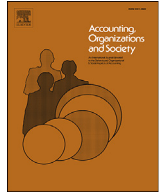
Accounting, Organizations and Society xxx (2018) 1–8

Contents lists available at ScienceDirect

Accounting, Organizations and Society

journal homepage: www.elsevier.com/locate/aos



Firm communication and investor response: A framework and discussion integrating social media☆

Elizabeth Blankespoor

Stanford University, United States

A R T I C L E I N F O

Article history:
Received 20 March 2018
Accepted 26 March 2018
Available online xxx

JEL codes:
D83
G14
G41
M41

Keywords:
Disclosure
Social media
Firm communication
Investor response

A B S T R A C T

I provide a general framework of firms' financial communication process and investor response to information, moving from disclosure through dissemination to investor response and management response. I then discuss the entrance of social media into firm communications, highlighting both classic and unique aspects of social media in the communication process. I place Cade (2018) in this literature and discuss areas ripe for future research. Finally, I encourage researchers interested in social media to acknowledge and embrace the unique opportunities and challenges in this area.

© 2018 Elsevier Ltd. All rights reserved.

1. Introduction

Firm disclosure is an important and growing area of research in accounting literature, with numerous studies examining how firms' financial communication choices affect investor response and capital market outcomes.[1] Recently, social media has transformed the scope of firm financial communications and created opportunities for unprecedented interactions. As a result, experimental, archival, and analytical research studies increasingly examine the implications of social media platforms for firm communications. In the next sections, I lay out a framework for firm communication and investor response to communications. I then discuss what social media could mean for each of these components, focusing on ways in which fundamental relations are more easily studied with social media and on ways in which social media changes the core interaction. Cade (2018) encompasses both of these approaches by using an experiment to examine public interactions of managers and investors on social media, and using newly observable measures of external validation to show that investor response varies based on the credibility of statements. I discuss Cade (2018) in the context of this literature, and I highlight areas ripe for future research.

2. Components of financial communications

Capital markets researchers are interested in understanding what and how information relevant for firm valuation is passed between firms and their investors, as well as factors that influence the receipt and use of the information.[2] This process can be separated into four major components: (1) disclosure, (2) dissemination, (3) investor response, and (4) management response. See Fig. 1A for a visual representation.

☆ I received helpful comments from Ed deHaan, Brooke Elliott, Stephanie Grant, Bob Libby (editor), Patrick Witz, and participants at the 2017 *Accounting, Organizations and Society* Conference on New Corporate Disclosures and New Media. This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

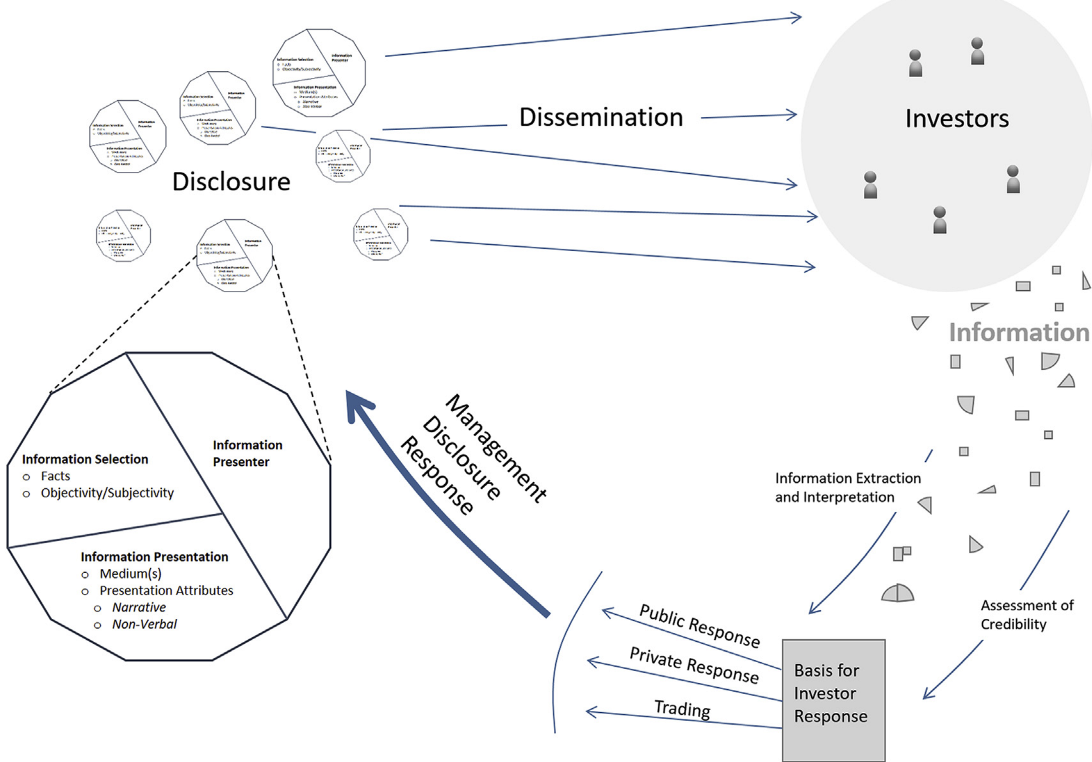
E-mail address: blankbe@stanford.edu.

