-the-sp-500-companies/> [https://perma.cc/35X6-938Q].

women, 0.3% non-binary, and 0.3% preferred not to describe their gender. This is a bit more balanced than the 79% of men and 21% of women on corporate boards of directors.<sup>63</sup> (Non-binary people are not mentioned in the data available to us on gender representation on corporate boards.<sup>64</sup>) With regard to country of residence, 89% of participants were from the US, 10% from India, and the remainder from other countries (one participant listed each from Italy, New Caledonia, Thailand, and South Africa). For uniformity, all quotes throughout the qualitative results section of this paper are from United States residents.

### B. Quantitative

Previous studies conducted using this experimental platform have documented an array of quantitative findings about how participants acted under various conditions. Here, we present a summary of the most relevant previous findings to provide a base on which the novel qualitative findings then build.

There are two core groups of quantitative findings that are germane to the novel findings in this paper. The first set of findings related to how participants in various conditions behaved when given the choice between a balanced option and one that favored a particular stakeholder group. Participants across all conditions favored balance over any one stakeholder group.<sup>65</sup> This was true whether the participant was instructed by Delaware corporate law (SSD/Del) or the Accountable Capitalism Act (SSD/ACA, EmSD/ACA, EnSD/ACA), and it was true whether the participant was assigned as a shareholder-selected, employee-selected, or environment-selected director. And in all of those cases, it was true whether the stakeholder group that stood to benefit from the unbalanced choice was shareholders, employees, or the environment.

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<sup>63</sup> 2020 Women on Boards, GENDER DIVERSITY INDEX, 2018, at 4.

<sup>64</sup> *Id.* at 2–8.

<sup>65</sup> Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 7; Tomlinson et al., *Accountability*, *supra* note 3 Tomlinson et al., *supra* note 2, at 5–6. *See infra* Figure 3.

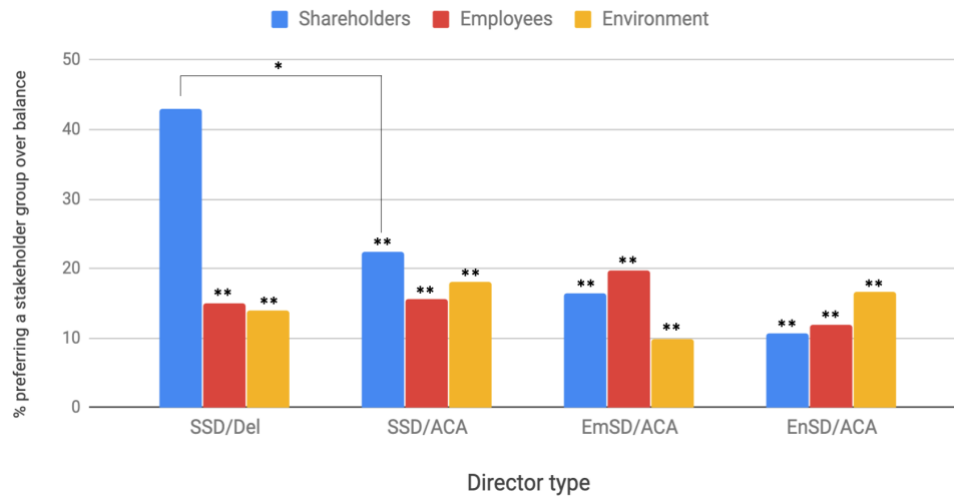


Figure 3: This chart illustrates findings regarding the degree to which participants chose biased options vs. balanced options, across all stakeholder groups. All but one of these columns show a very strong preference for balance, with only 9.9-22.5% of participants choosing the option biased toward a particular stakeholder group. The sole column higher than the others shows that shareholder-selected directors instructed via Delaware corporate law (SSD/Del) still slightly favored balance over a bias in favor of shareholders, but were more likely to pick that option than other combinations of directors and stakeholders. It is still less than 50% though, so the SSD/Del participants still favored balance, if only weakly. We performed statistical comparisons between the three pairs of columns for the two SSD conditions (Delaware corporate law and the Accountable Capitalism Act), and found a statistically significant difference between their behaviors in the context of shareholders.<sup>66</sup>

Eleven of the twelve instances (four conditions times three stakeholder groups), including all the ACA conditions, strongly favored balance, opting for the choice that favored a particular stakeholder group only 9.9-22.5% of the time ( $p < 0.00001^{**}$  in all eleven instances).<sup>67</sup> The only scenario that favored balance only weakly was SSD/Del (43%,  $p = 0.18$ ), and that was when the stakeholder group that stood to benefit was the shareholders.<sup>68</sup>

There was a statistically significant difference between the behavior of shareholder-selected directors under Delaware corporate law and

<sup>66</sup> Data adapted from previously published work. Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 7–8; Tomlinson et al., *Accountability*, *supra* note 3; Tomlinson et al., *supra* note 2, at 5–7.

<sup>67</sup> Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 7; Tomlinson et al., *Accountability*, *supra* note 3; Tomlinson et al., *supra* note 2, at 6.

<sup>68</sup> Tomlinson et al., *Accountability*, *supra* note 3.

shareholder-selected directors under the Accountable Capitalism Act. While the Accountable Capitalism Act explicitly mentions balance as a goal, those in the Delaware condition had not been told to balance. They had been told they had a fiduciary duty to shareholders. And yet, while the effect of the law led to a statistically significant difference in behavior (43% vs. 22.5%,  $p=0.0032^*$ ),<sup>69</sup> those in the Delaware condition still sought balance, even in the face of explicitly stated law to the contrary. In the presence of a law encouraging balance, participants across all conditions sought balance strongly. But even in the presence of a law pushing back against balance, participants still exhibited a slight preference for balanced options.

