



University of  
Massachusetts  
Amherst

## He Said, She Said: Investor Reactions to CEO Gender and Earnings Guidance Disclosure in the Presence of Shareholder Activism

Item Type	Dissertation (Open Access)
Authors	Jackson, Scott C
DOI	<a href="https://doi.org/10.7275/22290335.0">10.7275/22290335.0</a>
Download date	2026-06-16 06:20:54
Link to Item	<a href="https://hdl.handle.net/20.500.14394/18493">https://hdl.handle.net/20.500.14394/18493</a>

HE SAID, SHE SAID: INVESTOR REACTIONS TO CEO GENDER AND EARNINGS  
GUIDANCE DISCLOSURE IN THE PRESENCE OF SHAREHOLDER ACTIVISM

A Dissertation Presented

By

SCOTT C. JACKSON

Submitted to the Graduate School of the  
University of Massachusetts Amherst in partial fulfillment  
of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 2021

Management  
Accounting



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## DEDICATION

To my wife, Stephanie, for being a constant source of strength and encouragement throughout the challenges of graduate student life.

To my daughters, Olivia and Chelsea, for bringing joy to my life every day.

To my newborn son, for waiting to arrive until after my final defense.

## ACKNOWLEDGEMENTS

To my co-chairs, Chris and Dave. I am grateful for your guidance and mentorship throughout this process. I consider it an honor and privilege to have worked with both of you. Despite your many responsibilities, you were both there when I needed it most and I cannot think of a more supportive, intelligent, and friendly team to work with. Surviving this year's job market would not have been possible without your mentorship and support. Dave, thank you for helping me to refine my idea and being there for my many statistical questions. You seemed to always have the right answer for everything. Chris, thank you for providing both an invaluable attention to detail as well as a "big picture" perspective on everything. Your feedback on this project has been priceless.

To my dissertation committee members, Elaine and Linda. Thank you both for your support and feedback. Elaine, I am grateful for your example and friendship. It has been an honor being able to work on projects over the years, and I look forward to future projects. You have been a role model for me. Linda, I am so grateful that you were assigned to teach my two psychology seminars. You show a true devotion to your students and I always looked forward to your seminars. As an outside member, you provide a unique but invaluable perspective. Thank you for your authenticity and guidance throughout this process.

To my fellow PhD students, it has been an honor and pleasure to go through this process with you. To Yushi, Kyle, Aubrey and Conner, a PhD program is tough, but it was made a little easier with you four in the office. I could not have asked for a better bunch of friends to work with. Your feedback on this dissertation was invaluable. During this pandemic and time of remote isolation, I have missed our office lunches/discussions/group-therapy/commiseration and will certainly miss them when I graduate. I look forward to many more reunions at conferences when we are meeting in-person once again. To Mary Kate, Jess, Jenny, Matt, Chez, and Nikki, who graduated before me, I appreciate your examples and continued support. Your guidance and friendship helped me

successfully navigate this PhD program. To Cody, Sarah, Hanxu, Zach and Luke – I appreciate the opportunity to get to share this experience with you, no matter how long or short.

To everyone who gave me feedback on this dissertation, thank you. Specifically, thank you to Bradley Bennett, Mike Durney, Hayden Gunnell, Erin Hamilton, Yu Hou, Joseph Johnson, Yi Luo, Bertrand Malsch, Kristi Rennekamp, Aaron Saiewitz, Steve Salterio, Jason Smith, Ryan Sommerfeldt, Travis Steadman and participants at the 2020 AAA/Deloitte/J. Michael Cook Doctoral Consortium and the 2020 BYU Accounting Research Symposium. Your comments helped shape the paper to what it is today.

Finally, to my family – thank you. To my father, thank you for being a constant example of a man who is hard-working, respectful, and intelligent. To my mother, thank you for always supporting me and giving me the courage to accomplish anything I put my mind to. I know I would not be where I am today if it was not for you two. To my wife, Stephanie, I am eternally grateful for your love and sacrifice. You witnessed my highs and lows during the program and stuck by my side as a constant support throughout. I am excited about the life and family we are building together and look forward to supporting you in your dreams and goals in the years to come. Olivia and Chelsea, you bring immense joy to my life. This past year I have seen each of you grow and develop in more ways than I can count. You both remind me of what is most important in life and I know that there are great things in store for both of you. To my son, who is scheduled to be born the day after my final defense, I cannot wait to meet you. Finally, to my late grandfather who passed away during the program, thank you for inspiring me to consider a career in academia. I hope that I can be half the man that you were.

## ABSTRACT

### HE SAID, SHE SAID: INVESTOR REACTIONS TO CEO GENDER AND EARNINGS GUIDANCE DISCLOSURE IN THE PRESENCE OF SHAREHOLDER ACTIVISM

MAY 2021

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This study addresses concerns from the SEC and examines the trend of shareholder activism and its impact on financial players. Specifically, I examine how the nature of the shareholder activism (Profitability-focused versus Environmental/Social-focused) interacts with CEO gender to create perceptions of match or mismatch within nonprofessional investors, in terms of perceived ability to address the shareholder activism. Drawing on role-congruity theory, I predict and find that when a perceived match exists, investment willingness is increased, with the greatest differences occurring when the CEO does not disclose earnings guidance information. Given recent trends that show increased disclosure of earnings guidance in companies threatened by shareholder activism, I examine how this type of disclosure impacts investor judgments. I find that when managers' optimistic forecasts differ from consensus analyst estimates, this creates an incongruent message and attenuates the heuristic processing associated with the perceived CEO gender-activism match. Additionally, I find evidence that earnings guidance disclosure has a stronger impact on perceptions of female CEOs than male CEOs. Finally, I find that this effect is seen under various types of forecasts (point and range), suggesting that both types of forecasts are capable of acting as incongruent messages to motivate systematic processing.

**Keywords:** shareholder activism; earnings guidance; CEO gender; role congruity; forecast form

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## CHAPTER 1

### INTRODUCTION

Shareholder activism occurs when a shareholder uses his or her rights as a partial owner to bring about change within or for the corporation and is a phenomenon that is becoming more commonplace within financial markets. From 2013 to 2018, shareholder activists targeted over 4,600 firms worldwide, with female CEOs being targeted more often than male CEOs (Schulte Roth and Zabel, 2019; Gupta et al., 2018). The nature of these demands may vary between a more traditional, profit-driven focus, to a more environmental and/or social (“E&S”) focus (Losasso and Dellecker, 2018; Westcott, 2019). Recent empirical research finds that when companies are faced with the threat of shareholder activism, managers are more likely to voluntarily disclose earnings guidance (Bourveau and Schoenfield, 2017). As such, regulators have expressed concern about the power these shareholder activists wield, and their impact on financial markets, corporate governance, and regulation (Jackson, 2018; Bogle, 2018). Informed by role congruity theory, my study examines whether other non-professional investors heuristically rely on the nature of the activism and the gender of the CEO to form perceptions of match or mismatch for which they then base investment decisions. I define a match when the gender expectations of the CEO and the nature of the activism align (Agentic: male CEO and Profitability-focused activism; Communal: female CEO and E&S-focused activism), and a mismatch all else. Additionally, I examine whether this effect is magnified or attenuated when managers disclose various types of earnings guidance that conflicts with (and is more optimistic than) a consensus analyst estimate.

Shareholder activism is becoming increasingly influential on the operational decision making of companies, with many studies pointing to increased financial performance as a result (Brav et al., 2008; Klein and Zur, 2009; Bebchuk, Brav, and Jiang, 2015). However, there exist various motives behind shareholder activism, from simply trying to improve corporate governance by increasing efficiencies and dropping unprofitable segments, to trying to improve its reputation by making a company's practices more ethically and ecologically sound, from an environmental or social perspective (Losasso and Dellecker, 2018). This latter type of activism has recently garnered support from large hedge funds and accounted for a majority of all shareholder proposals filed for the years 2017-2019 (Losasso and Dellecker, 2018; Westcott, 2019). Typically, prior studies looking at shareholder activism have not differentiated between these two different types of activism, which highlights the importance of this study, to the extent that investors react differently to different types of activism, depending on the gender of the CEO. These global economic trends motivate the study of investor reactions to different types of shareholder activism.

Additionally, there is growing interest in the accounting literature surrounding the effects of gender, wherein stereotypical behavior and discrimination potentially exists (Friedman, 2019). One study finds that when female Certified Financial Analysts exhibit stereotypically feminine behavior, they are more likely to be categorized as "female", and less likely to be categorized as CFA, which leads to decreased evaluations, whereas the corresponding recategorization does not occur for male CFAs (Bloomfield et al., 2021). Additionally, concurrent research finds that more narcissistic women are less likely to be recruited to public accounting firms compared to less narcissistic women, but ironically are the candidates possessing the self-promotion behavior necessary to be promoted through the ranks of the firm (Fanning, Williams, and Williamson,

2021). These findings are consistent with psychology research that finds that female leaders are disadvantaged because of the perceived mismatch between the agentic and “masculine” traits ascribed to the prototypical leader and the communal and “feminine” traits associated with the female gender (Eagly and Karau, 1991, 2002; Eagly, Karau, and Makhijani, 1995; Eagly, Makhijani, and Klonsky, 1992; Heilman, 2001; Heilman and Okimoto, 2007). However, other studies suggest that, in certain settings, female leaders may be viewed more favorably than their male counterparts, particularly when cooperation, collaboration, and mentoring are required (Rosette and Tost, 2010; Eagly, 2007; Eagly and Carli, 2003; Vecchio, 2002, 2003). This study contributes to this growing literature by investigating a situation in which communal, feminine traits could be valued over male, agentic behavior, specifically when they are viewed as possessing traits that are appropriate to respond to an external force (e.g., shareholder activism).

Drawing on role congruity theory, I predict that investors will perceive matches or mismatches between the CEO and the activism, based on assessments of agentic or communal traits stemming from the CEO’s gender. Specifically, I predict that investors will perceive the agentic qualities associated with male CEOs to be more of a match with the agentic nature of profitability-focused activism. Additionally, I predict that investors will perceive the communal qualities associated with female CEOs to be more of a match with the communal nature of E&S-focused activism. I predict that investors will rely on this heuristic when determining their willingness to invest in a company being targeted by shareholder activism, particularly when the underlying situation is ambiguous (e.g., absent earnings guidance disclosure).

Concurrent research shows that shareholder activists can shape a firm’s information environment and motivate a targeted company to increase voluntary disclosure (McDonough and Schoenfeld, 2021). This is consistent with prior literature showing that when the threat of

shareholder activism exists, managers will increase voluntary disclosure in the form of earnings guidance, with this guidance becoming more positive and more precise (Bourveau and Schoenfield, 2017). Additionally, recent experimental research shows that in the face of criticism, there are benefits to redirecting attention to positive information (Cade, 2018). I predict two alternative hypotheses with regard to investor reactions to positive earnings guidance disclosure in the presence of activism. On the one hand, earnings guidance disclosure has the potential to increase the information set available to the market. However, when management's estimate conflicts with estimates provided by external parties (e.g., analysts), this could create incongruent messaging for investors, where the consensus analyst forecast is saying one thing and management is saying another. Under this scenario, I predict that the incongruent messaging would lead to a decrease in heuristic processing and an attenuation of the gender-activism heuristic predicted in the absence of earnings guidance disclosure. On the other hand, investors may rely on their perceptions of match or mismatch to attribute the disclosure to either dispositional factors (e.g., CEO credibility) or situational factors (e.g., shareholder activism), leading to higher perceptions of credibility when CEOs "match" the activism (Ross 1977). This alternative prediction suggests a magnification of the gender-activism heuristic predicted in the absence of earnings guidance disclosure. I test both predictions, under disclosures of both point and range forecasts.

To test my predictions, I run a  $2 \times 2 \times 3$  full-factorial between-participants experiment. I manipulate the nature of the shareholder activism at two levels (*Profitability-focused* versus *E&S-focused*) and the CEO gender at two levels (*Male* versus *Female*). I also manipulate the disclosure of earnings guidance at three levels (*Point* versus *Range* versus *None*), which is included in a voluntary disclosure from the CEO issued in response to the shareholder activism.

As my main dependent variable, I measure participants' investment willingness, which is the average of two factors: investment attractiveness and investment likelihood (Elliott, Rennekamp, and White, 2015)

Consistent with my first hypothesis, I find that when earnings guidance disclosure is absent, investors show increased investment willingness for a male CEO, compared to a female CEO, when the activism is profitability focused. Under E&S-focused activism, investors behave the exact opposite way, where investors show increased investment willingness for a female CEO, compared to a male CEO. Additionally, I find that these differences are diminished in the presence of earnings guidance disclosure, consistent with the prediction that when managers' estimates are incongruent with a consensus analyst estimate, this will result in an attenuation of the gender-activism heuristic that is evident in the absence of earnings guidance disclosure. I also investigate potential effects of earnings guidance precision but find that range estimates are viewed no differently than point estimates, consistent with some prior research (Hirst, Koonce, and Miller, 1999). This suggests that the disclosure of both point and range estimates can serve as incongruent messages with the consensus analyst estimate.