[1] I use "financial" or "firm" communications throughout the draft to refer to firms' communication of information relevant for firm valuation. This value-relevant information could include both financial and non-financial information, but I use the term "financial" to highlight its relevance for financial valuation.

[2] Although investors may be the primary audience for a financial communication, firm disclosure can reach a broad set of stakeholders: employees, customers, suppliers, regulators, etc. For parsimony, I focus primarily in this discussion on the disclosure choices available to management and investor response to these disclosures.

https://doi.org/10.1016/j.aos.2018.03.009
0361-3682/© 2018 Elsevier Ltd. All rights reserved.

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009



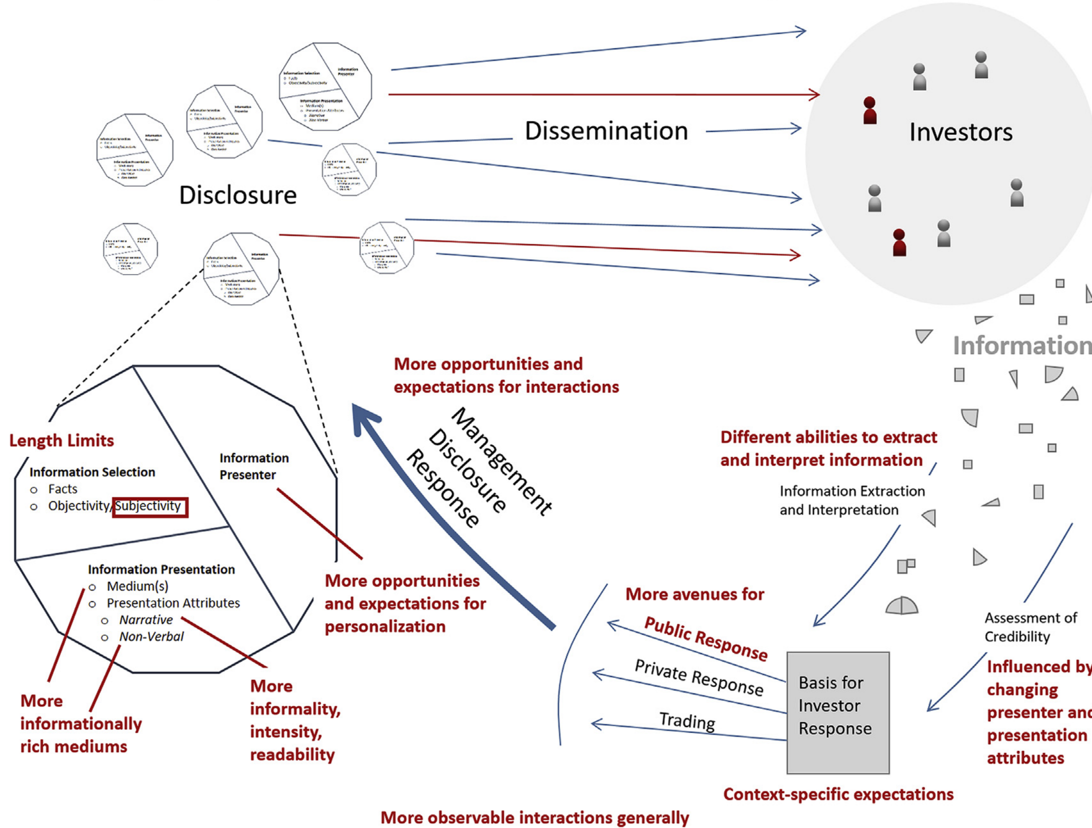


Fig. 1. A – framework of firm financial communication and investor response. B – social media (in red) in the framework of financial communication and investor response. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

ARTICLE IN PRESS

2.1. Disclosure

Before information can be communicated, the firm determines the composition of the information package: (a) what, (b) how and (c) who.