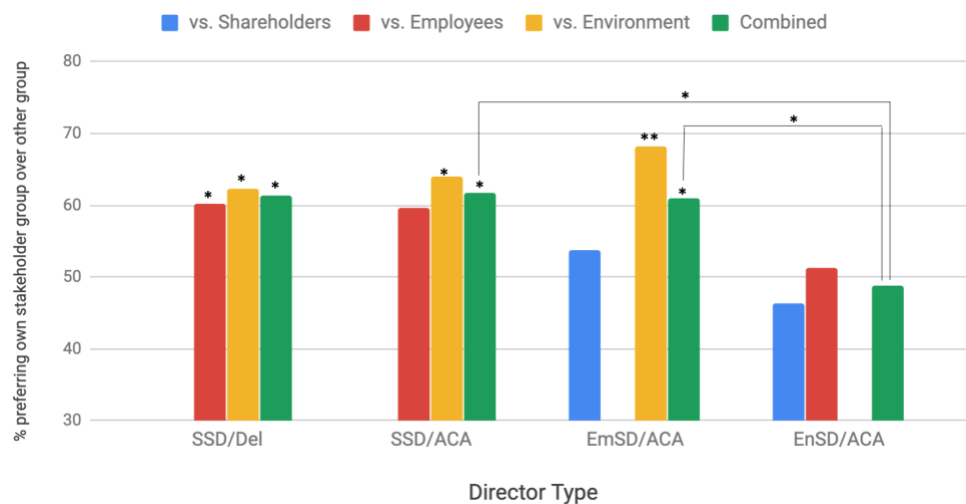


Figure 4: This chart illustrates quantitative findings regarding how participants in various conditions exhibited preference between the stakeholder group that selected them and other stakeholder groups, when forced to choose between them. SSD/Del, SSD/ACA, and EmSD/ACA all exhibited statistically significant preferences for the stakeholder group that selected them, when data from the two non-selecting stakeholder groups were combined (green columns). However, EnSD/ACA participants did not exhibit this preference. There was a statistically significant difference between the EnSD/ACA combined preference and either of the SSD/ACA or EmSD/ACA combined values. Data adapted from previously published work.<sup>70</sup>

The second major set of findings related to how participants behaved when forced to choose between the stakeholder group that selected them and particular other stakeholder groups. Results found that SSD/Del, SSD/ACA,

<sup>69</sup> *Id.*

<sup>70</sup> Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 7–8; Tomlinson et al., *Accountability*, *supra* note 3; Tomlinson et al., *supra* note 2, at 5–7.

and EmSD/ACA participants all tended to favor their own group over other stakeholder groups (statistically significant in seven out of nine instances, and highly so in one).<sup>71</sup> However, EnSD/ACA participants did not exhibit such a preference, a difference in behavior that is statistically different from all other participant groups (vs. SSD/ACA: 61.8% vs. 48.8%,  $p=0.015^*$ ; vs. EmSD/ACA: 61.0% vs. 48.8%,  $p=0.022^*$ ; vs. SSD/Del: 61.3% vs. 48.8%,  $p=0.018^*$ ).

### C. Qualitative

The core contribution of this article builds on the previously published quantitative results, summarized above, to investigate *why* the participants behaved the way they did. Were they seeking to obey the law? Did they feel like they owed a debt to the stakeholder group that selected them? Did different conditions lead to different motivations being most salient in participants' minds? Qualitative analysis of the comments participants wrote at the end of their interactions provide us with insight into the reasons behind their behaviors.

Regarding Hypothesis 1, that participants in all conditions will experience a range of motivations that influence their behavior, some of which may be in conflict, we identified five major and two minor motivations underlying the behavior of participants assigned to be various kinds of directors. The five major motivations included a desire for balance ("Balance"), a pre-existing bias in favor of or against particular stakeholder groups ("Bias"), an inclination to adjust their behavior to respond to changes perceived in the simulated world ("Responsiveness"), a feeling of obligation toward the stakeholder group that selected them ("Obligation"), and a desire to obey the law ("Law"). The two minor motivations were an indirect motivation to support a stakeholder group due to its perceived effect on some other stakeholder group ("Interdependencies"), and a desire to support particular stakeholder groups strongly at the expense of others ("Anti-balance").

Regarding Hypothesis 2, that the legal frameworks through which participants are instructed will influence which motivations are most salient in their decision processes, we found that, while the frameworks did lead to variability in two motivations, the level of all other motivations was statistically similar. For the two that varied, we identified a potential explanation that accounts for the variation.

Here we present the specific findings from the qualitative coding of the comments participants made at the end of the simulation. In addition to recording instances of each of the codes in the dataset, we also identified comments that participants made that were ambiguous between two or more

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<sup>71</sup> Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 7; Tomlinson et al., *Accountability*, *supra* note 3; Tomlinson et al., *supra* note 2, at 6; *see supra* Figure 4.

codes. The nature of the various experimental conditions made certain ambiguities present themselves in particular subsets of the study. For example, since the law for the ACA conditions mandated that participants engage in balance, when ACA participants spoke of balance it was frequently impossible to disambiguate between the “Balance” and “Law” codes. Nevertheless, in the Discussions section below, we present some arguments for how best to understand these ambiguous codes. Table 1 presents counts of each motivation for each condition, as well as data for ambiguous codes. Figure 5 presents these data graphically, with statistically significant differences marked.