Although shareholder activists hold small non-controlling interests, their activism is playing a larger role in operational decisions than ever before and research has been relatively silent on the impact of activism on other investors. This study addresses some of the SEC's concerns regarding the effect of shareholder activism on other financial players (Jackson, 2018) and does so by differentiating the potential effects of profitability-focused and E&S focused activism on non-professional investors. My study focuses on the judgments and decisions of nonprofessional investors for two main reasons. First, shareholder activists tend to magnify their influence through extensive financial media coverage, where their influence is felt indirectly

through the channels in which nonprofessional investors gather information (Losasso and Dellecker, 2018; Solomon, Soltis, and Sosyura, 2014). Second, as part of its mission, the SEC specifically expresses concern about protecting small retail investors (Jackson, 2018; SEC 2020). Thus, the influence of shareholder activism on these types of investors should be of interest to regulatory bodies.

This study also adds to the emerging stream of literature investigating gender differences in accounting settings (Fanning et al., 2021; Bloomfield et al., 2021; Friedman, 2019; Cook et al., 2020). Specifically, this study illustrates a specific scenario in which communal, feminine traits would be valued over male, agentic traits. While the interaction of shareholder activism and CEO gender is the specific match/mismatch setting chosen for this study, I would expect these findings to apply to other situations in which a match or mismatch between the manager and an external stimulus is perceived. Finally, this study builds on the literature examining deviations between management and consensus analyst estimates (Kothari, 2001; Feng and McVay 2010; Louis, Sun, and Urcan, 2013). Specifically, I find evidence consistent with a decrease in heuristic processing when these forecasts are incongruent, offering a behavioral explanation for the empirical finding that these deviations add value-relevant information for investors (Louis et al., 2013). As such, I identify incongruent messaging associated with earnings guidance forecasts as a relatively subtle motivation for investors to engage in effortful processing and avoid gender-based heuristic processing (c.f., Koch, D’Mello, and Sackett, 2015).

The remainder of this paper is outlined as follows. Chapter two provides some background as well as the theoretical framework behind my hypotheses and chapter three describes the research design. Chapter four discusses statistical tests and chapter five concludes.

## CHAPTER 2

### LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

#### **2.1.Shareholder Activism**

One of the primary missions of the Securities and Exchange Commission is to protect Main Street investors who rely on financial markets (SEC, 2020). Shareholder activism is becoming more commonplace within financial markets, leading regulators to express concern about the power these shareholder activists wield, and their impact on financial markets, corporate governance, and regulation (Jackson, 2018; Bogle, 2018). Recent research suggests that activism is on the rise, and a large empirical literature on the subject has emerged (see Brav et al., 2015, for a review). Between 2017 and 2020, shareholder activists launched over 2,800 campaigns worldwide, with twenty percent either being successful or ending in settlement with the targeted company (Mahabier and Atteh, 2020).<sup>1</sup>

Traditional, profitability-focused shareholder activism targets poorly performing firms in a fund's portfolio, and involves pressuring management for improved performance, with the end goal being to enhance shareholder value (Bethel, Liebeskind, and Opler, 1998; Gillan and Starks, 2000). This type of activism advocates changes to operations and is intended to create gains within the company, cut waste, and increase efficiencies and profitability. Indeed, recent research finds that the presence of shareholder activism often leads to changes in boards and audit committees (Adams and Neururer, 2020; Gow, Shin, and Srinivasan, 2016). Traditional activism often favors short-term profits to long-term success (e.g., cutting R&D, investments) and tends to have a negative impact on sustainability and diversity initiatives (Losasso and Dellecker, 2018). Despite this, it generally leads to improved financial performance and, as a result, the market

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<sup>1</sup> See Appendix A for quotes and examples.

response is typically positive following the announcement of a traditional, profitability-focused shareholder activism campaign (Brav et al., 2008; Klein and Zur, 2009; Bebchuk et al., 2015). However, not all shareholder activism campaigns are successful, and can sometimes even cause companies to fail (Surowiecki, 2013). This typically happens when restructuring efforts demand industry-specific knowledge that many money managers do not have.

Contrasted with this is environmental and social (“E&S”) focused shareholder activism, which typically focuses on company policies surrounding environmental and social responsibility issues (Grewal, Serafeim, and Yoon, 2016; Mohammed, 2018; Dimson, Karakas, and Li, 2015). Importantly, activism on E&S issues may or may not immediately lead to improved performance and positive stock reactions (Dimson et al., 2015; Grewal et al., 2016). This is consistent with recent experimental research that finds differential reactions to positive corporate social responsibility performance (Guiral et al., 2019). However, many activist investors view E&S-focused activism as equally (if not more) important for the bottom line as profitability-focused activism, just with a longer time horizon.<sup>2</sup> As such, sustainability proposals have become successful at garnering majority shareholder support in recent years. Starting in 2017, even large asset managers (e.g., BlackRock, Vanguard, Fidelity, and American Funds) have started voting for climate-related shareholder proposals, which has contributed to increased levels of support among other shareholders (Losasso and Dellecker, 2018). For the years 2017-2019, this type of activism accounted for a majority of all shareholder proposals filed, outpacing those related to governance and compensation (Westcott, 2019).

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<sup>2</sup> Nell Minnow, Vice President of ValueEdge Advisors and activist investor, is quoted regarding the importance of E&S-related activities: “Even if you think that fossil fuels are the greatest thing in the world, you’re not making any more of it. So, what is your plan going forward?” (Losasso and Dellecker, 2018).

Shareholder activism differs from a hostile takeover bid. Shareholder activists typically do not buy up controlling interest in a company, but rather the percentage of ownership typically stays between 1 and 5 percent (Brav et al., 2008). Activists instead magnify their influence through other channels, namely extensive financial media coverage and reliance on their influence as large institutional investors (Losasso and Dellecker, 2018). Thus, their influence is felt more indirectly than directly, with the potential to impact other players in the financial market, namely nonprofessional investors, whom regulators are concerned about protecting. This effect of activism on nonprofessional investors will be especially pronounced given that the channels that shareholder activists use to pressure management are often the same channels through which these investors gather much of their information about potential investments (Solomon, Soltes, and Sosyura, 2014).<sup>3</sup> Thus, while shareholder activists typically target company leadership (and not other investors), any residual effect on other investors' judgments represents an indirect effect of shareholder activism, which becomes the setting for my study.

## **2.2. Nature of Activism and CEO Match/Mismatch**

As discussed above, the nature of shareholder activism can differ between traditional, profitability-focused activism, to activism dealing mainly with E&S-related activities. The environmental uncertainty surrounding shareholder activism likely leads investors to evaluate characteristics of the CEO and assess the perceived appropriateness in addressing the activism (Waldman et al., 2001). One particularly salient characteristic of the CEO is gender, which is particularly important in light of recent research that finds female CEOs are significantly more likely to be targeted by shareholder activists, compared to male CEOs (Gupta et al. 2018; Francis

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<sup>3</sup> One recent example is the “Fearless Girl Campaign” enacted by State Street Global Advisors, in which the fund issued a press release publicly calling on the companies in its portfolio to increase the gender diversity of their boards. This was accompanied with placing a statue of a girl standing in front of the famous Charging Bull near Wall Street.

et al. 2021).<sup>4</sup> Francis et al. (2021) suggest that this is because female CEOs are more likely to be perceived as communal and collaborative, and thus easier targets for accomplishing activists' goals.

Shareholder activists hold a lot of power, especially given the large block of shares they typically hold (typically between 1 and 5 percent) and the power they wield with the financial media. If other investors feel like the CEO is incapable of addressing the demands put forth by activist investors, they are likely to show a decrease in investment willingness. On the other hand, companies can spin meeting demands from activists in a positive light (e.g., “We increased EPS; are a more sustainable company”), which can improve stock performance. Thus, investment willingness likely depends on the investor's perceptions of the CEO's ability to address the activism. I look to role congruity theory to predict whether investors would be more willing to invest in a company facing activism when there is a match between the CEO compared to when there is a mismatch.

Role congruity theory suggests that a group will be positively evaluated when its characteristics are perceived to be aligned with its typical social roles (Eagly and Diekmann, 2005; Okimoto and Brescoll, 2010). Gender impacts expectations surrounding behavior, wherein males have an expectation of being more aggressive, assertive, independent, self-confident, influential (Eagly and Johannesen-Schmidt, 2001; Brescoll, 2016). These qualities together describe “agentic” behavior. Traditional profitability-focused shareholder activism involves

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<sup>4</sup> Both Gupta et al. (2018) and Francis et al. (2021) are motivated from the “glass-cliff” literature (i.e., women are more likely to be appointed leaders when firms are performing poorly). To the extent that this is an actual practice, it represents an endogeneity concern that investors seeing a female CEO may perceive the company to be a worse performer, compared to when the CEO is male. However, the literature is mixed on this phenomenon (Ryan et al. 2016). In additional analyses, Gupta et al. (2018) find that prior year ROA is not related to whether a female is appointed CEO. Francis et al. (2021) continues to observe gender-related targeting from activists when controlling for pretransition performance.

cutting waste and increasing profitability. Therefore, investors are likely to perceive that addressing this type of activism requires decisive, aggressive, and assertive actions on the part of the CEO, which would lead to expectations that the CEO should be more agentic in nature. Agentic characteristics that are perceived with male CEOs are likely to be viewed as being in close alignment with the agentic goals surrounding the more profitability-focused shareholder activism (i.e., increasing earnings per share through cutting investments, decreasing excessive executive compensation, repurchasing outstanding shares), with a perceived match leading to a positive heuristic reaction, in terms of increased investment willingness compared to when a match does not exist (under a female CEO).

On the other hand, E&S-focused shareholder activism, given its focus on ethics and environmental/social responsibility, concerns itself with the welfare of others, making it more communal in nature, and is potentially perceived as requiring a CEO that is conscientious of the needs of others when responding to the activism. Communal qualities include kindness, sympathy, sensitivity, passivity, and nurturance, and having an overall concern for the welfare of others (Eagly and Johannessen-Schmidt, 2001). There exists a stereotypical expectation that females are more communal than males (Eagly and Johannessen-Schmidt, 2001). Role congruity theory suggests that the characteristics that are stereotypically perceived with female CEOs are likely to be viewed as more aligned with the communal goals surrounding the E&S-focused shareholder activism (e.g., having a gender diverse board, communal practices with environment and employees, supporting fair and humane working conditions in suppliers). As such, a match between a female CEO and E&S-focused activism is likely to result in a positive heuristic

reaction leading to increased investment willingness, compared to when such a match does not exist (under a male CEO).<sup>5</sup>

Taken together, in the presence of shareholder activism, investors are likely to assess the characteristics of upper management and determine whether they have the capacity to address the demands set forth by the activist. This assessment will lead to certain CEO characteristics becoming more salient and relevant (including gender). Gender stereotypes tend to have greater influence on judgments in ambiguous situations, where investors will link a manager's characteristics and decisions with firm outcomes (Heilman and Parks-Stamm, 2007). In the absence of earnings guidance disclosure, ambiguity surrounding the effects of the shareholder activism on the company would be greatest, which leads me to predict that investors would be susceptible to the pervasive bias associated with gender role stereotypes. This will lead to perceptions of match or mismatch; wherein male CEOs are seen as more of a match with profitability-focused activism and female CEOs are seen as more of a match with E&S-focused activism. I predict that investors will likely rely on this heuristic when determining their willingness to invest in a company being targeted by shareholder activism. Stated formally:

**H1a:** Under profitability-focused shareholder activism, investment willingness will be higher for a male compared to a female CEO, absent earnings guidance disclosure.

**H1b:** Under E&S-focused shareholder activism, investment willingness will be higher for a female compared to a male CEO, absent earnings guidance disclosure.

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<sup>5</sup> Importantly, my study focuses on non-professional investors' *expectations* of fit stemming from CEO gender. As such I remain agnostic as to whether a male or female CEO would in actuality be better able to address profitability or E&S related shareholder activism. In fact, prior research suggests that although people tend to expect stark differences between males and females with respect to agentic or communal traits, implicit variations tend to be much smaller (Vianello et al., 2013).

### 2.3. Disclosure

Recent activism research shows that shareholder activists can shape a firm's information environment and motivate a targeted company to increase voluntary disclosure (McDonough and Schoenfeld, 2021). This is consistent with previous research that has found when managers feel the threat of shareholder activism, they tend to disclose earnings guidance more frequently, with these disclosures becoming slightly more optimistic and precise (Bourveau and Schoenfeld, 2017). This increased disclosure may serve to reduce information asymmetries in the market, improve the relationship with existing shareholders, enhance/signal management's credibility and reputation, or deter potential litigation from activists related to nondisclosure. This is particularly pertinent for female CEOs, given the fact that they are more likely to be targeted by shareholder activists and are more likely to issue earnings guidance forecasts in other high-risk scenarios (Gupta et al., 2018; Glass and Cook, 2016; Cook et al., 2020). However, investors tend to view those disclosures as less credible, compared to similar disclosures issued by male CEOs (Cook et al., 2020). Additionally, recent experimental research shows that in the face of criticism, there are benefits to redirecting attention toward something positive (Cade, 2018). This makes the disclosure of positive earnings guidance a particularly relevant area to examine the impact of shareholder activism and CEO gender. There are at least two potential responses to an optimistic earnings guidance disclosure, leading to the development of alternative hypotheses, which I consider below.<sup>6</sup>

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<sup>6</sup> The use of multiple competing hypotheses was first introduced by Chamberlin in 1890 and has since become a powerful tool for scientific investigation, as it tends to mitigate some of the cognitive bias associated with generating hypotheses (Chamberlin, 1995; Betini, Avgar, and Fryxell, 2017). Its use is commonplace among archival accounting studies (e.g., Guenther and Trombley, 1994; Zhang, 2007; Badertscher, Collins, and Lys, 2012; Lewellen and Resutek, 2016; Chu, 2019), as well as some experimental accounting studies (e.g., Frank and Hoffman, 2014; Bergner, Peffer, and Ramsay, 2016; Simon, Smith, and Zimbelman, 2018).