(a) "What," or information selection: The selection of data to be included is the first step of communicating information. For example, in an earnings announcement, data can include disclosures such as current earnings, sales, impairments, strategic decisions, and/or forecasts of future performance. Information provided ranges from more objective and verifiable, such as the amount of sales recorded during the year, to more subjective and less verifiable, such as the quality of sales, internal and external factors affecting sales, or likely persistence in the future.

(b) "How," or information presentation: Firms determine how information will be structured in the disclosure. The first decision is the medium(s) to be used: text, images, audio, or video. Then the firm chooses the presentation attributes of the given disclosure. For print disclosures, firms' choices can affect narrative attributes like affect or tone, readability, formality of language, vividness or intensity, ordering of the information, and emphasis or focus on each data item. For information packages structured as audio or video disclosures, there are also non-verbal attributes inevitably embedded in the information package, such as vocal intonation, accent, speed, volume, facial appearance, gestures, and other expressive behavior.

(c) "Who," or information presenter: Firms choose the point of view of the information presenter, shifting along a continuum from third-person ("The Company") to collective first-person ("we") to individual first-person ("I") as the CEO, CFO, or other top management.

2.2. Dissemination

Once the information package has been created, management chooses what channels to distribute or disseminate the information package over, e.g., press releases, conference calls, and shareholder meetings. The choice of channel can be jointly determined with the medium the firm chooses (i.e., text, images, audio, visual), but firms still have substantial flexibility in their choice of number of channels and specific channels to use.

2.3. Investor response

After information has been disseminated to them, investors can respond to the disclosure through capital market actions and/or through written and verbal communications to management (privately or publicly). Investors' response is predicated on (1) extracting and interpreting the information from disclosure and (2) assessing its credibility. Firms' disclosure and dissemination choices can affect investor response through both of these tasks.

Information extraction and interpretation includes acquiring and interpreting objective, quantitative information like sales, as well as qualitative information, like events during the period that have implications for future performance. Thus, firms' selection of which information to include will naturally affect the information extracted and interpreted. However, information can also be extracted from presentation attributes, such as the tone or affect conveyed by words and non-verbal expressive behavior. Prior literature finds that the tone of firms' press releases and 10-Ks is associated with the short-window market reaction to them (Henry, 2008; Loughran & McDonald, 2011) and negative tone in a daily *Wall Street Journal* column leads to lower stock returns the next day (Tetlock, 2007). Similarly, investors respond to positive and negative affect in management's voices during conference calls (Mayew & Venkatachalam, 2012), and the vividness of language can affect investor judgment (Hales, Kuang, & Venkataraman, 2011). Even the structure of disclosure matters, with investors responding more positively (negatively) when positive (negative) tone is more dispersed through the conference call (Allee & DeAngelis, 2015).

Firms' communication choices can also affect investors' costs of extracting information, and these information costs affect investor response (Bloomfield, 2002; Grossman & Stiglitz, 1980; Libby & Emett, 2014). For example, less sophisticated investors are less able to process and respond to less readable disclosures (Asay, Elliott & Rennekamp, 2017; Lawrence, 2013; Miller, 2010; Rennekamp, 2012). Greater dissemination of information is associated with lower information asymmetry, more liquidity, and more timely incorporation of information into price, likely because of the greater accessibility of the information (e.g., Blankespoor, Miller, & White, 2014; Blankespoor, deHaan, & Zhu, 2018; Bushee, Core, Guay, & Hamm, 2010; Li, Ramesh, & Shen, 2011; Rogers, Skinner, & Zechman, 2016; Twedt, 2016). Overall, firm communication choices can affect investor response by changing the information content available and the ease with which it can be extracted.