<b>Motivation/ Type of director</b>	<b>SSD/ Del</b>	<b>SSD/ ACA</b>	<b>EmSD/ ACA</b>	<b>EnSD/ ACA</b>
<b>Balance</b>	42	56	52	54
<b>Bias</b>	34	29	41	34
<b>Responsiveness</b>	22	17	17	18
<b>Obligation</b>	12	9	10	13
<b>Law</b>	21	5	10	4
<b>Interdependencies</b>	12	7	3	6
<b>Anti-balance</b>	1	4	2	2
<b>Bias/Obligation</b>	0	16	13	8
<b>Bias/Obligation/Law</b>	16	0	0	0

Table 1: Raw data presenting the counts of each type of motivation within the free-text responses by participants. There were 89 participants in the SSD/Del condition, 86 in SSD/ACA, 90 in EmSD/ACA, and 80 in EnSD/ACA. The sum of each column is greater than the number of participants in that condition because some participants’ responses had content matching two or more codes.

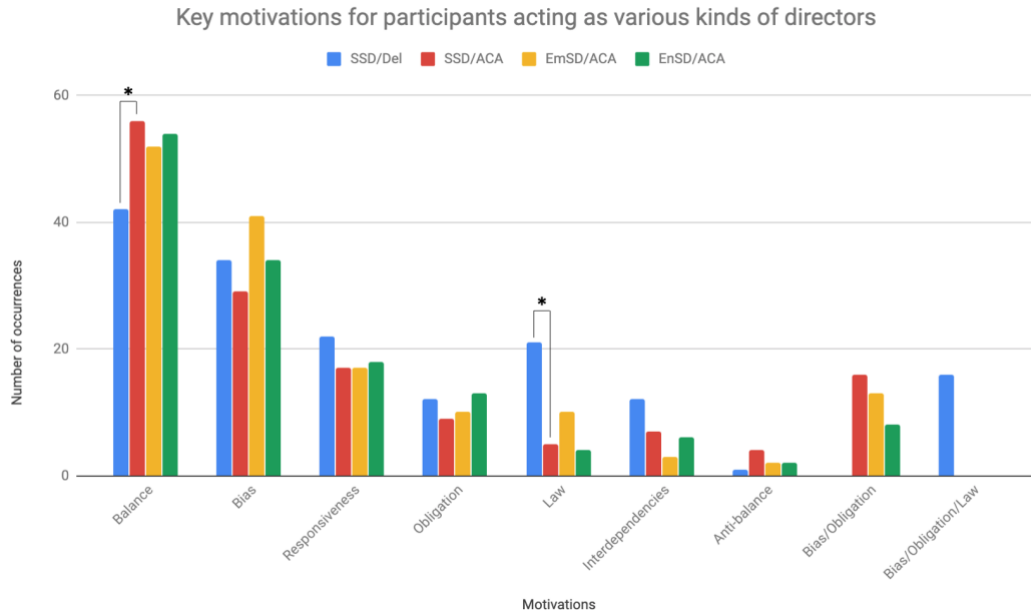


Figure 5: Frequency of each motivation in the free-text comments, adjusted from the raw data above. Specifically, a subset of “Balance” responses for all three ACA conditions were moved to “Law” (those above the level of “Balance” expressed by Delaware participants), and all ambiguous codes (e.g., “Bias or obligation”) were divided evenly across the possible categories.

### 1. Balance

The most prevalent motivation across all conditions, including both shareholder-selected directors instructed via Delaware corporate law and all three types of directors under the Accountable Capitalism Act, was a desire for balance. Balance and related themes (fairness, equality, etc.) were explicitly represented in approximately 59% of responses. A subset of these responses in the three ACA conditions may be attributable to obedience to the law rather than a desire for balance (addressed in more detail in the Discussion section below). In the one condition where this conflation did not exist (Delaware corporate law), 47% of participants mentioned balance; we hypothesize that could be the baseline level for this population, with the remainder potentially attributable to obeying the law.<sup>72</sup>

Participants described distinct motivating factors and degrees of commitment in their quest for balance. Some participants appealed to morality/ethics to justify their efforts to achieve balance. For example, a 48-year-old male, assigned to SSD/Del, wrote:

<sup>72</sup> See *infra* Section III.C.5.



**“I made my decisions based on moral and ethical implications** as well as following the proper guidelines of how a business director would behave; taking into consideration what was lawful, fair and just for everybody. I made sure that I considered employees, investors and the impact on the environment.”<sup>73</sup>

This quote demonstrates several of the recurring patterns in the data - fairness, justice, and specific egalitarian inclusion of all three stakeholder groups. Other participants described a commitment to balance, but with a possible slight bias toward shareholders and employees.<sup>74</sup> For example, a 55-year-old female assigned to EmSD/ACA wrote: “I did my best to take all aspects into consideration while **keeping everything balanced**. I made sure to keep my shareholders and employees happy while still trying not to destroy the environment.”

Other participants only sought balance when balance was one of the choices presented to them but switched to other motivations such as bias (a choice favoring a particular group that is not based on the law or obligation) when no balanced choice was available. For example, a 60-year-old female assigned to SSD/ACA wrote: “I tried to choose the decision that favored all three equally, but **when it was not equal, I chose shareholders, then employees, then environment**.”

Analyses also suggest that participants used a variety of strategies to achieve a certain type of balance. For example, some participants used long-term strategies and sought to extend their efforts to balance impacts across multiple decisions. A 42-year-old male, assigned as an EnSD/ACA, wrote: “I tried as best as possible to maintain a balance between all three interests. In doing so, I **kept a running balance of what interests were best looked after and which had been neglected**, and would need better care in later decisions.”