### **2.3.1. Incongruent Messaging**

The first potential reaction to earnings guidance disclosure could arise when the forecast issued by management does not match the forecasts issued by analysts. This would lead to incongruent messaging, where a consensus analyst forecast is saying one thing and management is saying another. Management will often issue a lower forecast when they wish to temper analysts' expectations, whereas they will issue a higher forecast when they wish to signal confidence and optimism for the future. The latter situation tends to happen when managers are faced with the threat of shareholder activism (Bourveau and Schoenfield, 2017). In either case, unless the forecasts are identical, the forecast issued by management will be perceived to be incongruent with a consensus analyst forecast.

Importantly for this study, prior research has found that incongruent messaging can attenuate the tendency to engage in heuristic processing (Maheswaran and Chaiken, 1991; Todorov, Chaiken, and Henderson, 2002). This is because when there is a motivation to invest more time in information processing, people tend to pay attention to a wider range of potentially useful information and engage in deeper processing of the information, which has the potential to reduce or eliminate the influence of cognitive biases (Kunda, 1990; Lerner and Tetlock, 1999). This tendency has been shown to decrease gender-based heuristic processing in other settings. Specifically, decision makers make less biased decisions when they are held accountable for their decisions, when they believe their decisions have consequences that affect others, or when they are informed of equity norms (Koch et al., 2015).

As it relates to the gender-activism heuristic (predicted in the absence of earnings guidance disclosure), the disclosure of incongruent guidance could motivate investors to engage in systematic processing of the disclosure and attenuate the effect of any heuristic processing

(e.g., the gender-activism heuristic that exists absent earnings guidance disclosure).<sup>7</sup> This would be consistent with (and offer a potential behavioral explanation for) recent archival research that finds value-relevant information in analysts' deviations from management guidance (Louis et al., 2013). Stated formally:

**H2a:** In the presence of earnings guidance disclosure, differences in investment willingness due to CEO gender will diminish (for both profitability-focused and E&S-focused activism), compared to when earnings guidance disclosure is absent.

### 2.3.2. Attribution

The second potential reaction to earnings guidance disclosure could result due to increased attributions of credibility, particularly when a perceived gender-activism match exists. As discussed previously, when managers feel the threat of shareholder activism, they tend to disclose earnings guidance more frequently, with these disclosures becoming slightly more optimistic and precise (Bourveau and Schoenfield, 2017). One potential reason for this increased guidance is an effort by management to signal their credibility and reputation to the market to stave off the shareholder activism. Indeed, prior experimental research has found that increased forthcomingness of a disclosure increases perceptions of manager credibility, at least in the short term (Mercer, 2005). However, the effect of disclosure on perceptions of credibility could be impacted when there is a salient external source to which investors can attribute the increased disclosure (e.g., shareholder activism).

The Fundamental Attribution Error suggests that people tend to attribute behavior to dispositional factors, rather than considering external, situational factors (Ross, 1977). It is

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<sup>7</sup> Ultimately, any disclosure given is intended for all of a company's investors and not just the activist shareholders. Given the potential financial cost associated with a commitment to E&S activities, it would not be unexpected for a CEO to include an earnings guidance figure in such a disclosure. Additionally, from a theoretical perspective, the testing of the incongruent messaging hypothesis requires the comparison of two separate messages (i.e., forecasts). Given the tendency for managers and analysts to issue separate earnings guidance figures, this increases the likelihood that incongruent messaging will occur.

possible that this tendency is more likely to occur when the perceived characteristics of the CEO (e.g., communal versus agentic) match the nature of the activism. Under those conditions, investors would be less likely to consider situational factors when CEOs increase disclosure, but instead attribute increased disclosure to dispositional factors (e.g., CEO credibility), which would lead to higher perceptions of credibility when CEOs “match” the activism. This would be consistent with results found in Mercer (2005), which finds that increased disclosure increases perceptions of CEO credibility. On the other hand, when a “mismatch” occurs, it is possible that investors would be more likely to consider situational factors when CEOs increase disclosure and be more likely to attribute increased disclosure to these factors (e.g., shareholder activism), which would lead to lower perceptions of credibility when CEOs do not match with the activism. Thus, the disclosure of earnings guidance would lead to a magnification of the gender-activism heuristic that exists in the absence of earnings guidance disclosure (through perceptions of manager credibility), to the extent that incongruent messaging does not attenuate heuristic processing. Stated formally:

**H2b:** In the presence of earnings guidance disclosure, differences in investment willingness due to CEO gender will be larger (for both profitability-focused and E&S-focused activism), compared to when earnings guidance disclosure is absent.

#### **2.4. Precision of Disclosure**

Recent trends in shareholder activism and the relative impact on voluntary disclosure make it an interesting setting to examine the differential effects of earnings guidance precision on investor judgments. Managers have discretion when it comes to the precision of the forecast, which is evidenced through the sizeable amount of variation seen in the characteristics of earnings guidance (King, Pownall, and Waymire, 1990). Forecasts can take the form of numerical point, range, minimum or maximum estimates, with most companies reporting either

point or range forecasts (Baginski, Hassell, and Kimbrough, 2004; Hutton, Miller, and Skinner, 2003). There are mixed findings with regard to the effect of earnings guidance precision on investor judgments, which has led to calls to study the interaction among antecedents, characteristics, and consequences of forecast form in order to establish potential boundary conditions (Hirst, Koonce, and Venkataraman, 2008; Du, 2009; Du and Budescu, 2005; Han and Tan, 2007; Han and Tan, 2010).

Early analytical research deduced that the stock price change at the time of an announcement was shown to be a function of the relative importance of the information, with this effect decreasing as the precision of preannouncement information increased (Kim and Verrecchia, 1991). Baginski, Conrad, and Hassell (1993) test this theory and finds that more precise forecasts are more informative compared to other less precise types of forecasts. In a more recent study, more precise forecasts lead to a greater revision of security prices and financial analyst consensus earnings-per-share forecasts (Baginski, Hassell, and Wieland, 2011). However, other studies find no significant effect of forecast form on the stock-price reaction (Pownall, Wasley, and Waymire, 1993; Atiase et al., 2005). Recent experimental research suggests that investors' expectations surrounding the forecast play an important role in the reaction to different forecast forms. Specifically, investors prefer point estimates when the environment is more certain, and range estimates when the environment is more uncertain (Rupar, 2017; Du et al., 2011). The effect of disclosure precision is likely impacted depending on whether disclosure attenuates (consistent with the incongruent messaging theory) or magnifies (consistent with the attribution theory) the gender-activism heuristic. I discuss both alternatives below.

#### **2.4.1. Incongruent Messaging – Precision of Disclosure**

Under the incongruent messaging hypothesis, it is possible that managers' use of point or range disclosure could impact the extent to which they perceive the messaging between forecasts to be incongruent. For example, point estimates could create strong perceptions of incongruence with analyst forecasts and attenuate investors' use of heuristic processing when evaluating a company facing shareholder activism (when the point estimate differs from a consensus analyst forecast). A range estimate, however, could potentially contain the analyst forecast, and therefore be perceived as somewhat more congruent than a point estimate, even if the midpoint of this range is slightly above or below the consensus analyst forecast. This potentially more congruent messaging could lead to more heuristic processing of range forecast disclosures, similar to when no earnings guidance is disclosed. Additionally, prior research shows that ambiguity of a message is a determinant to heuristic processing (Bohner, Chaiken, and Hunyadi, 1994; Chaiken and Maheswaren, 1994). Therefore, if a range estimate is perceived as more ambiguous than a point estimate, this could motivate heuristic processing, with investors relying on the gender-activism match heuristic, similar to when earnings guidance disclosure is absent.

On the other hand, there is evidence to suggest that investors who are provided with a range estimate are likely to use the midpoint of that range, in which case it would be viewed similarly to a point estimate (Hirst et al., 1999). This would suggest that even range estimates whose midpoints differ from consensus analyst forecasts could be perceived as incongruent, therefore motivating systematic processing.

#### **2.4.2. Attribution – Precision of Disclosure**

Under the attribution hypothesis, when a match between the CEO and the activism exists, perceptions of environmental uncertainty will likely decrease. In other words, perceiving the

CEO as a match for addressing the shareholder activism should lead to fewer feelings of uncertainty surrounding the company's ability to address the activist's demands. The relatively lower environmental uncertainty associated with a "matched" CEO could lead to point estimates being perceived as more appropriate, compared to range estimates (Rupar 2017; Du et al., 2011). Given the tendency to attribute disclosure to dispositional factors when there is a perceived match, these perceptions of appropriateness could in turn, impact investors' perceptions of CEO credibility, with a "matched" CEO disclosing a point estimate being assessed as more credible compared that same CEO disclosing a range estimate. The opposite is likely true for when the CEO is perceived to be less of a match for the activism, which would likely lead to perceptions of higher environmental uncertainty, wherein range estimates would be viewed as more appropriate compared to point estimates. Thus, a "mismatched" CEO disclosing a range estimate would be assessed as more credible compared to that same CEO disclosing a point estimate. These perceptions of credibility would then influence investment willingness.

Alternatively, it is possible that the gender of the CEO impacts expectations of disclosure precision, irrespective of the nature of the activism. That is, the stereotypical expectations of either communal or agentic behavior could impact whether investors expect a more precise disclosure from sources perceived as stereotypically more agentic (e.g., male CEOs) and a less precise disclosure from sources perceived to be stereotypically less agentic (e.g., female CEOs). Given the uncertainty surrounding the effects of disclosure precision, I posit the following research question:

**RQ:** What is the effect of earnings guidance forecast precision (point versus range estimate) on investment willingness in the presence of shareholder activism?

## CHAPTER 3

### METHOD

#### 3.1. Participants

I recruited 367 professional MBA students at a large university in the United States as participants in this study.<sup>8</sup> This is consistent with prior research that uses these types of participants as proxies for reasonably well-informed individual investors (Tan and Yu, 2018; Tan, Wang, and Yoo, 2019; Jackson, Wang, and Piercey, 2021). These participants had on average 15.0 years of professional work experience, and had taken 2.46 accounting courses, 1.83 finance courses, and 2.25 economics courses. Eighty percent of participants had prior investment experience, while 96 percent had either invested, or planned to do so in the future, providing support that the participants are suitable for the study. Prior investment experience and future intentions to invest do not significantly impact my findings (all  $p$ 's  $\geq 0.615$ ), similar to prior research (Fanning, Agoglia, and Piercey 2015; Jackson et al., 2021). Fifty-six percent were male.<sup>9</sup>

#### 3.2. Experimental Design

Participants assumed the role of an investor evaluating a company in the telecommunications industry, after reading some background financial information about the company, receiving information regarding shareholder activism, and reading the subsequent disclosure by management. To test my predictions, I run a  $2 \times 2 \times 3$  full-factorial between-

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<sup>8</sup> This study and all related pilot studies were approved by the Institutional Review Board for Human Participants (IRB) at the university at which this study was administered and completed.

<sup>9</sup> Given the nature of the manipulation of *CEO Gender*, it is possible that *Participant Gender* has an effect on *Investment Willingness*. To address this possibility, I first verify that *Participant Gender* was successfully randomized and find no differences in proportions across conditions ( $\chi^2 = 0.830$ ). Additionally, I find that *Participant Gender* does not significantly impact my findings ( $F = 0.886$ ;  $p = 0.586$ ). Together, this suggests that (1) *Participant Gender* is successfully randomized across conditions, and (2) does not appear to have an effect on *Investment Willingness* in this setting.

participants design.<sup>10</sup> I manipulate the nature of the *Shareholder Activism* at two levels (*Profitability-focused* versus *E&S-focused*), the *CEO Gender* at two levels (*Male* versus *Female*), and *Earnings Guidance Disclosure* at three levels (*Point* versus *Range* versus *None*).

### 3.3. Experimental Task

Participants began the task by assuming the role of a prospective investor assessing a fictional company (“Zetha Inc.”) as a potential investment. Participants received background information about the company, as well as its major products and sources of competition. After this, participants read about the board of directors’ recent appointment of the current CEO, who was described as having twelve years of executive experience in the industry. This is the first instance of my manipulation of *CEO Gender*, which varied whether the CEO was female or male. To maximize the differences associated with gender, I included a picture of the CEO along with their introduction as either Deborah (*Female*) or Peter (*Male*) Schmidt.<sup>11</sup> Additionally, any discussion of the *Male (Female)* CEO includes the pronouns “*he/him/his*” (“*she/her/hers*”). Participants then read summary financial information, including the consensus analyst forecast for the upcoming quarter (8.5 cents). To maximize any effect associated with earnings guidance disclosure, investors were told that the company typically does not issue its own quarterly earnings forecast.

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<sup>10</sup> An experiment is advantageous here because firstly, although it is becoming more common, shareholder activism is still a relatively infrequent phenomenon. Secondly, there are many fewer female CEOs than male CEOs. In fact, as of May 2020, there were only 37 female CEOs in the Fortune 500. Together these make my research question difficult to study using archival methods. Finally, as with most experiments, the benefit of random assignment allows us to hold all else constant and infer causality.