Once investors extract the information, they assess the credibility of that information. The literature suggests two primary factors that affect investors' perception of the credibility of information. First, investors estimate the quality of the information, assuming they have sufficient knowledge about the topic (Barton & Mercer, 2005; Cikurel, Fanning, & Jackson, 2017). External validation or verifiability of the information quality can also influence the perceived credibility. For example, the inclusion of verifiable forward-looking statements increases investor response to good news management forecasts (Hutton, Miller, & Skinner, 2003). Second, investors assess the credibility of the entity or person presenting the information, such as their access to information, experience, and incentives with respect to the information. To accomplish this, investors combine prior information about the information presenter with cues in the firm communication, such as attribution choices, formality of language, and non-verbal expressive behavior (Baginski, Hassell, & Kimbrough, 2004; Blankespoor, Hendricks, & Miller, 2017; Kimbrough & Wang, 2014; Rennekamp & Witz, 2017). Prior literature finds that investor response varies based on the extent to which the disclosure is associated with an individual manager, suggesting that investors' relationship with and trust of the information presenter affects the perceived credibility of the disclosure (Asay, Libby, & Rennekamp, 2018; Elliott, Grant, and Hobson to 2018; Elliott, Grant, & Hodge, 2018; Elliott, Hodge, & Sedor, 2012; Snow & Rasso, 2017).

The broader context around the interaction can influence both the interpretation of information and assessment of its credibility. In their elaboration likelihood model of persuasion, Cacioppo and Petty (1984) propose that individuals engage in systematic, "central" assessment of the information and in heuristic assessments influenced by "peripheral" contextual characteristics, such as background music. Friestad and Wright (1994) delve further into the idea that context matters when they identify *persuasion knowledge*, or the understanding that individuals have of potential tactics employed to persuade them. *Persuasion knowledge* is an

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

ARTICLE IN PRESS

attempt to explain why Cacioppo and Petty's peripheral contextual characteristics might affect an individual's response in a situation.[3] In the firm communication setting, investor response is similarly a combination of not only the knowledge investors have about the firm, managers, and disclosure event, but also the expectations for management behavior in the context of the specific firm communication. For example, when a disclosure has low readability, sophisticated investors do not respond as much to positive tone, perhaps because the combination of positive tone and low readability raises suspicion about management's incentives (Tan, Ying Wang, & Zhou, 2014). As another example, Grant, Hodge, and Sinha (2018) find that investors are more tolerant of managers' self-promoting language when it is given in the context of conference calls, where managers are expected to discuss good performance of the firm. Overall, firm communication choices can influence investor response by affecting the information investors acquire, as well as their interpretation of the information and assessment of its credibility.

2.4. Management response

Once investors respond to information, management must then choose their reaction to investors' response. The first layer of management's response is simply monitoring, e.g., listening to investor and analyst questions and comments during conference calls, annual meetings, and private conversations. This monitoring could also include more discreet activities like monitoring media articles and online chat forums, or tracking the share purchasing behavior of large investors. After observing investors' response, management can choose to ignore the statements or to respond with disclosure – via private communications with investors or public statements to capital markets – or with changes to operational decisions of the firm.

Before choosing a disclosure response, management considers the potential capital market benefits as well as the costs (e.g., direct disclosure costs, proprietary costs, and litigation risk), as in any disclosure decision (Beyer, Cohen, Lys, & Walther, 2010). Management naturally has incentives to adjust their information selection, information presentation attributes, information presenter, and dissemination channel because of their potential to influence investor response and thus many of the disclosure costs and benefits to the firm.

In the setting of a management response to investor statements, if the initial communication was public, the firm must consider how investors will interpret a lack of management response. Hollander, Pronk, and Roelofsen (2010) find that investors negatively interpret a lack of response from management to a question during their conference call, presumably because they assume management is hiding bad news. However, choosing to respond can signal the firm's typical monitoring level and increase investor expectations for future management responses. If the initial communication was private or was not directed toward the firm, there is less public expectation of a response and perhaps less risk of negative interpretation of no response. As noted above, though, investors assess the credibility of any statement using external validation, among other things. If management response or lack of response signals management's belief about the credibility of a third-party criticism, there could be benefits to silence. Overall, classic disclosure incentives and factors affecting investor response continue to apply to management's disclosure response decision.

[3] In Friestad and Wright's (1994) model, they describe individual response as a result of the individual's knowledge about the core topic being discussed (*topic knowledge*), beliefs about the traits, knowledge, and goals of the communicator (*agent knowledge*), and *persuasion knowledge*.