Others varied their selection technique across different decisions, perhaps interpreting balance liberally rather than strictly—seeking to take all factors into consideration, rather than making them exactly equal. A 53-year-old male assigned to EmSD/ACA wrote:

When making decisions, I was looking to balance the interests of the employees, shareholders and the environment. I thought it was important to take care of the organization’s employees, so I weighted many of my decisions in a way that benefited the employees. **However, I also sought to take a balanced approach by selecting options that equally benefited all stakeholders.**

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<sup>73</sup> Bold formatting added by the authors to many quotes to highlight specific aspects relevant to the discussion at hand. The full quote is included in each case for context and completeness.

<sup>74</sup> See *infra* Part IV for possible alternative reasons for this ordering.

SSD/ACA participants made significantly more comments relating to balance than SSD/Del, likely due to the fact that the ACA directs people to exhibit balance.<sup>75</sup> Nevertheless, the abundance of references to balance in the SSD/Del condition makes clear that participants seek balance even in the absence of being instructed to do so.

## 2. Bias

A second major motivation identified through this study was various forms of bias, defined as giving a particular group preferential treatment for reasons other than the law or a sense of obligation to the group of directors who elected a participant. Bias was present across all conditions at statistically similar levels, present in at least 40% of responses (potentially up to 55%, given ambiguous codes). Here we present various types of bias we encountered, with instances of each.

Some participants provided particular stakeholder groups with preferential treatment. This behavior occurred across all three stakeholder groups. For example, a 59-year-old male assigned to EmSD/ACA wrote: “I wanted to at least **maintain the share price of 100** while keeping the employees happy and the environment came in third.”

Even though the participant had been appointed to the directorship by the employees, he prioritizes share price over employee happiness and both of the aforementioned over the environment. In another example, a 35-year-old female participant assigned to SSD/ACA wrote: “I wanted to **make the employees the happiest I could first and foremost**. They are the backbone to the company and without them, the company wouldn’t make it. Then the environment was important to me.”

She relegated the shareholders who selected her as director to the background and prioritized employee happiness first and the environment second. In a similar example, a 68-year-old female assigned to EmSD/ACA wrote:

I prioritised [sic] my decisions based on this order: environment, employees, shareholders. If the environment is unhealthy, people might get sick and die, in which case there would be no employees. **I’d rather have a clean environment with disgruntled employees and upset shareholders than risk degradation of our planet.**

This participant chose to privilege the environment, also noting the interconnectedness of the environment and human actors.

Participants also exhibited bias against particular stakeholder groups. Their rationales for and attitudes toward this form of bias were distinct.

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<sup>75</sup> See *infra* Part IV.

Sometimes bias against a stakeholder took the form of passive neglect, as in the case of this 33-year-old male assigned to SSD/ACA:

In this simulation, I looked to try and strike a good balance between shareholder interests, and environmental interest. That is to say, I prioritized shareholders and environment equally whenever possible, and I **passively neglected my employees completely**. I did not factor the interest, or lack of interest in my employees into any one of the decisions I made. They were not a consideration for me in this simulation.

Other times, biases involved active rejection of particular stakeholder groups, such as this 31-year-old male US resident, assigned to EmSD/ACA: “I mostly prioritized employee benefit and environmental benefit. I tried to strike a bit of a balance with shareholder benefit, but **they were my last priority. Eat the rich.**”

Thus, the participant exhibits a clear anti-preference for shareholders that is grounded in perceived differences in socioeconomic status between shareholders and workers. Similarly, this 33-year-old male US resident, assigned to EnSD/ACA, took the inverse position:

I wanted to give the environment the most sway while making my decisions because I was appointed to my job by a group of environmental scientists so I felt that I owed it to them to take care of the environment. But I couldn't completely overlook the shareholders in order to take care of the environment, so I had to take them into account in every decision. **I wasn't overly concerned with the employees as I knew they would continue to work whether they were happy or unhappy.**

This participant also indirectly references perceived socioeconomic differences by noting that employee happiness is not a consideration, as they will continue to work out of obligation and presumably financial need.

Note that this participant also felt a strong sense of obligation to the group that appointed him director, as evidenced in the first sentence. Frequently, multiple motivations co-existed within one individual's approach to directorship.

Bias against the environment ranged from callously indifferent to almost regretful. For example, a 43-year-old female assigned to SSD/Del wrote: “I put the shareholder benefit first and the employee benefit distant second because they're the ones that have the biggest effect on my position. environment [sic] was last because I assume **someone else will clean it up.**”

Alternatively, a 48-year-old female participant, assigned as EmSD/ACA, wrote:

The easiest ones were those that were equally balanced between shareholders, employees, and the environment, but if one group had zero shares I always chose the shareholders or

the employees over the environment, **you can't answer directly to the environment because it has zero votes.**

This quote appears to suggest a preference for making decisions that minimize direct face-to-face accountability to human actors. In the interactive simulation, participants are told that “[t]here may be other directors on the board of directors as well, potentially representing other stakeholders.” While another condition in this experiment explicitly involved “environment-selected directors”, in this participant’s case (where she was assigned to act as an employee-selected director), it was never explicitly specified whether the environment had representation on the corporate board. However, since no corporate board anywhere in the world that we are aware of has environment-selected directors, her assumption that the environment has zero votes is a reasonable one.

Many responses coded as bias clearly arise from people’s lived experiences outside the simulated business world. For example, a 31-year-old male assigned to EnSD wrote:

“For my decisions I took all factors into consideration. I considered shareholders, employees and environment. If each round had a decision that was equal for all three I would have picked that every time. Unfortunately that wasn’t the case and I had to make some sacrifices but I tried to even it out through all the rounds in the future. But I think my main focus was on benefiting the environment because **that is how I would act in real life.**”

However, it is important to note that it was not always possible to distinguish between bias grounded in participants’ lived experiences and bias aligned with obligations or the law, and these instances of bias were coded as ambiguous (e.g., Bias/Obligation or Bias/Obligation/Law in Figure 5 above).