<sup>11</sup> This operational decision increases the salience of the CEO’s gender to participants. It is also consistent with the practice of companies to include pictures of their CEOs along with firm disclosures (Asay, Libby, and Rennekamp, 2018). The names are chosen based on an analysis from LinkedIn, that finds the most popular first name for male and female CEOs is Peter and Deborah, respectively (Rogati, 2011). I also pre-tested the pictures to make sure they differed on communal/agentive qualities, but did not differ with respect to age, credibility, or attractiveness (see section 4.1.1).

At this point in the study, I presented participants with information about shareholder activism, along with the nature of the activists' demands, and the potential consequences that could occur if the company failed to fulfill the demands. Specifically, the activist hedge fund claimed that if the CEO could meet their demands, it could improve public perception of the company and drive up the share price. The hedge fund warned that they would use any tool available to guarantee that the CEO takes action to meet their demands, including using proxy voting power to vote against her/his appointment as CEO, talking negatively about the company with the media, and even liquidating all of its holdings in the company. Participants were told that these measures collectively would likely have a negative impact on the share price of Zetha Inc.<sup>12</sup> This is the location of my manipulation of *Shareholder Activism*, which varied the nature of the demands of the activist hedge fund between either "increasing total earnings per share" (*Profitability-focused*) or "becoming more environmentally and socially conscious" (*E&S-focused*). Specifically, the fund lays out three demands within each condition (*Profitability-focused*: (1) Sell off certain slow-growth investment and other assets, (2) decrease excessive compensation of senior management and board members, and (3) begin program to repurchase outstanding shares; *E&S-focused*: (1) Increased use of sustainable manufacturing processes, (2) increased gender diversity of board members, and (3) exclusive purchasing from suppliers who ensure safe, fair, and healthy working conditions).<sup>13</sup> Appendix C outlines this manipulation.

I then presented participants with a statement issued by management a few days after receiving the hedge funds' demands, in which the CEO referenced a plan of action in response to the activism. Additionally, toward the end of this statement, I reminded participants about the

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<sup>12</sup> These design features were adapted from real-world activist campaigns.

<sup>13</sup> These types of initiatives are among the most common for each type of activism (Ertimur, Ferri, and Muslu, 2011; Ferri and Sandino, 2009).

consensus analyst EPS forecast and included my manipulation of *Earnings Guidance Disclosure*, in which management either disclosed or did not disclose an earnings guidance figure. This figure was slightly more optimistic than the consensus analyst forecast but varied in its level of precision (*Point* versus *Range* estimate). Specifically, under *Point (Range) Disclosure*, participants saw the following as the last line in the CEO's statement: "Taking this under consideration, we are predicting the forecast for third quarter earnings per share to be *approximately 9.5 cents (between 6.5 cents and 12.5 cents)*."<sup>14</sup> This line was blank when no earnings guidance was disclosed. A picture of the CEO was included in this disclosure (the same picture from before), along with the CEO's name, to reinforce the perception of *CEO Gender* at the time participants read the disclosure. After reading through the CEO's disclosure, participants are reminded about the consensus analyst estimate. Appendix D outlines this manipulation.

After reading through the case materials, I asked participants to make certain assessments of the company. Specifically, for my main dependent variable of *Investment Willingness*, participants rated the *Attractiveness* of an investment in the company, as well as their *Likelihood of Investment* in the company (Elliott et al. 2015). The instrument also gathered participants' perceptions of *CEO Credibility* (as measured through ratings of *Competence* and *Trustworthiness*) as well as participants' own estimates regarding future earnings per share (*EPS*). Finally, the instrument gathered other various post-experimental questions and demographic information about the participants.

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<sup>14</sup> This operational decision was made given the fact that (1) in the presence of shareholder activism increased disclosure tends to be slightly more positive (Bourveau and Schoenfield, 2017), (2) there are benefits to redirecting attention to positive information in the face of criticism (Cade 2018), and (3) investors usually view good-news forecasts with more skepticism than bad ones (Hirst et al., 2008).

## CHAPTER 4

### RESULTS

#### 4.1. Manipulation/Attention Checks

##### 4.1.1. CEO Gender – Pilot Studies

I predict that the *Male* CEO will be viewed as possessing more agentic characteristics, compared to the *Female* CEO, and that the *Female* CEO will be viewed as possessing more communal characteristics. To verify that my manipulation of *CEO Gender* captures this difference, I run a between-participants pilot study wherein I asked 50 Amazon MTurk participants (25 per cell) to evaluate the pictures of either the male or female CEO on a number of dimensions, absent any other information. The use of this out-of-sample study offers additional support for the theoretical mechanism outlined earlier, reduces the plausibility of alternative explanations, and avoids the use of obtrusive scale measures contaminating participants' responses to my main dependent variable in the main experiment (Asay et al., 2020).

I measure the perceived *Agentic* and *Communal* characteristics of the CEO, using an adapted scale from prior research (Rosette and Tost, 2010; Abele, 2003; Bakan, 1966; Fiske and Stevens, 1993). Specifically, I ask participants to assess the CEO on the following *Agentic* (*Communal*) qualities: *Confident*, *Skillful*, *Competitive*, *Powerful*, and *Capable* (*Warm*, *Good-Natured*, *Friendly*, *Considerate*, *Caring*, and *Understanding*). All items are measured on a 7-point scale with “0” labelled “Not at all” and “6” labelled “Extremely.” *Agentic* measures are all correlated and load onto one factor, explaining 76.2 percent of the variance (All Pearson Correlations > 0.564,  $p < 0.001$ , Cronbach's alpha = 0.919). Therefore, I average the five measures to capture a single measure of *Agenticism*. Additionally, *Communal* measures are all

correlated and load onto one factor, explaining 83.3 percent of the variance (All Pearson Correlations  $> 0.701$ ,  $p < 0.001$ , Cronbach's alpha = 0.960). Therefore, I average these six measures to capture a single measure of *Communality*. When testing the effectiveness of the manipulation of *CEO Gender*, I find that the *Female* CEO is evaluated higher in terms of *Communality* (4.57 versus 3.93;  $p = 0.024$ )<sup>15</sup>, and that the *Male* CEO is evaluated higher in terms of *Agenticism* (4.70 versus 4.27;  $p = 0.064$ ). These results offer support for the successful manipulation of *CEO Gender*.

To reduce the plausibility of alternative explanations, I also ask participants to evaluate the CEO on *Credibility*, *Attractiveness*, and *Old*. Following prior research, I measure *Credibility* by asking participants to assess the CEO on two items: *Competence* and *Trustworthiness* (Rennekamp, 2012; Koonce and Lipe, 2010). The two measures are correlated and load onto one factor, explaining 78.7 percent of the variance (Pearson Correlation = 0.573,  $p < 0.001$ , Cronbach's alpha = 0.726). Therefore, I average the two measures to capture a single measure of *Credibility*. Both *Attractiveness* and *Old* are measured as single-item factors. As with the previous items, all items are measured on 7-point scales with "0" labelled "Not at all" and "10" labelled "Extremely." I find evidence that my manipulation of *CEO Gender* does not impact other perceptions of the CEO. Specifically, I find no significant differences in *Credibility* (M: 4.44 versus F: 4.60;  $p = 0.579$ ), *Attractiveness* (M: 3.80 versus F: 3.32;  $p = 0.193$ ) or *Old* (M: 2.92 versus F: 3.28;  $p = 0.349$ ). Together, these results show that the manipulation of *CEO Gender* effectively manipulates the construct of interest, while holding other perceptions of the CEOs constant.

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<sup>15</sup> All  $p$ -values are one-tailed unless otherwise specified.

Additionally, I run a second between-participants pilot study with 59 MBA student participants. On an eleven-point scale, I ask participants to rate how masculine or feminine the CEO seems (with “-5” labelled “Feminine”, “+5” labelled “Masculine”, and “0” labelled “Neither Masculine nor Feminine”) and find that the *Male* CEO appears significantly more masculine than the *Female* CEO (M: 3.03; F: -1.55,  $p < 0.001$ ). I also ask investors to record how familiar each CEO seemed, on an eleven-point scale (with “-5” labelled “Very unfamiliar”, “+5” labelled “Very familiar”, and “0” labelled “Neither Familiar nor Unfamiliar”). I find that familiarity scores for both the male and female CEO are significantly greater than the midpoint of five (M: 1.72; F: 2.14, both  $p$ 's  $< 0.001$  two-tailed, untabulated). However, neither CEO is perceived to be more familiar than the other ( $p = 0.390$ ).

#### **4.1.2. Attention Check**

Within the main study, I ask a series of recall questions to verify participants paid attention to the instrument. Regarding *CEO Gender*, I find that 98.9 percent of participants correctly recall the gender of the CEO (as either male or female). Regarding *Shareholder Activism*, I find that 90.9 percent of participants correctly recall the nature of the shareholder activists' demands (as either *increasing total earnings per share (EPS)* or *becoming more environmentally and socially conscious*). Finally, for conditions that received earnings guidance, I find that 86.7 percent of participants correctly recall the *Earnings Guidance Disclosure* as either a point or range estimate.<sup>16</sup> Additionally, I record perceived ambiguity in the forecast, as

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<sup>16</sup> The rate of failure does not differ for either condition of *CEO Gender* (*Male*: 1/182, *Female*: 3/181;  $\chi^2 = 0.317$ ). However, regarding *Shareholder Activism*, I find that participants seeing *E&S-focused* activism were more likely to incorrectly recall the nature of the activism (*Profitability-focused*: 10/176, *E&S-focused*: 26/155;  $\chi^2 = 0.004$ ). Additionally, within conditions where earnings guidance was disclosed, I find that participants were more likely to incorrectly recall the precision of the disclosure in the point condition (*Point*: 29/94, *Range*: 3/114;  $\chi^2 < 0.001$ ). I also analyzed the data including only participants who correctly answered every attention check question. This method of exclusion is less equitable to conditions that received earnings guidance given the increased number of attention check questions and the subsequent increased possibility of failure. However, the results do not change inferentially.

measured on an 11-point scale, with “0” labelled “extremely low ambiguity” and “10” labelled “extremely high ambiguity”. I find that participants seeing a *Range Disclosure* assess the forecast as significantly more ambiguous as compared to participants seeing a *Point Disclosure* (7.44 versus 5.09;  $p < 0.001$ ). In general, I find evidence that participants paid attention to the instrument.

## 4.2. Hypothesis Testing

### 4.2.1. Test of H1a and H1b

To test my first set of hypotheses, I examine conditions where the ambiguity surrounding the effect of shareholder activism on the future performance of the company would be the greatest, and therefore most likely to foster gender-based heuristic processing. Therefore, I limit my analysis to those conditions where earnings guidance disclosure is absent. H1a states that in the presence of *Profitability-focused Activism*, *Investment Willingness* will be higher in the presence of a *Male* CEO than a *Female* CEO. H1b predicts the opposite effect where, under *E&S-focused Activism*, *Investment Willingness* will be higher in the presence of a *Female* CEO than a *Male* CEO. I ask participants to rate (1) the *Attractiveness* of an investment in the target company on a scale from zero to ten (“0” is labeled “Very Unattractive”; “10” is labeled “Very Attractive”), and (2) their *Likelihood of Investment*, on a scale from zero to ten (“0” is labeled “Very Unlikely”; “10” is labeled “Very Likely”). These two measures are highly correlated and load onto one factor, explaining 91.7 percent of the variance (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach’s alpha = 0.906). I therefore use the average of these two measures to capture *Investment Willingness*. Panel A of Table 1 presents the means and standard deviations by condition.

In Panel B of Table 1, I run a two-way analysis of variance in which the dependent variable is *Investment Willingness*, and the independent variables are *CEO Gender* (*Male* versus *Female*) and *Shareholder Activism* (*Profitability-focused* versus *E&S-focused*). I present descriptive statistics and results of this ANOVA and graph the results in Figure 1. Importantly for this study, I find a significant interaction of *CEO Gender*  $\times$  *Shareholder Activism* ( $F_{1,126} = 8.703, p = 0.004$  two-tailed), offering initial support for H1a and H1b.

Panel C of Table 1 reports the results the simple effects of *CEO Gender* under each type of activism. These simple-effects tests provide additional support for my predictions. Specifically, for *Profitability-focused Activism*, *Investment Willingness* is marginally higher when there is a *Male* CEO compared to when there is a *Female* CEO (4.594 versus 3.850;  $t = 1.453; p = 0.074$ ). For *E&S-focused Activism*, *Investment Willingness* is higher when there is a *Female* CEO compared to when there is a *Male* CEO (5.984 versus 4.591;  $t = 2.778; p = 0.003$ ).<sup>17</sup> These results, together with the significant interaction of *CEO Gender*  $\times$  *Shareholder Activism*, offer support for H1a and H1b, suggesting the existence of a gender-activism heuristic when earnings guidance disclosure is absent.