3. A new twist: the entrance of social media in firm communications

3.1. Social media and firm communications

In the late 2000s, firm communications underwent a substantial change when social media created additional channels of communication. Social media are Internet-based applications that encourage users to generate their own content for the application (Kaplan & Haenlein, 2010). For example, on Twitter, users post short messages that are usually publicly available, and they can respond to or "retweet" (resend) others' messages. On YouTube, users upload videos and comment on others' videos. On LinkedIn, companies and individuals have websites with basic profile information about the company or about their work experience, and they can post articles and join common interest groups. Social media plays a vibrant role in non-business communications and in firm-consumer relationships, and it is also being adopted by a number of firms as part of their financial communications (Q4 Web Systems, 2013).

At its core, social media is simply another dissemination channel for firm communication. However, the characteristics of this channel create fundamentally different communication opportunities and risks for management than more traditional channels. For researchers, the additional opportunities expand the range of what can be studied about financial communications, and they also increase the observability of the existing constructs. I describe some of the opportunities and risks of social media in the next sections, using the framework for firm communication discussed in Section 2. See Fig. 1B for a visual representation of social media in the communication framework.

3.1.1. Disclosure and social media

Social media has the potential to affect firms' information selection, information presentation and choice of information presenter. As discussed below, these factors increase flexibility of firm communications in some ways, and decrease flexibility in other ways.

3.1.1.1. Information selection and social media. Social media applications have the potential to affect the types, subjectivity, and amount of information disclosed. First, the audience, regulatory oversight, and focus of social media can affect firms' disclosure choices. For example, if the audience is less sophisticated or less able to handle complex information, firms may choose to disclose less complex or nuanced information via the social media channel. This behavior is consistent with the findings that the first firms to hold open conference calls were those more likely to benefit from reaching retail investors through the calls (i.e., those with less complex information and a broader shareholder base (Bushee, Matsumoto, & Miller, 2003). In addition, the less established regulatory oversight of dissemination via social media means there is likely more flexibility in what information is emphasized or included, as compared to Regulation G requirements around more traditional disclosure of non-GAAP performance metrics. Second, social media often encourages informal interactions that enable greater use of subjective information rather than objective, verifiable information. Third, social media applications often limit the length of communications, whether explicitly (e.g., Twitter's character limit for each post) or implicitly by users' expectations for a certain length or style of disclosure in that setting (Kolowich, 2017). The length limits require management to consider whether to reduce the amount of information disclosed. Overall, the potential

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

ARTICLE IN PRESS

variation in audience sophistication, emphasis on subjective information, and allowed disclosure length creates interesting settings to examine how management responds to different incentives.

3.1.1.2. Information presentation and social media. Social media affect firms' selection of medium and presentation attributes in several ways. First, each social media application facilitates and encourages specific choices for medium (i.e., text, image, audio, or video). As compared to more traditional press releases or conference calls, this creates more flexibility in firms' choices and often more messages with information-rich mediums like video. Second, narrative attributes of disclosure are affected by the greater range of informality allowed, with informal words and grammar, a wider range of language intensity, and application-specific expectations for presentation style. This greater flexibility could also affect the extent of tone or affect firms can convey, as well as the default level of readability. In addition, the explicit and implicit length requirements discussed above can also affect how firms choose to group information, increasing the likelihood of multiple smaller disclosures over one large disclosure. Third, with the greater use of non-text mediums, non-verbal attributes are more likely to be embedded in firm disclosure. This increases the opportunity for management to convey nuanced messages and connect with investors, but it also increases the risk of inadvertent release of information through non-verbal behavior (Blankespoor et al., 2017; Hobson, Mayew, & Venkatachalam, 2012).

3.1.1.3. Information presenter and social media. Social media affect the point of view of disclosure by providing more opportunities for personalization outside of physical presence or written quotes from management. Many social media applications have both firm-specific and executive-specific accounts, allowing managers to cultivate an individual reputation and interact personally with investors. Of course, this also creates the possibility of direct public questions from investors, which presents an opportunity to connect with investors as well as the risk of redirecting the public focus away from the firm's desired message.