### 3. Responsiveness

A third major motivation was responsiveness to events unfolding in the simulated business world in which they were embedded. This motivation was present across all conditions at statistically similar levels, occurring in approximately 21% of responses.

To offer an instance of this motivation, a 41-year-old female assigned to EmSD/ACA wrote:

“I was trying to make my employees happy, but **then I noticed that the environment was doing poorly, so I adjusted that in my next decision.** I noticed some employees were unhappy, but they never were happy even after I gave them more resources. At one point, I thought they might be

upset because the shareholders weren't getting any attention so I tried giving more to them, but that didn't work either."

Responsiveness to factors beyond just their own company's stock price, employees, and local environment also factored into participants' decisions. For example, a 38-year-old male assigned to EmSD/ACA wrote:

"I tried to choose the decision that was most evenly weighted between the three options. If there were only two weights, I choose the one that benefited the shareholders the most, or that benefited the employees the most. **I noticed that the other factories had pollution worse than mine, so in general I didn't judge the decisions using the environmental factor as often as if it were a concern.**"

#### 4. Obligation

The fourth major motivation we identified was a feeling of obligation toward the stakeholder group that each participant was told had selected them. At least 12% of participants explicitly identified feelings of obligation or similar topics as among their motivations. Given the fact that both ambiguous codes also included obligation, there is the possibility that significantly more participants were motivated by obligation. This motivation was present at statistically similar levels across all four conditions.

This obligation manifested in various forms. Some individuals felt a sense of indebtedness to the group that selected them, such as this 36-year-old male assigned to EnSD/ACA:

"First and foremost, I put the environment at the top of the list of things I cared about. **The scientific community put me in charge here and I owed it to them to keep the environment as clean as possible**, while still trying to keep the company competitive and employees happy."

Others, such as the 47-year-old female assigned to SSD/ACA, appeared to fear repercussions from not satisfying that group (even though no such functionality was included in the simulation or conveyed to participants):

"I kept in mind that while I wanted to be environmentally responsible and keep the employees happy, I was elected by the shareholders who really control the company. **If they don't like my decisions, I can be fired.** I often chose the option where all three categories were equal. When the ground got more polluted, I favored the environment. Now that I think about it, once the ground is polluted, it's more difficult to go back."

## 5. Law

The fifth major motivation we identified was a desire to uphold the law. It was present across all conditions. While this motivation was only explicitly stated by approximately 12% of participants, we believe that the actual representation of this motivation may have been significantly higher. Explicit references to the law were significantly higher in the SSD/Del condition than the SSD/ACA condition ( $p=.00094^{**}$ ). As mentioned earlier, “balance” was an important part of the law for participants in the three Accountable Capitalism Act conditions; as such, we hypothesize that numerous participants in those conditions may have been commenting on their desire to uphold the law either by explicitly stating it or by stating their effort to produce balanced outcomes.

A 41-year-old male SSD/Del provides an instance of obedience to the law: “My decisions were **mostly directed by my fiduciary responsibility** to ensure that the shareholders received the best outcome.”

In addition, multiple ACA participants explicitly connected balance/equality to the stated law. For example, a 40-year-old female EnSD/ACA wrote: “I tried to choose options that were the **most equal so I would adhere to the law**. In cases where there were no equal options, I tried to vary my choices so that I was benefiting shareholder/employees/environment alternately.”

## 6. Interdependencies

Two other motivations were present at low levels across all conditions. The first of these, “Interdependencies”, was similar to bias, but involved actions taken regarding one stakeholder group because of the indirect effects of that action on other stakeholder groups.

For example, a 40-year-old female EnSD/ACA wrote:

“Overall I tried to ensure that each factor was given some preferences based on the choices available to me. If it had to sacrifice employee benefit, **I tried to maximize shareholder benefit since that will result in the employees having jobs and perhaps better pensions or 401k.**”

Participants perceived a range of interdependencies, none of which were an actual part of the simulation. For example, a 59-year-old male SSD/Del wrote:

“I wanted to first make sure the company and shareholders took first consideration. Then the employees and lastly the environment. **I probably should have taken more consideration for the environment as I believe that would**

**have made for happier employees.** I wanted to overall try not to make the company go below 100 [share price].”

Still others, such as this 50-year-old female EmSD/ACA, considered the possibility of interdependencies, although she ultimately dismisses this possibility based on what she sees in the simulation:

“I tried to be somewhat fair and choose decisions that would at different times benefit different individuals or the environment of course. **It’s honestly easiest to let the environment go at this point as it doesn’t seem to directly (at least not yet) have any effect on the mood of my employees.** I want to be fair to the shareholders as well, but since I was chosen by the employees it seems like a good idea to try to keep those folks happy. It doesn’t seem to be working though.”

#### 7. Anti-balance

The final motivation was the flip side of the balance motivation identified earlier—a drive toward “anti-balance.” This motivation was present at low levels across all conditions.

This 36-year-old male EnSD provides an example of this motivation: **“I tried to choose the one option that helped with the biggest concern at the time.** For example if pollution was getting bad I would select the option that had the biggest environmental help. Or if employees were getting unhappy I would choose the option that had the biggest impact on employee satisfaction.”