#### **4.2.2. Test of H2a and H2b**

H2a and H2b present competing hypotheses regarding the effect of earnings guidance disclosure on the gender-activism heuristic established in H1a and H1b. To address these competing hypotheses, I examine the interactive effect of *CEO Gender* (*Male* versus *Female*)

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<sup>17</sup> While not explicitly predicted, I also examine the simple effects of *Shareholder Activism* under each condition of *CEO Gender*, for completeness. For *Female* CEO, *Investment Willingness* is higher under *E&S-focused Activism* compared to *Profitability-focused Activism* ( $p < 0.001$ , two-tailed, untabulated). For *Male* CEO, there is no statistical difference in *Investment Willingness* between *Profitability-focused Activism* and *E&S-focused Activism* ( $p = 0.995$  two-tailed, untabulated). One potential explanation for this finding is the likelihood that female CEOs are more susceptible to gender-related biases compared to male CEOs (Bloomfield et al. 2021).

and *Shareholder Activism (Profitability-focused versus E&S-focused)* with *Earnings Guidance Disclosure (Present versus Absent)*, collapsing both *Point* and *Range* conditions into one condition of *Disclosure Present*.<sup>18</sup> I present the means and standard deviations for *Investment Willingness* in Panel A of Table 2 and graph the results in Figure 2. In Panel B of Table 2, I run a three-way analysis of variance. I find that the three-way interaction of *CEO Gender*  $\times$  *Earnings Guidance Disclosure*  $\times$  *Shareholder Activism* is significant ( $F_{1,359} = 5.025, p = 0.026$  two-tailed), as well as the two-way interaction of *CEO Gender*  $\times$  *Shareholder Activism* ( $F_{1,359} = 6.705, p = 0.010$  two-tailed). I find that the two-way interaction of *Earnings Guidance Disclosure*  $\times$  *Shareholder Activism* is marginally significant ( $F_{1,359} = 2.869, p = 0.091$  two-tailed).<sup>19</sup>

H2a states that any effect of a gender-activism heuristic would be attenuated in the presence of earnings guidance disclosure, whereas H2b states that any effect would be magnified in the presence of disclosure. Panels C and D of Table 2 report the tests of H2a and H2b. Specifically, I run two-way analyses of variance for participants either seeing *Profitability-focused* or *E&S-focused Activism* in which the dependent variable is *Investment Willingness*, and the independent variables are *CEO Gender (Male versus Female)* and *Earnings Guidance Disclosure (Present versus Absent)*. While I do not find a significant interaction of *CEO Gender*  $\times$  *Earnings Guidance Disclosure* under *Profitability-focused Activism* ( $F_{1,355} = 1.059, p = 0.301$  two-tailed), I do find that the simple effect of gender (H1a) disappears when *Earnings Guidance Disclosure* is present (4.896 versus 4.803;  $t = 0.265; p = 0.791$  two-tailed). That is, the gender-

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<sup>18</sup> *Point* and *Range* conditions are tabulated separately in Table 3 and graphed in Figure 3.

<sup>19</sup> In addition to my main dependent variable, I ask participants to estimate their own forecast of the company's next quarter earnings per share (EPS). This forecast is measured on a slider scale from 3.5 cents per share to 13.5 cents per share, with \$0.10 increments and the midpoint being 8.5 cents per share (labelled "consensus analyst forecast"). I verify that *Investment Willingness* is significantly correlated with investors' EPS forecasts. I find a significant positive relationship between *Investment Willingness* and their EPS forecast (0.177;  $p < 0.001$ ). In addition, I find that these measures are correlated (Pearson correlation: 0.404;  $p < 0.001$ ).

activism heuristic effect that exists in the absence of earnings guidance disclosure appears to disappear once a CEO discloses optimistic earnings guidance that is incongruent with analyst forecasts. For participants seeing *E&S-focused Activism*, I find a significant interaction effect ( $F_{1,355} = 4.579$ ;  $p = 0.033$  two-tailed) and, as with *Profitability-focused Activism*, I find that the simple effect of gender (H1b) disappears when *Earnings Guidance Disclosure* is present (5.197 versus 5.136;  $t = 0.134$ ;  $p = 0.893$  two-tailed). These results offer some support for H2a, and no support for H2b, with the evidence supporting an attenuation of the gender-activism heuristic in the presence of *Earnings Guidance Disclosure*.<sup>20</sup>

Follow-up simple-effects tests provide additional insight. Specifically, regarding the effects of disclosure under *Profitability-focused Activism*, I find that *Earnings Guidance Disclosure* does not increase *Investment Willingness* within the *Male* CEO condition (4.594 versus 4.897;  $t = 0.694$ ;  $p = 0.489$  two-tailed) but does increase *Investment Willingness* in the *Female* CEO condition (3.850 versus 4.803;  $t = 2.122$ ;  $p = 0.034$  two-tailed). Additionally, under *E&S-focused Activism*, I find that *Earnings Guidance Disclosure* does not significantly increase *Investment Willingness* for the *Male* CEO condition (4.591 versus 5.136;  $t = 1.230$ ;  $p = 0.220$  two-tailed) but does decrease *Investment Willingness* in the *Female* CEO condition (5.984 versus

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<sup>20</sup> H2b suggests that any changes in *Investment Willingness* would be a function of changes in perceptions of CEO credibility. In untabulated analyses, I examine perceptions of CEO credibility and do not find any significant interaction effects with respect to *CEO Gender*, *Earnings Guidance Disclosure*, and *Shareholder Activism* (all  $p$ 's > 0.322 two-tailed), offering further evidence against H2b. I do, however, find a significant main effect for *CEO Gender*, where female CEOs are viewed as more credible compared to male CEOs, irrespective of *Earnings Guidance Disclosure* and *Shareholder Activism* ( $p = 0.003$ ). Additionally, for participants who saw earnings guidance disclosure, I record participants' attributions for the disclosure. Specifically, on three different scales, I ask participants to record their agreement/disagreement with the reason of the disclosure being either "because he/she is a competent CEO," "because he/she is a trustworthy CEO," or "because of the threat of shareholder activism", where 0 = "Strongly Disagree", 10 = "Strongly Agree" and 5 = "Neither Agree nor Disagree". The attributions of trustworthiness and competence were strongly correlated (Pearson Correlation = 0.76,  $p < 0.001$ ; Eigenvalue = 1.76 explains 88 percent of variance; Cronbach's Alpha = 0.86). As such, I average the scores to form an attribution of CEO credibility. In untabulated analyses, I find no significant interaction, main, or simple effects of *CEO Gender* and *Shareholder Activism* on either measure of attribution, offering further evidence against H2b.

5.197;  $t = 1.792$ ;  $p = 0.037$  two-tailed). These results suggest that disclosure has a stronger impact on perceptions of female CEOs than male CEOs.

One potential explanation for this finding is the fact that in male-dominated fields, when females exhibit agentic behavior, they are evaluated more positively compared to females who exhibit communal behavior (Bloomfield et al., 2021). As it relates to this study, to the extent that disclosure of earnings guidance is perceived as agentic behavior, this would lead to differences in investor reactions, depending on the type of activism present. Under this logic, disclosure from a female CEO would be viewed more positively under more agentic activism (*Profitability-focused*) and more negatively under more communal activism (*E&S-focused*), compared to when earnings guidance is not disclosed. For male CEOs, who are already viewed as agentic (regardless of disclosure), disclosure (or the absence thereof) is less likely to impact *Investment Willingness* compared to female CEOs. Another potential explanation for this disclosure effect stems from the relative disparity of females at the CEO level. Specifically, agentic behavior from a female CEO could lead to increased investor focus on the disclosure, compared to her characteristics (e.g., gender). It is possible that there would not be a comparable level of scrutiny on a male CEO's disclosure, given the male-dominated nature of CEO positions. Both explanations are consistent with my findings.

#### **4.2.3. Precision - Test of RQ**

To answer my research question and examine the effects of the precision of *Earnings Guidance Disclosure*, I compare participants' *Investment Willingness* when either a *Point Disclosure* or *Range Disclosure* is given, excluding *Disclosure Absent* conditions. In untabulated analyses, I find no significant interaction, main, or simple effects between *Point Disclosure* and *Range Disclosure* (all  $p$ 's  $> 0.394$  two-tailed). This finding persists under both *Profitability-*

*focused Activism* and *E&S-focused Activism*. One possible explanation for this finding is that the investors who were presented with range disclosures focused on the midpoint of the range, as in Hirst et al. (1999). Alternatively, it is possible that the effect of incongruence in this setting was sufficiently strong that it outweighed any effects due to the precision of the forecast. As it relates to this study, I find initial evidence that both types of disclosure are potential sources of incongruent messaging (when compared to a consensus analyst forecast) and may attenuate the gender-activism heuristic that exists in *Disclosure Absent* conditions.

## CHAPTER 5

### CONCLUSION

Through an experiment with nonprofessional investors, I study the interactive effects of CEO gender, shareholder activism, and earnings guidance disclosure. I find evidence of a gender-activism heuristic such that under ambiguous situations (e.g., when earnings guidance disclosure is absent), investors are more likely to determine their investment willingness by relying on a perceived match between the CEO and the type of activism, where a match is perceived between male CEOs and more agentic activism (“profitability-focused”), and between female CEOs and more communal activism (“E&S-focused”). Additionally, I find that this effect is attenuated in the presence of earnings guidance disclosure that is incongruent with consensus analyst forecasts, with disclosure largely impacting investment willingness when there is a female CEO, compared to when there is a male CEO. Finally, I find no differences between point and range estimates and find that both are capable of attenuating the gender-activism heuristic that is observed when earnings guidance disclosure is absent.

This study has both theoretical and practical implications. Specifically, this study draws on role congruity theory and illustrates a scenario in which communal, feminine traits would be valued over male, agentic traits, and as such contributes to the emerging stream of literature investigating gender differences in accounting settings (Fanning et al., 2019; Bloomfield et al., 2021; Friedman, 2019; Cook et al., 2020). More importantly, compared to previous gender studies looking at role congruity, I identify incongruent messaging as a relatively subtle motivation for investors to engage in effortful processing and avoid gender-based heuristic processing, as compared to more overt motivations such as accountability, or having participants consider consequences/equity norms (Koch et al., 2015). Additionally, the findings of this study

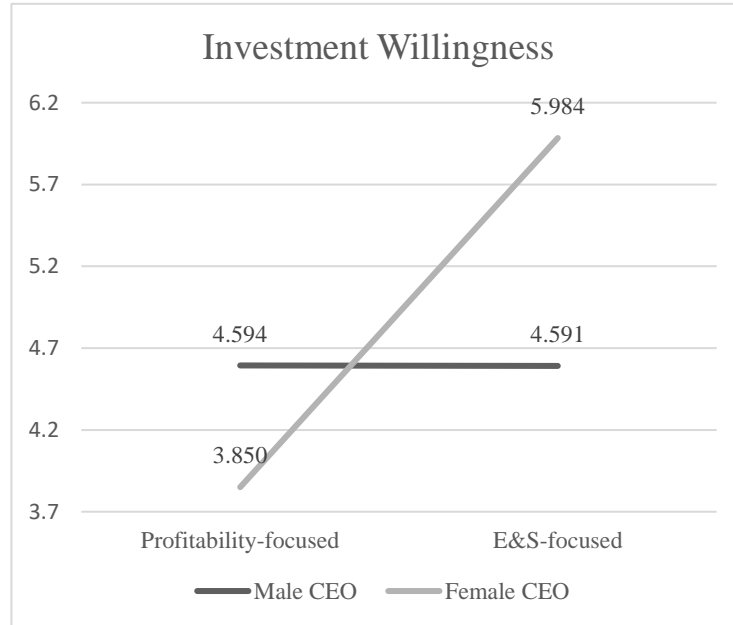
are consistent with (and offer a behavioral explanation for) recent archival research that finds analysts' deviations from management guidance offer value-relevant information to investors (Louis et al., 2013). Further, while my study uses a shareholder activism setting given the increased attention on E&S activities, and regulatory interest surrounding activism, my findings likely extend to the general crisis management literature, to the extent that a crisis is perceived to be more agentic or communal in nature (Pearson and Clair, 1998). In terms of practical implications, this study is informative to companies who are debating issuing earnings guidance disclosure in the presence of shareholder activism, particularly when the CEO is female. Finally, this study should prove informative to regulators who have expressed concerns about the effect of shareholder activism on other financial players, particularly nonprofessional investors for whom the SEC has expressed concern about protecting (Jackson, 2018; SEC, 2020). Specifically, it differentiates the potential effects of profitability-focused and E&S-focused activism on prospective investors.

While informative, this study does have limitations. It is possible that the practical contribution of my findings is limited by the small percentage of female CEOs in the real world. However, if current trends continue, this percentage will continue to rise in the future, increasing the relevance of the results to practice. Additionally, anecdotally, there exist female CEOs at prominent companies (e.g., Carol Tome at UPS, Mary Barra at General Motors). Furthermore, it is possible that the effect observed for nonprofessional investors does not persist with more professional investors. However, this is not a foregone conclusion as there is ample empirical evidence of heuristic processing among professional investors (e.g., Lakonishok, Shleifer, and Vishny 1992; Grinblatt, Titman, and Wermers, 1995; Welch 2000).

This study presents opportunities for future research. While I examine the perceived match created by CEO gender and the type of shareholder activism present, future studies could examine if, holding gender constant (e.g., two male CEOs), perceptions of communality and agenticism continue to differ and create perceptions of match/mismatch. Second, given the increasing prevalence of E&S-related activities, it is possible that, in the future, investors will view E&S activities as a normal course of business and, therefore, more agentic rather than communal. Additionally, this study focuses on one type of financial disclosure, namely optimistic earnings guidance. It is unknown whether the attenuation of the gender-activism heuristic would persist under other types of financial disclosure, specifically ones in which all messaging is congruent, or ones in which the incongruence is caused by pessimistic forecasts from management. Further, while my pilot data suggests a relatively high perception of familiarity with both CEOs, future research could investigate whether the gender-activism heuristic I document in H1 is jointly affected by investors' perceptions of familiarity/closeness with the CEO. Finally, this study examines a situation in which the CEO makes a public statement addressing the activism indirectly. It is unclear whether these results would persist when the response is more cooperative in nature, dealing with the activists directly, rather than in public spheres. My findings suggest that, as instances of shareholder activism continue to increase, further examination of shareholder activism and its effect on financial markets is needed.