3.1.2. Dissemination and social media

Moving to dissemination, social media inevitably increase the channels available for firms to distribute information over. In addition, though, the design of the social media application can encourage and enable more timely or prolonged processing of the information by investors. For example, user response to firm disclosure on Twitter is faster than on Facebook, but user engagement with a post continues for longer on Facebook than on Twitter (Zhou, Lei, Wang, Fan, & Wang, 2015).[4] This differential processing speed could also be a result of different audiences for each application, where information disseminated to more connected investors has more rapid information flow (Caskey, Minnis, & Nagar, 2015). Also, unlike traditional disclosure channels that focus on investors, social media applications focus jointly investors and consumers, often mixing advertising and financial communication messages. While the different audiences can increase the risk of misinterpretation, advertising has the potential to engage investors as well (Madsen & Niessner, 2016). More generally, the diverse nature of the social media channels results in a more diverse audience and set of potential investors reached by the communication (Blankespoor et al., 2014; Jung, Naughton, Tahoun, & Wang, 2018).

3.1.3. Investor response and social media

By definition, social media applications are designed to encourage and enable users' feedback and extended conversations. With traditional communication channels, investors have to call, email or meet management face to face, and there are few opportunities to engage with other investors. With social media, responding to management and engaging with other investors is as simple as clicking a button, and extended conversations can garner attention from media and other intermediaries, expanding the interactions even further.

The factors influencing investor response remain the same for social media, but the different features of social media described above could shift investor response through changes to investor extraction and interpretation of information, as well as assessments of its credibility. First, changes in managers' information selection choices can affect investor response. For example, if firms tend to release simple, subjective information on social media applications, investor response may vary more based on the sophistication of the investor (e.g., Tan et al., 2014). Second, the greater use of information-rich mediums that include audio and visual content would result in more extreme investor response to a given disclosure. For example, Elliott, Loftus, and Winn (2017) find more positive investor response to good news that is heard rather than read, and Elliott et al. (2012) find more extreme investor response to management communication in video presentations rather than text. Third, presentation attributes more common in social media – such as language with more informality and greater intensity – are likely to affect investor response. For example, informal language combined with more online engagement creates a more personal, informal relationship with individual management that increases the credibility of management disclosure (Rennekamp & Witz, 2018). Fourth, social media's greater ability to personalize firm disclosures as coming from management means a greater ability to increase investor trust (Elliott et al., 2018).

Social media also inevitably changes investors' social expectations and thus the optimal disclosure and presentation attributes for a given firm, event, and social media channel. Implicit rules might dictate that firms post breaking news on Twitter and longer engagement campaigns on Facebook (Zhou et al., 2015). Managers that post self-promoting messages on Twitter are punished, but managers that make self-promoting statements during conference calls are rewarded, suggesting that social media applications bring distinct sets of social expectations (Grant et al., 2018). It is an open question whether the level of personalization, the standard communication style on the social media application, or some other factor drives the differences in social expectations. In any case, the current evidence supports the importance of understanding investors' social expectations, and social media provide a rich setting to explore different expectations.

Finally, social media include more publicly observable and quantifiable measures of credibility. This could be peer recognition as documented by much of the user-generated content literature (Luca, 2015), or, as in the setting of Cade (2018), management's response to a critical tweet acting as a signal of the relevance and credibility of the criticism. Features like the number of retweets on Twitter, the number of Likes on a Facebook post, or the number of followers on Seeking Alpha all convey some perception of credibility of a statement by the firm or a third party. These measures are examples of social media that generate more observability for examining a fundamental economic question.

[4] It is difficult to disentangle whether this is a natural result of differences in social media application features, or a more direct result of firms meeting users' expectation that breaking news be on Twitter and longer campaigns with more engagement on Facebook.

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

3.1.4. Management response and social media

The first step of management response – monitoring of investor response – becomes more attainable if the response occurs via social media. More generally, user-generated content can provide valuable information to management and be reflected in capital market activity (e.g., Bartov, Faurel, & Mohanram 2018; Chen, De, Hu, & Hwang, 2014; Curtis, Richardson, & Schmardebeck, 2016; Hales, Moon, & Swenson, 2018; Jame, Johnson, Markov, & Wolfe, 2016). However, user-generated content on social media creates several concerns for management choosing the appropriate response. First, because investor concerns are public, there is more potential for emotional contagion or loss of control over the message (Jung et al., 2018; Lee, Hutton, & Shu, 2015). Second, the ease of interaction on social media can also increase the pressure on management to respond to any concerns voiced on that channel; a lack of response by management to an issue is much more visible (Cade, 2018). Third, the greater personalization encouraged by social media may divert investor attention toward the interaction with management rather than the incorporation of information into price (Elliott, Grant, & Hobson, 2018). While distraction might be the goal of management in some cases, it raises general concerns about whether management interaction via social media has the potential to increase investor misinterpretation or neglect of relevant information.