Often, anti-balance appeared to be a mechanism for enabling balance across longer time horizons, such as in the case of this 41-year-old male SSD/ACA:

“I tried to balance all three factors, **while occasionally choosing one that would greatly benefit a group that was lacking at the time.** If I chose one that made the employees unhappy, I focused on them next. If the [share] price got too low, I chose to focus on the shareholders more on the next choice. I think as time went on my choices were more reactionary than in the first few rounds.”

In fact, unbeknownst to the participants, consistent anti-balance was actually an effective strategy for achieving balance, since each participant was presented with a complete and balanced set of decisions, with every stakeholder group being favored in different questions.

## IV. DISCUSSION

### A. Ambiguous Codes

In the raw data, while SSD/Del participants mentioned balance more frequently than any other motivation, they nevertheless mentioned balance significantly fewer times than they did any of the ACA conditions. This is highly likely because the ACA conditions were instructed to “manage the corporation in a way that balances the financial interests of its shareholders with the best interests of persons that are materially affected by the conduct of the corporation.”<sup>76</sup> Therefore, it is highly likely that some of the “balance” instances in the ACA conditions were present because people were following the law,<sup>77</sup> rather than because of an innate drive for balance.

To provide an instance of this form of ambiguity: a 57-year-old male, assigned as SSD/ACA, wrote: “I tried to roughly **balance** the benefits of the shareholders, the employees and the environment over the course of the twelve decisions.”

From his wording, it is unclear whether he did so because he feels that shareholders, employees, and the environment should be treated fairly, or because he had been instructed to do so by the law in the simulation.

While we included all participants who mentioned “balance” or similar terms in the “Balance” code statistics, we believe it may be possible to disambiguate these two effects. The level of balance present in the Delaware condition, in which participants were not instructed to balance any factors, potentially offers a reasonable baseline for all participants. In the statistics in Table 1, the frequency of SSD/ACA “Balance” (56/86, 65%), is significantly higher than the SSD/Del “Balance” (42/89, 47%) ( $p=0.0168^*$ ). Since the Delaware participants mentioning balance were not doing so because of the law, we could potentially assume that same level carried through the ACA conditions. We could hypothesize that all mentions of balance above that level could be ascribed to following the law rather than a desire for balance. Interestingly, the only other significant difference in the qualitative dataset between SSD/Del and SSD/ACA is very well matched with this hypothesis: while SSD/Del mentioned the law, rules, or similar topics 21 times (21/89, 24%), SSD/ACA only mentioned these topics 5 times (5/86, 5.8%), a statistically significant difference ( $p=.00094^{**}$ ). If the surplus “Balance” codes from ACA were to move to the “Law” code, the levels of all five major motivations would be statistically similar across all conditions.

There were several other forms of ambiguity that we did not have a clear way to disambiguate. For example, for each of the ACA conditions,

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<sup>76</sup> Tomlinson et al., *Participatory Simulation*, *supra* note 3, at 5.

<sup>77</sup> See *supra* Section III.C.5.



participants occasionally expressed a preference for one stakeholder group over another. When the stakeholder group they preferred was **not** the stakeholder group who selected them, it was a clear case of bias, and was coded as such. However, when the participant expressed a preference for the stakeholder group that selected them (e.g., an EmSD/ACA expressing a preference for employees), it was ambiguous whether they were doing so because they had a bias in favor of employees, or felt an obligation toward the stakeholder group that selected them. Such cases were coded as “Bias/Obligation.” As an example of this case, a 29-year-old male assigned to EmSD/ACA wrote: “I wanted to try to **keep employees happy** and make as much money as I could by improving the stock price. Unfortunately the environment was the one to suffer, but it seemed that way with most of the other businesses as well.”

Similarly, in the Delaware case (in which all participants were assigned as shareholder-selected directors), participants who expressed a preference for shareholders may have done so due to bias, due to having been selected by shareholders, or due to the law telling them that they have a fiduciary duty to the shareholders. As such, those cases were coded as “Bias/Obligation/Law.” For example, a 47-year-old male assigned to SSD/Del wrote: “I **put the most weight on benefit to the shareholders**. However, [sic] when possible I applied it as equally as possible across employees and environment to balance out the effects to workers and environment which would eventually affect our shareholders by hurting our business.” He is clearly favoring shareholders, but the motivation for doing so is unclear.

### *B. Quantitative and Qualitative*

The qualitative results shed significant light on the motivations underlying the behaviors that the participants exhibited. For example, the motivation to seek balance was present in both the quantitative and qualitative results. So too was obedience to the law. And feelings of obligation toward the stakeholder group that selected the director, which were clearly present in the quantitative results for participants in the SSD/ACA and EmSD/ACA conditions (and likely present in SSD/Del as well, although in that case law and obligation were conflated), were evident throughout many of the comments made by various participants across all four conditions.

In addition, the qualitative results shed light on some of the “negative space” in the quantitative findings. Yes, ACA participants mostly focused on achieving balance. But why were they not single-minded in their pursuit of balance, choosing the balanced option 100% of the time? The qualitative results show that bias, responsiveness, and obligation were likely major factors pushing back against balance.