**Figure 1**

**H1 Results: Gender-Activism Heuristic – Absent Earnings Guidance**



**Fig. 1** Investment Willingness

Figure 1 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. In this figure, I examine *Investment Willingness* in conditions where *Earnings Guidance Disclosure* is absent. I measure participants' *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with "0" labeled "very unattractive" and "10" labeled "very attractive", and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with "0" labeled "very unlikely" and "10" labeled "very likely". The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach's alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*.

Figure 2

H2 Results: Attenuation of Gender-Activism Heuristic

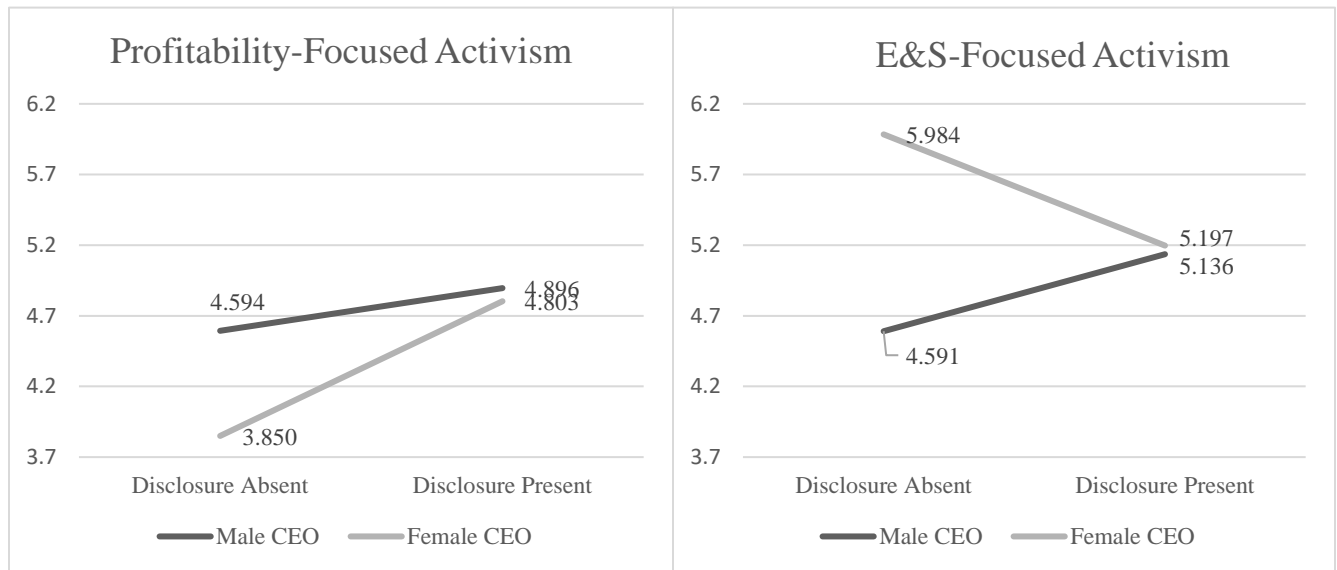
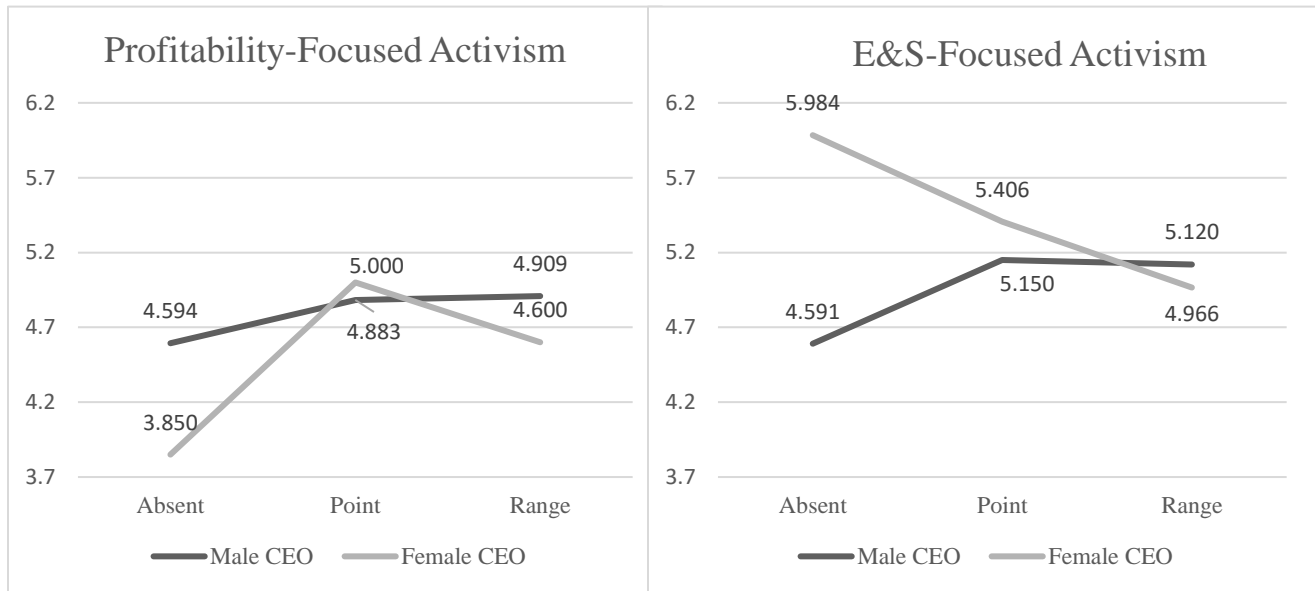


Fig. 2 Investment Willingness

Figure 2 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C for examples). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. Finally, *Earnings Guidance Disclosure* is manipulated at three levels: (1) *Absent* – Management does not issue an earnings forecast, (2) *Point* – Management estimates the earnings forecast “to be approximately 9.5 cents”, and (3) *Range* – Management estimates the earnings forecast “to be between 6.5 cents and 12.5 cents”. In this figure, I collapse *Point* and *Range* conditions into one condition of “*Disclosure Present*”. I measure participants’ *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with “0” labeled “very unattractive” and “10” labeled “very attractive”, and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with “0” labeled “very unlikely” and “10” labeled “very likely”. The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach’s alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*.

**Figure 3**

**H2/RQ Results: Attenuation of Gender-Activism Heuristic (Point & Range)**



**Fig. 3** Investment Willingness

Figure 3 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C for examples). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. Finally, *Earnings Guidance Disclosure* is manipulated at three levels: (1) *Absent* – Management does not issue an earnings forecast, (2) *Point* – Management estimates the earnings forecast “to be approximately 9.5 cents”, and (3) *Range* – Management estimates the earnings forecast “to be between 6.5 cents and 12.5 cents”. I measure participants’ *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with “0” labeled “very unattractive” and “10” labeled “very attractive”, and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with “0” labeled “very unlikely” and “10” labeled “very likely”. The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach’s alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*.

**Table 1****H1 Results: Gender-Activism Heuristic – Absent Earnings Guidance****PANEL A: Investment Willingness - mean (standard error) [sample size]**

	Profitability-Focused Activism	E&S-Focused Activism
Male	A: 4.594 (2.073) [32]	C: 4.591 (2.448) [33]
Female	B: 3.850 (1.667) [30]	D: 5.984 (1.851) [32]

**PANEL B: Two-way ANOVA**

Source	SS	df	MS	F	<i>p</i> -value
CEO Gender	3.347	1	3.347	0.819	0.366
Shareholder Activism	36.020	1	36.020	8.813	<b>0.003</b>
CEO Gender × Activism	36.212	1	36.212	8.860	<b>0.003</b>
Error	511.763	123	4.161		
Total	586.398	126			

**PANEL C: Simple Effects**

Source	df	<i>t</i>	<i>p</i> -value
[H1a] Simple Effect of Gender under Profitability-focused activism: ( <i>A</i> > <i>B</i> )	1	1.448	<b>0.075</b>
[H1b] Simple Effect of Gender under E&S-focused activism: ( <i>D</i> > <i>C</i> )	1	2.778	<b>0.003</b>

Table 1 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C for examples). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. In this table, I examine *Investment Willingness* in conditions where *Earnings Guidance Disclosure* is absent. I measure participants' *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with “0” labeled “very unattractive” and “10” labeled “very attractive”, and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with “0” labeled “very unlikely” and “10” labeled “very likely”. The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach's alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*. In Panel B, all *p*-values are two-tailed. In Panel C, all *p*-values are one-tailed given the directional predictions.

**Table 2**

**H2 Results: Attenuation of Gender-Activism Heuristic**

**PANEL A: Investment Willingness - mean (standard error) [sample size]**

	CEO Gender	Earnings Guidance Disclosure	
		Absent	Present
Profitability-Focused Activism	Male	A: 4.594 (2.073) [32]	C: 4.897 (1.982) [63]
	Female	B: 3.850 (1.667) [30]	D: 4.803 (2.126) [61]
E&S-Focused Activism	Male	E: 4.591 (2.448) [33]	G: 5.136 (1.665) [55]
	Female	F: 5.984 (1.851) [32]	H: 5.197 (2.161) [61]

**PANEL B: Three-way ANOVA**

Source	SS	df	MS	F	<i>p</i> -value
CEO Gender	1.970	1	1.970	0.486	0.486
Earnings Guidance Disclosure	5.330	1	5.330	1.314	0.252
Shareholder Activism	39.603	1	39.603	9.762	<b>0.002</b>
CEO Gender × Disclosure	2.417	1	2.417	0.596	0.441
CEO Gender × Activism	27.201	1	27.201	6.705	<b>0.010</b>
Disclosure × Activism	11.637	1	11.637	2.869	<b>0.091</b>
CEO Gender × Disclosure × Activism	20.383	1	20.383	5.025	<b>0.026</b>
Error	1456.349	359	4.057		
Total	1542.037	366			

**Table 2 (Cont.)**

<b>PANEL C: Planned Contrasts – Profitability-focused Activism</b>			
Source	df	<i>t</i>	<i>p</i> -value
Interaction of Gender and Disclosure: $((A - B) > (D - C))$	1	1.076	0.300
Simple Effect of Gender under Disclosure: $(C > D)$	1	0.259	0.796
Simple Effect of Disclosure for Male CEOs: $(C > A)$	1	0.694	0.489
Simple Effect of Disclosure for Female CEOs: $(D > B)$	1	2.122	<b>0.034</b>
Main Effect of Disclosure: $((C+D)/2) > (A+B)/2)$	1	2.004	<b>0.046</b>
Main Effect of Gender: $((A+C)/2 > (B+D)/2))$	1	1.336	0.182
<b>PANEL D: Planned Contrasts – E&amp;S-focused Activism</b>			
Source	df	<i>t</i>	<i>p</i> -value
Interaction of Gender and Disclosure: $((F - E) > (G - H))$	1	2.135	<b>0.033</b>
Simple Effect of Gender under Disclosure: $(H > G)$	1	0.161	0.872
Simple Effect of Disclosure for Male CEOs: $(G > E)$	1	1.230	0.220
Simple Effect of Disclosure for Female CEOs: $(F > H)$	1	1.792	<b>0.074</b>
Main Effect of Disclosure: $((G+H)/2) > (E+F)/2)$	1	0.387	0.698
Main Effect of Gender: $((F+H)/2 > (E+G)/2))$	1	2.328	<b>0.020</b>

Table 2 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C for examples). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. Finally, *Earnings Guidance Disclosure* is manipulated at three levels: (1) *Absent* – Management does not issue an earnings forecast, (2) *Point* – Management estimates the earnings forecast “to be approximately 9.5 cents”, and (3) *Range* – Management estimates the earnings forecast “to be between 6.5 cents and 12.5 cents”. In this table, I collapse *Point* and *Range* conditions into one condition of “*Disclosure Present*”. I measure participants’ *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with “0” labeled “very unattractive” and “10” labeled “very attractive”, and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with “0” labeled “very unlikely” and “10” labeled “very likely”. The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach’s alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*. All *p*-values are two-tailed.