Overall, the broader reach and greater flexibility of presentation and channel in social media enable rich, familiar relationships with many investors and potential investors at lower cost. However, it also increases the potential for misinterpretation of news and communication crises, as more informal interactions and more public discourse brings less professionalism and more emotion.

3.2. Social media and investor response as examined by Cade (2018)

Cade (2018) links social media with firm financial communications by examining investor response in social media, and specifically the factors influencing the credibility of third-party messages in social media, including management response to those messages. She finds evidence in support of investors using peer recognition as a measure of the credibility of the statement. Specifically, she introduces a measure of the extent of retweeting of a post to capture the peer recognition and validation of the statement, and she finds that the investment response to a criticism in a third-party tweet is greater if the message has been retweeted more.

Cade (2018) then examines the implications of management response to that same third-party criticism. Management has the choice to remain silent, to post a general message that doesn't respond to the criticism ("redirection"), or to post a response to the criticism. She finds that when management does not respond to a more credible criticism (i.e., one with many retweets), investors respond most negatively, consistent with the assumption that they believe management is avoiding bad news. In the second possible response, management's use of the social media channel to post a redirection message confirms that they saw the criticism, yet intentionally and transparently chose to ignore it. In this scenario, investors' negative response to the information is somewhat muted, implying that investors perceive the firm as implicitly dismissing the credibility of the criticism. When management instead posts a response to the credible criticism, investors' negative response to the information is almost fully muted. This evidence suggests that investors look not only to peer investors, but also to management responses for information about the credibility of third-party communications.

Overall, the study contributes to the literature by confirming that investors incorporate information from multiple sources based on the credibility of the source when deciding on the appropriate investment response, and it suggests that management response has the ability to influence investors' assessment of the credibility of a third-party message.

One of the most surprising and interesting results is the partial effectiveness of the redirection message from management. Choosing to transparently ignore criticism would be perceived positively if investors assume management does not see the criticism as credible enough to answer. However, management's lack of response could also be interpreted negatively (i.e., that the firm does not have a legitimate response to provide, consistent with the empirical findings of Hollander, Pronk, and Roelofsen [2010] in the conference call setting).

This study finds that a redirection message is preferable to no response. The redirection message used reiterates the quarter's good results, reassuring investors that performance was good in the current quarter despite criticism. However, a redirection message could be perceived more negatively if its goal was to redirect attention by distracting investors rather than reassuring. For example, a management post highlighting new initiatives or an unrelated business program could easily result in even more negative investor response to the redirection due to the perception of management trying to deceive investors. An interesting next step for future research is to further classify redirection messages by their content and nature (e.g., reassurance, distraction, etc.) to disentangle the conflicting predictions.

In a similar fashion, management explanation messages could vary in their credibility based on the quality and extent of information provided, consistency of the information with prior beliefs, corroborating information, management credibility, and features of the message. Finally, the next step of the interaction is to observe not only investor trading response to third-party and management information, but also written communication. The strength of the social media setting is the ability to observe both trading and written responses from investors, and an interesting future question is studying a multi-period game to assess conditions that encourage negative or positive emotional contagion among investors' communications on social media.

4. Advice for future research

I have three thoughts for researchers interested in examining social media in firms' financial communications. First, to meaningfully contribute to the literature, look for unique aspects of social media platforms that either (1) change a fundamental characteristic of communication that shifts economic-based predictions, or (2) allow a fundamental theory or construct to become more observable. For an example of the first, social media platforms enable and even encourage public investor response and within-investor interactions, changing the incentives for management considering the optimal disclosure pattern around crises like product recalls (Lee et al., 2015). As another example, social media platforms introduce a communication setting with potentially different social norms governing the interactions (Grant et al., 2018). For an example of the second approach to contribute, the format of short messages on Twitter with a link to previously disclosed press releases enables observation of dissemination distinct from disclosure (Blankespoor et al., 2014; Jung et al., 2018). In Cade (2018), the public retweets and management responses in social media increase the visibility of peer and management recognition of third-party criticism, improving researchers' ability to observe changes to perceived credibility of information (and experimental studies' ability to create realistic lab settings that capture constructs of interest).