### C. From Simulation to Reality

The goal of balance is present in real world directors. For example, a 2020 post on the INSEAD Leadership and Organizations blog discussed “How should the board balance the interests of various stakeholders?” noting that, except in the case of wrongful trading, “the board has the discretion to balance various interests.”<sup>78</sup>

Bias is a significant factor in the behavior of real-world directors as well. As Page writes: “First, directors are likely to have preferences, even though they sometimes will not be consciously aware of them. Second, regardless of directors’ good faith, unconscious and, to a significant extent, uncontrollable cognitive processes will prevent the directors’ decisions from being unaffected by their preferences.”<sup>79</sup>

As with the previous motivations found in the simulation, responsiveness is a factor in the real world as well, albeit in different forms from this simulation. While in the simulated business world we made the benefit and suffering of various stakeholder groups intentionally explicit (e.g., via stock prices rising and falling, employees becoming happy or sad, and the ground becoming polluted or green), these phenomena have variable levels of explicitness from the point of view of corporate directors. Share price is certainly a strong, clear signal to directors regarding the shareholders’ wellbeing. However, employee wellbeing is somewhat less evident, visible via internal surveys and union strikes rather than by a concrete, agreed-upon statistic. Environmental wellbeing is even more difficult to determine, with questions of what aspects of the environment are within scope and how to measure those factors being critical. Given the old saying that “you can’t manage what you can’t measure,” stock price is clearly the easiest factor to measure, and therefore potentially to manage. However, others have proposed that this old saying is untrue, and that in fact, “the important stuff can’t be measured.”<sup>80</sup>

In the selection of directors in real business contexts, there are presumably two factors in play: first, the idea that particular stakeholder groups will select individual directors whom they believe are inherently

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<sup>78</sup> Jaap Winter & Erik van de Loo, *The Role of the Board in Times of Distress*, INSEAD KNOWLEDGE (2020), <https://knowledge.insead.edu/blog/insead-blog/the-role-of-the-board-in-times-of-distress-13726> [<https://perma.cc/S4D5-KW56>].

<sup>79</sup> Antony Page, *Unconscious Bias and the Limits of Director Independence*, 2009 U. ILL. L. REV. 237, 237 (2009).

<sup>80</sup> Liz Ryan, *If You Can’t Measure It, You Can’t Manage It’: Not True*, FORBES (Feb. 10, 2014, 12:31 AM), <https://www.forbes.com/sites/lizryan/2014/02/10/if-you-cant-measure-it-you-cant-manage-it-is-bs/#319ed2487b8b> [<https://perma.cc/8XTS-GMRL>].

sympathetic to the needs of that stakeholder group<sup>81</sup>, and second, that those directors will feel a sense of obligation or loyalty<sup>82</sup> toward the stakeholder group due to having been selected by them. Ideologically, one would hope that the former factor would be the dominant rationale for passing legislation, such as the Accountable Capitalism Act, that requires certain fractions of directors to be selected by particular stakeholder groups. However, since participants in this study were assigned at random to different groups (rather than allowed to self-select or being selected based on unique qualifications or interests), the research project described here provides experimental evidence that the second factor has the potential to exert a powerful influence on individuals' behaviors as well.

In real business contexts, the law is perhaps the most obvious motivator for corporate directors. We find it interesting that obedience to the law was cited substantially less frequently than several other motivations cited by participants in this study.

When thinking about novel legislation, in the context of corporate directors or other business settings, it is potentially beneficial to consider how the legislation engages with the motivations identified in this paper. Is balance desirable in the context under consideration, and does the legislation strengthen or weaken the drive for balance? Is bias toward or away from particular stakeholders desirable? If so, which biases does the legislation strengthen? Is the legislation intended to create a sense of obligation? If not, how can it be structured to minimize that effect?

While there are differences between the participants in this study and corporate directors in the real world—training, life experiences, the reality of impacts of laws and obligations, or the impact of other advisors—these motivations are largely *human* motivations, and are likely present throughout business contexts (as the instances identified earlier suggest). Nevertheless, it would be instructive to interrogate these differences in greater detail.<sup>83</sup>

#### *D. Order Effects*

We found that many participants listed the three stakeholder groups in the same order: shareholders, employees, then environment. While it is

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<sup>81</sup> See J. D. Westphal & E. J. Zajac, *Who Shall Govern? CEO/Board Power, Demographic Similarity, and New Director Selection*, 40 ADMIN. SCI. Q. 60, 60 (1995) (proposing that CEOs appoint new board members who are demographically similar, and therefore more sympathetic to them).

<sup>82</sup> See A. S. Gold, *The New Concept of Loyalty in Corporate Law*, 43 U.C. DAVIS L. REV. 457, 462 (2009) (noting that director loyalty requires an affirmative devotion to shareholders' interests).

<sup>83</sup> See *infra* Part V.

possible this ordering represents the default bias that many participants held, we think it is likely that at least some instances of this ordering arose from the order in which the stakeholder groups were presented in each chart representing a choice. While the interactive system randomized the ordering of the 12 decisions, and switched the order of delivery of the two choices in each decision (left vs. right in Figure 2), all of the charts representing particular decisions presented the data in the same format, with shareholders at left, employees in the center, and the environment at right. In addition, the tutorial at the beginning of the interaction introduced the three stakeholder groups.

These design decisions likely impacted the way participants thought about the different stakeholder groups, and potentially affected how they interacted as a result. Nevertheless, how information is presented is a confounding factor across many different contexts, including the real business world. The motivations identified in this paper are still likely to be substantial factors in the decision-making of the directors of real corporations.