**Table 3**

**H2/RQ Results: Attenuation of Gender-Activism Heuristic**

**PANEL A: Investment Willingness - mean (standard error) [sample size]**

	CEO Gender	Earnings Guidance Disclosure		
		Absent	Point	Range
Profitability-Focused Activism	Male	A: 4.594 (2.073) [32]	C: 4.883 (1.959) [30]	E: 4.909 (2.033) [33]
	Female	B: 3.850 (1.667) [30]	D: 5.000 (2.062) [31]	F: 4.600 (2.207) [30]
E&S-Focused Activism	Male	G: 4.591 (2.448) [33]	I: 5.150 (2.022) [30]	K: 5.120 (1.139) [25]
	Female	H: 5.984 (1.851) [32]	J: 5.406 (2.464) [32]	L: 4.966 (1.783) [29]

**PANEL B: Three-way ANOVA**

Source	SS	df	MS	F	<i>p</i> -value
CEO Gender	0.792	1	0.792	0.194	0.660
Earnings Guidance Disclosure	7.949	2	3.974	0.972	0.379
Shareholder Activism	28.979	1	28.979	7.090	<b>0.008</b>
CEO Gender × Disclosure	5.021	2	2.510	0.614	0.542
CEO Gender × Activism	14.988	1	14.988	3.667	<b>0.056</b>
Disclosure × Activism	11.768	2	5.884	1.440	0.238
CEO Gender × Disclosure × Activism	20.511	2	10.255	2.509	<b>0.083</b>
Error	1450.931	355	4.087		
Total	1542.037	366			

**Table 3 (Cont.)**

<b>PANEL C: Planned Contrast – Profitability-focused Activism</b>			
Source	df	<i>t</i>	<i>p</i> -value
Interaction of Gender and Disclosure: $((A - B) > ((D + F)/2 - (C + E)/2))$	1	1.029	0.304
Simple Effect of Gender under Disclosure: $((C+E)/2 > (D+F)/2)$	1	0.265	0.791
Simple Effect of Disclosure for Male CEOs: $((C+E)/2 > A)$	1	0.689	0.491
Simple Effect of Disclosure for Female CEOs: $((D+F)/2 > B)$	1	2.107	<b>0.036</b>
Main Effect of Disclosure: $((C+D+E+F)/4) > (A+B)/2)$	1	1.990	<b>0.047</b>
Main Effect of Gender: $((A+C+E)/3 > (B+D+F)/3))$	1	1.052	0.294
<b>PANEL D: Planned Contrasts – E&amp;S-focused Activism</b>			
Source	df	<i>t</i>	<i>p</i> -value
Interaction of Gender and Disclosure: $((H - G) > ((I + K)/2 - (J + L)/2))$	1	2.140	<b>0.033</b>
Simple Effect of Gender under Disclosure: $((J+L)/2 > (I+K)/2))$	1	0.134	0.893
Simple Effect of Disclosure for Male CEOs: $((I+K)/2 > G)$	1	1.220	0.223
Simple Effect of Disclosure for Female CEOs: $((J+L)/2 > H)$	1	1.809	<b>0.071</b>
Main Effect of Disclosure: $((I+J+K+L)/4) > (G+H)/2)$	1	0.405	0.685
Main Effect of Gender: $((G+I+K)/3 > (H+J+L)/3))$	1	1.650	<b>0.100</b>

Table 3 reports the standard means for *Investment Willingness*, by condition. For the manipulation of *Shareholder Activism*, I create two conditions as follows: (1) *Profitability-focused* – in which the nature of the demands is to increase total earnings per share and (2) *E&S-focused* – in which the nature of the demands is to become more environmentally and socially conscious (See Appendix C for examples). For the manipulation of *CEO Gender*, I vary whether the CEO is male or female, and include a picture of the CEO. Finally, *Earnings Guidance Disclosure* is manipulated at three levels: (1) *Absent* – Management does not issue an earnings forecast, (2) *Point* – Management estimates the earnings forecast “to be approximately 9.5 cents”, and (3) *Range* – Management estimates the earnings forecast “to be between 6.5 cents and 12.5 cents”. I measure participants’ *Investment Willingness* by asking them to indicate (1) the *Attractiveness* of an investment in the company, on an 11-point scale, with “0” labeled “very unattractive” and “10” labeled “very attractive”, and (2) the *Likelihood of Investment* in the company, on an 11-point scale, with “0” labeled “very unlikely” and “10” labeled “very likely”. The two measures are highly correlated (Pearson Correlation = 0.833,  $p < 0.001$ , Cronbach’s alpha = 0.906), and thus I use the average of these two measures as *Investment Willingness*. All *p*-values are two-tailed.

## APPENDIX A

### REAL-WORLD EXAMPLES OF SHAREHOLDER ACTIVISM

#### Quotes from Industry/Regulators about Shareholder Activism

“In my judgment, we’re at a pivotal moment in American financial history when corporate elections are increasingly decided by a handful of exceptionally powerful index fund managers, and what’s clear to me is that the SEC’s current rules leave investors largely in the dark about how institutional investors are wielding that considerable authority.” – Robert Jackson Jr.: Commissioner, SEC (12/6/2018)

“If historical trends continue, a handful of giant institutional investors will one day hold voting control of virtually every large U.S. corporation. Public Policy cannot ignore this growing dominance, and consider its impact on the financial markets, corporate governance, and regulation. These will be major issues in the coming era.” – Jack Bogle: Founder, Vanguard (11/29/2018)

#### Examples of Shareholder Activism:

##### *Corporate Governance-Related:*

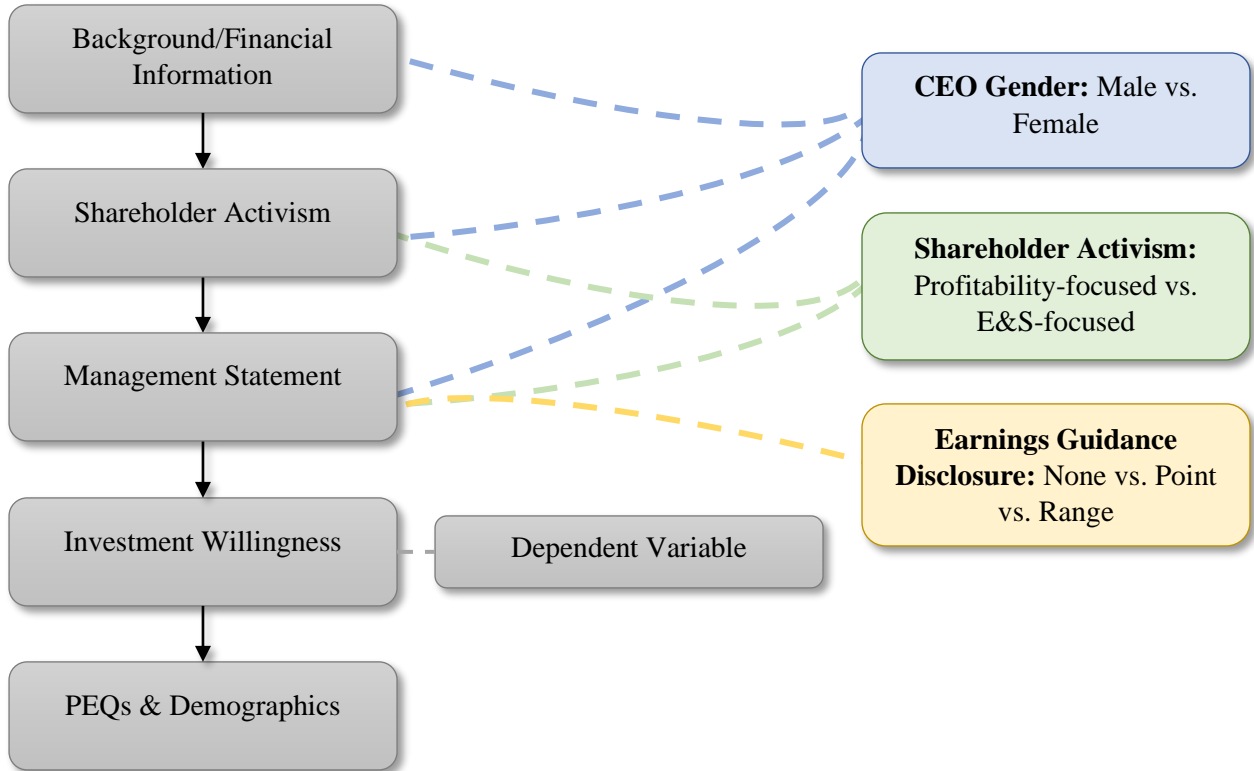
- Activist fund **Triam Fund** launched a campaign against **GE** (with only 1.5% of GE shares). Ousted the CEO of **GE** off the board after 16 years.
- Activist fund **Third Point** took a 1.3% stake in **Nestle**. Third Point founder Daniel Loeb demanded major strategic changes in the company’s product portfolio, including a share buyback program, and selling its large holding in **Loreal**. **Nestle** gave in to most of the demands, setting itself an operating margin target for the first time and accelerating a share buyback program.
- Activist fund **Elliot Advisers** put pressure on Dutch company **AkzoNobel**, who agreed to appoint three new directors to its board.
- **Active Ownership Capital** managed to replace top management at drug-maker company **Stada**.

##### *Sustainability-Related:*

- ‘**Aiming for A**’ investor coalition filed resolutions at **BP** and **Shell** asking the companies to disclose more information on how they were adapting to low-carbon transition. Resolutions became binding after more than 98% of shareholders voted in support.
- In 2017, for the first time, some of the largest asset managers (**BlackRock**, **Vanguard**, **Fidelity**, **American Funds**) began voting for climate-related shareholder proposals, contributing to historic levels of support.

## APPENDIX B

### EXPERIMENTAL FLOW



## APPENDIX C

### MANIPULATION OF SHAREHOLDER ACTIVISM

(E&S-focused Activism vs. Profitability-focused Activism) (Male vs. Female)

As of recently, Zetha Inc. faces a threat of shareholder activism. Main Street Global Advisors, a large activist hedge fund that holds 5% of the company's outstanding shares, announced that they would begin targeting CEO Deborah/Peter Schmidt to enact certain changes to [become more environmentally and socially conscious/increase total earnings per share]. Listed below are the fund's demands:

- 1) Increased use of sustainable manufacturing processes
- 2) Increased gender diversity of board members
- 3) Exclusive purchasing from suppliers who ensure safe, fair, and healthy working conditions

- 1) Sell off certain slow-growth investments and other assets
- 2) Decrease excessive compensation of senior management and board members
- 3) Begin program to repurchase outstanding shares

Main Street Global Advisors claims that if the CEO can meet these demands, it could improve public perception of the company and drive up the share price. Main Street warned that they would use any tool available to guarantee that Deborah/Peter Schmidt takes action to meet these demands, including using proxy voting power to vote against her/his appointment as CEO, talking negatively about the company with the media, and even liquidating all of its holdings in the company. These measures collectively would likely have a negative impact on the share price of Zetha Inc.

## APPENDIX D

### MANIPULATION OF EARNINGS GUIDANCE DISCLOSURE

(Earnings Guidance Absent vs. **Point Estimate** vs. **Range Estimate**) (**Male** vs. **Female**) (**E&S-focused Activism** vs. **Profitability-focused Activism**)

A few days later, Zetha Inc. CEO **Deborah/Peter** Schmidt issued the following statement:



*Since my appointment as CEO, we have been focused on leveraging our skills and expertise to make Zetha Inc. a leader in the telecommunications industry.*

*We are revising a plan of action to address the competitive conditions facing the company but remain*

*confident in our ability to lead the market in delivering high-quality telecommunication devices.*

*We are committed to making [Zetha Inc. a more sustainable, diverse company that promotes humane working conditions in our suppliers./Zetha Inc. a more streamlined company that does what it takes to increase earnings per share.]*

*Taking this under consideration, we are predicting the forecast for third quarter earnings per share to be (between 6.5 cents and 12.5 cents/approximately 9.5 cents).*

Recall that the consensus analyst EPS forecast is:

Consensus Analyst EPS Forecast for Q3 2020      8.5 ¢

## APPENDIX E

### CONSENT FORM – ALL CONDITIONS

#### Online Survey Consent Form

You are being invited to participate in a research study titled “Investor Decision-Making”. This study is being done by Scott Jackson, Chris Agoglia and Dave Piercey from the University of Massachusetts Amherst. You were selected to participate in this study because of your enrollment in a graduate level business course.

**Why are we doing this research study?**

The purpose of this research study is to better understand the behavior of investors.

**Who can participate in this research study?**

Any student enrolled in a graduate level business course is eligible to participate in this study. There are no other exclusion criteria specific to this study. Please do not take this survey on a mobile device.

**What will I be asked to do and how much time will it take?**

If you agree to take part in this study, you will be asked to complete an online survey. In this exercise, you will assume the role of a general investor and be given a hypothetical case to make an investment judgment. Please be as honest and realistic as possible. We limit the amount of information presented, which decreases the amount of time required to complete the study. Please read each item carefully. The survey should take about 15 minutes to complete.

**Will being in this research study help me in any way?**

You may not directly benefit from the findings of this research; however, we hope that your participation in the study may help management of firms to better understand decision-making behaviors of investors, as well as help individual investors to gain a better knowledge of their own behaviors as a group.

**What are my risks of being in this research study?**

There are no foreseeable risks involved in participating in this study other than those encountered in daily online computer use. While we believe there are minimal risks associated with this research study, a risk of breach of confidentiality always exists and we have taken the steps to minimize this risk as outlined in a section below.

**How will my personal information be protected?**

To the best of our ability your answers in this study will remain confidential. We will minimize any risks by requesting contact information in a follow-up survey immediately following completion of the main study. This information will in no way be tied to your responses and will only be used to assign course credit upon completion of the study. The follow-up study will request your name, UMass email address, and name of professor. Once course credit is assigned, personal information will be deleted. Responses to the main study will be kept strictly confidential and will be analyzed after being aggregated with responses from other respondents.

**Will I be given any money or other compensation for being in this research study?**

By participating in the study, you will be eligible for course credit. You will not receive payment for this study. If you are earning extra credit through your participation, please understand that this is not the only way to do so. You may contact your instructor who will offer you an appropriate alternative activity. Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question that you choose. However, if you do not complete the survey, you will not receive the agreed upon course credit.