## V. FUTURE WORK

There are a number of future directions for this particular study context:

- Conduct the study with real corporate directors (or final year MBA students, as a proxy for those with the training and interest to become corporate directors) to see if the motivations revealed are consistent with those of laypeople. This would be analogous to an earlier study of patent systems, comparing effects between first year and third year law students.<sup>84</sup> In such a study, it would be beneficial to engage participants in post-simulation interviews or other methods to take full advantage of and learn from their lived experiences.
- Let participants choose which category of director they belong to (e.g., SSD vs. EmSD vs. EnSD), to see how they act when bias and obligation are aligned.
- Implement interdependencies among different stakeholder groups (e.g., happy employees increase share price, polluted environment decreases employee happiness) to see if it changes participant behavior.
- Implement the ability for directors to be fired from their positions based on their performance (as one participant quoted above feared) to see if they behave differently.
- Tell participants the composition of the rest of the board, and see if it changes their behavior. For example, would an environment-selected

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<sup>84</sup>Andrew Torrance & Bill Tomlinson, *Patent Expertise and the Regress of Useful Arts*, 33 S. ILL. U. L.J. 239, 241 (2009).

director who knew they were the sole non-shareholder-selected director on the board behave differently from one who was on a board composed entirely of other environment-selected directors?

- Adapt the simulation so that multiple participants are simultaneously on the same board of directors, and need to negotiate with each other at each decision point.

These instances point to a range of directions that the existing platform could take in more fully exploring this particular legal context.

More broadly, we see this work as being an instance of a much broader class of research within empirical legal studies. Developing processes for assessing hypothetical or proposed legislation could be exceedingly valuable in understanding the likely impacts that the legislation may have. As such, it could allow for experimentation in advance of deployment, rather than revision after the fact. Such experimentation has the potential to lead to significant improvements in the effectiveness of legislation in supporting wellbeing for humans and other species, which, ultimately, is a key goal of the law.

## CONCLUSIONS

Corporate directors wield considerable influence over the behavior of corporations. In general, at least within existing models of US corporate law, they are obliged to act in the interests of corporation shareholders. Interpreting what these interests are can be nuanced, so the law usually affords directors discretion and flexibility in acquitting their obligations to the shareholders on whose behalf they act. Nevertheless, directors are not supposed to put other interests, such as those of workers or the environment, above those of shareholders.

However, through the research described here, we identified numerous motivations acting on the behavior of participants assigned to act as the directors of corporations, only some of which aligned with the primacy of shareholders. While participants were clearly instructed by the law to behave in particular ways (some via principles from Delaware corporate law, and some via principles from the Accountable Capitalism Act), we found that obedience to the law was only one of five major motivations influencing their behavior. In addition to obedience to the law, we identified a desire for balance, an array of personal biases, a sense of responsiveness to how events were unfolding around them, and a feeling of obligation to the stakeholder group that selected them as powerful factors in their decision-making. These five motivations—balance, bias, responsiveness, obligation, and the law—worked together in various combinations across different participants to determine the actions that directors took on behalf of their corporations.

Corporation behavior affects many aspects of society and the environment. Employees of corporations spend much of their days, or even lives, within the corporate context. Employee health, safety, happiness, and economic well-being are often dominated by their employment context. Depending on the behavior of a corporation, a worker may experience fulfillment, joy, good health, and economic security, or, instead, discouragement, depression, illness, and poverty. Similarly, a corporation may minimize the pollution it generates, protect biodiversity, and use energy and raw materials efficiently, or it may dirty and despoil its surroundings and the broader world. Moreover, the interests of, and effects on, employees and the environment are not independent of one another. Pollution may generate jobs, but simultaneously cause damage to workers' property and health. Higher employee compensation may allow higher standards of material living for workers, but may squeeze out corporation spending on pollution mitigation. The relationships among the interests of shareholders, workers, and the environment are complicated, interdependent, and poorly understood.

Participants in our simulations appear to have understood this complexity. Although this understanding manifests itself in several ways in the results, the clearest indication is how often participants reference the need for balance in director decision-making. Whether their obligations were primarily to favor shareholders, workers, or the environment, the results demonstrate a tendency by participants to balance interests - sometimes all three simultaneously. Discovering such strong evidence of director balancing is a surprising result. The existing literature on director behavior addresses balancing of interests largely to the extent of suggesting that the law ought to be amended to *allow* balancing. The need for the law to be amended to allow balancing implies that balancing is not supported by the current legal framework of director obligations.

Our results not only indicate a recognition of the need for balancing, and a desire to engage in it, they also show that participants in our simulations will affirmatively defy the instructions they are given in order to implement balancing. The instructions provided to participants in the SSD/Del condition, who were tasked with following Delaware corporate law, were clear and explicit. They engaged in substantial balancing nevertheless. Martin Luther King, Jr. once stated a moral principle that may have relevance for our results. In his Letter from a Birmingham Jail, Dr. King said, "One has not only a legal but a moral responsibility to obey just laws. Conversely, one has a moral responsibility to disobey unjust laws."<sup>85</sup> It may be that the participants playing

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<sup>85</sup> Martin Luther King, Jr., Reading of "Letter from a Birmingham Jail," April 16, 1963, <https://kinginstitute.stanford.edu/king-papers/documents/letter-birmingham-jail> [<https://perm.a.cc/BVZ9-VVS3>] (transcript available at African Studies Center, University of

directors in our simulations believe taking into account the interests of workers and the environment is a moral responsibility, despite what existing corporate law requires, and that blindly representing the interests of shareholders alone would be tantamount to disobeying “unjust laws”.

There may be a lesson here for corporate law. If it does not explicitly allow directors to take into account interests other than shareholders, it may not be obeyed faithfully. Laws that citizens refuse to obey tend not to last. Instead, our results may suggest that corporate law be amended to allow directors to take into account multiple interests. In this way, director behavior may be more predictable, providing corporations with more predictability. Furthermore, the law may be brought more closely into harmony with strong, and potentially socially valuable, instincts of corporate directors, who wish to benefit their corporations while benefiting workers, the environment, and perhaps other important interests beyond the scope of our experiments. At the very least, our simulations have provided an evidentiary basis for director behavior that is different from what the law requires and what the literature has described.