**What happens if I say yes, but I change my mind later?**

You do not have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you do not want to participate. However, if you do not complete the survey, you will not receive the agreed upon course credit.

**Who can I talk to if I have questions?**

If you have questions about this project or if you have a research-related problem, you may contact the researcher(s), Scott Jackson at scjackson@umass.edu, Chris Agoglia at (413) 545-5582, or Dave Piercey at (413) 545-5585. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

By clicking “I agree” below you are indicating that you are at least 18 years old, have read this consent form and agree to participate in this research study. Please print a copy of this page for your records.

I Agree

I Do Not Agree



**APPENDIX F**  
**EXPERIMENTAL CASE:**  
**MAIN STUDY**

## Exhibit 1

### Instructions

#### GENERAL INSTRUCTIONS

You are to assume the role of a general investor, evaluating a publicly traded U.S. company (Zetha Inc.).

This case material provides company background, financial summaries, and other pertinent information. You will be asked to make investment decisions using the information contained within the case materials.

**It is important to read and complete the case materials in order. Please DO NOT skip questions.** Although you will not have all of the information available that you would typically have when you make real-life judgments and decisions, it is important that you make the judgments required in the case to the best of your abilities given the limited information set.

**We ask that you spend reasonable time and effort on this survey.** Please try to avoid distractions while completing the survey.

**To get full credit you must complete the survey.** Your name will only be used to decide your extra credit, and your survey responses will not be shared with your course instructor.

**We appreciate your full attention and concentration while completing this task.**



## Exhibit 2.1

### Company Background – Male CEO

#### BUSINESS

Zetha Inc. competes in the telecommunications industry, in which its principal products are wireless communication devices. The principal customers for these products are equipment manufacturers for cellular telephones and direct broadcast satellites. The company faces competition from divisions of larger, more diversified organizations in the electronics industry with substantially greater assets and access to larger financial resources, as well as from many smaller specialized companies.

#### NEW MANAGEMENT

Recently, the board appointed Peter Schmidt to be the new CEO of Zetha Inc. He has 12 years of executive experience in the telecommunications industry.



## Exhibit 2.2

### Company Background – Female CEO

#### BUSINESS

Zetha Inc. competes in the telecommunications industry, in which its principal products are wireless communication devices. The principal customers for these products are equipment manufacturers for cellular telephones and direct broadcast satellites. The company faces competition from divisions of larger, more diversified organizations in the electronics industry with substantially greater assets and access to larger financial resources, as well as from many smaller specialized companies.

#### NEW MANAGEMENT

Recently, the board appointed Deborah Schmidt to be the new CEO of Zetha Inc. She has 12 years of executive experience in the telecommunications industry.



### Exhibit 3

#### Financial Data

*Listed below is historical quarterly financial data for Zetha Inc. for the last six quarters, as well as the consensus analyst forecast for Q3 2020 Earnings per share (EPS). Typically, Zetha Inc. does not issue their own quarterly earnings forecast.*

#### **ZETHA INC. QUARTERLY FINANCIAL DATA**

	Q1	Q2	Q3	Q4	Year
2020 Earnings per share (EPS)	9.3 ¢	8.4 ¢			
2019 Earnings per share (EPS)	10.8 ¢	12.3 ¢	8.2 ¢	8.7 ¢	40.0 ¢

Consensus Analyst EPS Forecast for Q3 2020: **8.5 ¢**



## Exhibit 4

### Comprehension Check – EPS Forecast

What is the Consensus Analyst EPS Forecast for Q3 2020?

¢



Exhibit 5  
Manipulation of Shareholder Activism

See Appendix B

Exhibit 6.1

Comprehension Check – Nature of Activism – Male CEO

What are Main Street Global Advisors' demands for Zetha Inc.'s CEO, Peter Schmidt?



Exhibit 6.2

Comprehension Check – Nature of Activism – Female CEO

What are Main Street Global Advisors' demands for Zetha Inc.'s CEO, Deborah Schmidt?



Exhibit 7  
Manipulation of Earnings Guidance Disclosure

See Appendix C

## Exhibit 8

### Dependent Variable – Investment Willingness

Considering the information in the case materials, how **attractive** is an investment in Zetha Inc.?

Very Unattractive				Neither Attractive nor Unattractive				Very Attractive			
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Considering the information in the case materials, how likely are you to **invest** in Zetha Inc.'s stock?

Absolutely Unlikely to invest				Neutral				Absolutely Likely to invest			
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	



Exhibit 9.1

Credibility – Male CEO

Do you think Zetha's CEO Peter Schmidt is **competent**?

Not at all competent											Extremely competent
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you think Zetha's CEO Peter Schmidt is **trustworthy**?

Not at all trustworthy											Extremely trustworthy
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Exhibit 9.2

Credibility – Female CEO

Do you think Zetha's CEO Deborah Schmidt is **competent**?

Not at all competent											Extremely competent
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Do you think Zetha's CEO Deborah Schmidt is **trustworthy**?

Not at all trustworthy											Extremely trustworthy
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Exhibit 10.1

Earnings Guidance Attribution – Male CEO

Only present in Earnings Guidance Disclosure Conditions (Point/Range)

Why do you think Peter Schmidt disclosed earnings guidance?

He disclosed guidance because he is a competent CEO.

Strongly Disagree				Neither Agree nor Disagree				Strongly Agree			
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

He disclosed guidance because he is a trustworthy CEO.

Strongly Disagree				Neither Agree nor Disagree				Strongly Agree			
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

He disclosed guidance because of the threat of shareholder activism.

Strongly Disagree				Neither Agree nor Disagree				Strongly Agree			
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Some other reason (explain):



Exhibit 10.2

Earnings Guidance Attribution – Female CEO

Only present in Earnings Guidance Disclosure Conditions (Point/Range)

Why do you think Deborah Schmidt disclosed earnings guidance?

She disclosed guidance because she is a competent CEO.

Strongly Disagree					Neither Agree nor Disagree					Strongly Agree
0	1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

She disclosed guidance because she is a trustworthy CEO.

Strongly Disagree					Neither Agree nor Disagree					Strongly Agree
0	1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

She disclosed guidance because of the threat of shareholder activism.

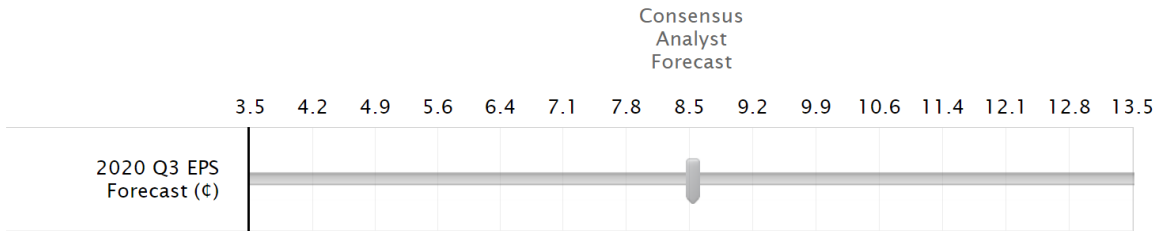
Strongly Disagree					Neither Agree nor Disagree					Strongly Agree
0	1	2	3	4	5	6	7	8	9	10
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Some other reason (explain):



Exhibit 11  
EPS Forecast

Given the company's recent disclosure, what is your EPS forecast for Zetha Inc. for Q3 2020?



How confident are you of the accuracy of the above forecast?

Extremely low confidence

Extremely high confidence

0 1 2 3 4 5 6 7 8 9 10



Exhibit 12  
Attention Check

*Please answer the following questions based on your understanding of Zetha Inc.*

Main Street Global Advisors called on the company to \_\_\_\_

- become more environmentally and socially conscious
- increase total earnings per share (EPS)

What was the gender of the company's CEO?

- Male
- Female

What was the earnings guidance forecast issued by Zetha Inc.?

- 9.5 cents
- Between 6.5 and 12.5 cents

Please assess the amount of ambiguity in the earnings guidance issued by the company's management

Extremely low ambiguity											Extremely high ambiguity
0	1	2	3	4	5	6	7	8	9	10	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## Exhibit 13

### Demographics

#### Participant Background

In order to better analyze our survey results, we need your background information as important inputs. We will carefully keep the information confidential.

How old are you?

Years

Please indicate your gender:

- Male
- Female
- Non-binary or Other
- Prefer not to say



Exhibit 14  
Demographics (cont.)

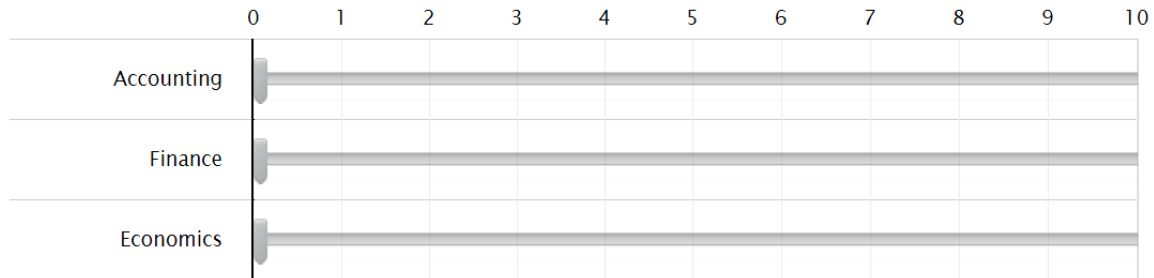
How many years of working experience (including part-time) do you have?

Year(s)

Are you currently employed?

- Yes
- No

Please indicate the number of Accounting, Finance, and Economics courses that you have taken:



Do you have experience investing in stocks, mutual funds, or other investments in a personal investment account, a 401(k), IRA, or other retirement plan, or in other types of investment accounts?

- Yes
- No

Do you plan to invest in stocks, mutual funds, or other investments in a personal investment account, a 401(k), IRA, or other retirement plan, or in other types of investment account?

- Yes
- No



## Exhibit 15

### Debrief

This case, while based on financial information and disclosures from real companies, is hypothetical and was created for the purposes of this research study. The names of the companies and the CEO presented in this case are fictional and their images were used for the purposes of this research study. Your performance on this case in no way reflects your investing ability or standing as a student.



Exhibit 16  
Response Independence

Have you completed either this survey or a very similar survey in another class here at UMass?

- Yes
- No

**Please note:** If so, you will **still receive** extra credit in **each course** that you completed a survey. However, letting us know that you have already completed the survey will allow the researchers to exclude all but your first survey responses for research purposes.



## Exhibit 17

### Conclusion

Thank you for your participation. The next page will redirect you to a survey in which you can input your contact information. This information is needed only to provide extra credit in the course through which you are participating in this study. As mentioned previously, your responses to the survey questions will not be associated with your name, and your survey responses will also not be shared with your course instructor.



**APPENDIX G**  
**EXPERIMENTAL CASE:**  
**PILOT STUDY EXCERPTS**

Exhibit 1

Pilot 1 Excerpt

Male CEO Evaluations: Agentic, Communal, Credible, Attractive, Old



To what extent do you feel this CEO is:

	Not at all						Extremely	
	0	1	2	3	4	5	6	
Competent	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Capable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Warm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Skillful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Good-natured	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Attractive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Understanding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Caring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Competitive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Friendly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Powerful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Considerate	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Old	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Trustworthy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

Exhibit 2

Pilot 1 Excerpt

Female CEO Evaluations: Agentic, Communal, Credible, Attractive, Old



To what extent do you feel this CEO is:

	Not at all			Extremely			
	0	1	2	3	4	5	6
<b>Understanding</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Skillful</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Caring</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Powerful</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Competitive</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Confident</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Considerate</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Friendly</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Capable</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Old</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Competent</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Good-natured</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Warm</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Trustworthy</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<b>Attractive</b>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### Exhibit 3

### Pilot 2 Excerpt

### Male CEO Evaluations: Familiarity, Masculinity/Femininity, & Miscellaneous



How artistic does CEO Peter Schmidt seem?

Unartistic				Neither Artistic nor Unartistic				Artistic			
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

How healthy does CEO Peter Schmidt seem?

Unhealthy				Neither Healthy nor Unhealthy				Healthy			
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

How familiar does CEO Peter Schmidt seem?

Unfamiliar				Neither Familiar nor Unfamiliar				Familiar			
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

How active does CEO Peter Schmidt seem?

Inactive				Neither Active nor Inactive				Active			
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	

How masculine or feminine does CEO Peter Schmidt seem?

Feminine				Neither Masculine nor Feminine				Masculine			
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	



# Exhibit 4

## Pilot 2 Excerpt

### Female CEO Evaluations: Familiarity, Masculinity/Femininity, & Miscellaneous



How artistic does CEO Deborah Schmidt seem?

Unartistic					Neither Artistic nor Unartistic						Artistic
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How healthy does CEO Deborah Schmidt seem?

Unhealthy					Neither Healthy nor Unhealthy						Healthy
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How familiar does CEO Deborah Schmidt seem?

Unfamiliar					Neither Familiar nor Unfamiliar						Familiar
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How active does CEO Deborah Schmidt seem?

Inactive					Neither Active nor Inactive						Active
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How masculine or feminine does CEO Deborah Schmidt seem?

Feminine					Neither Masculine nor Feminine						Masculine
-5	-4	-3	-2	-1	0	1	2	3	4	5	
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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