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

ARTICLE IN PRESS

Second, given the diversity in social media platforms, it is important to understand users' and firms' incentives and choice to engage in the platform. Unlike more traditional financial communication channels, social media platforms are used by firms for a mixture of objectives: marketing, social, and financial communications goals. Similarly, social media users can have mixed objectives as well: information gathering, reputation building, or even disruption and entertainment (e.g., Internet "trolls" or satirical fake firm Twitter accounts). Given these differences, assess carefully whether selection bias is a concern. Consider adjusting sample observations to focus on financial communications, select an appropriate research design and control variables, and acknowledge the internal and external validity of findings.

Third, be vigilant in looking for frequent changes in social media design and use over time. Social media platforms are inherently more dynamic than traditional financial communication channels, and user innovations are often embraced and incorporated into the official platforms. For example, in its first years of creation, Twitter officially adopted user actions like using a hashtag to denote topics (#) and retweeting someone else's message (Cooper, 2013). More recently, Twitter relaxed which characters count toward the character limit and announced an increase in the maximum post length from 140 to 280 characters (Rosen, 2017). Even seemingly small changes to social media platforms have the potential to fundamentally change the way users interact. For example, Glassdoor's adoption of the "Give to Get" policy required users to provide at least one review per year to obtain access to online reviews of employers. After this policy, there was a more balanced distribution of positive versus negative reviews (Chamberlain & Smart, 2017). Understanding and incorporating platform changes within the sample period improves the accuracy of data collection and potentially provides unique proxies and more effective research designs, such as Cade's (2018) use of the extent of retweeting.

5. Conclusion

Social media transform the way firms and investors communicate and bring a wealth of observable data to researchers studying various aspects of the communication process. Examining these social media interactions can not only improve researchers' understanding of management incentives and information flow in capital markets, but also provide practical, nuanced takeaways to help managers and investors make decisions in this new world of financial communications. Cade (2018) contributes in both ways by using a concrete setting management is likely to face and providing unique evidence of factors that influence the perceived credibility of communications.

Prior research has examined the implications of disclosure features for the perceived credibility of disclosure and for investor trading response. Future research can build on this in several ways. Researchers can continue to improve their understanding of factors that affect investor trading response, including interactions between these factors. There is also room for deeper analysis of how investors' expectations of communication are affected by context-specific factors. The proliferation of different social media platforms raises the question of whether there are implications (positive or negative) of switching between channels or broadening the focus across channels in the middle of a firm-investor conversation. Finally, much of the literature's focus has been on investor trading response; we know less about the implications of verbal and written responses from investors and ensuing conversations between management and investors (and among investors) on social media.

References

Allee, K. D., & DeAngelis, M. D. (2015). The structure of voluntary disclosure narratives: Evidence from tone dispersion. *Journal of Accounting Research, 53*(2).

Asay, H. S., Elliott, W. B., & Rennekamp, K. (2017). Disclosure readability and the sensitivity of investors' valuation judgments to outside information. *The Accounting Review, 92*(4), 1–25.

Asay, H., Libby, R., & Rennekamp, K. (2018). *Do features that associate managers with a message magnify investors' reactions to narrative disclosures?*. Working Paper.

Baginski, S. P., Hassell, J. M., & Kimbrough, M. D. (2004). Why do managers explain their earnings forecasts? *Journal of Accounting Research, 42*(1), 1–29.

Barton, J., & Mercer, M. (2005). To blame or not to blame: Analysts' reactions to external explanations for poor financial performance. *Journal of Accounting and Economics, 39*(3), 509–533.

Bartov, E., Faurel, L., & Mohanram, P. (2018). Can Twitter help predict firm-level earnings and stock returns? *The Accounting Review*. Forthcoming.

Beyer, A., Cohen, D., Lys, T. Z., & Walther, B. R. (2010). The financial reporting environment: Review of the recent literature. *Journal of Accounting and Economics, 50*(2–3), 296–343.

Blankespoor, E., deHaan, E., & Zhu, C. (2018). Capital market effects of media synthesis and dissemination: Evidence from robo-journalism. *Review of Accounting Studies, 23*(1), 1–36.

Blankespoor, E., Hendricks, B. E., & Miller, G. S. (2017). Perceptions and price: Evidence from CEO presentations at IPO roadshows. *Journal of Accounting Research, 55*(2), 275–327.

Blankespoor, E., Miller, G. S., & White, H. D. (2014). The role of dissemination in market liquidity: Evidence from firms' use of Twitter™. *The Accounting Review, 89*(1), 79–112.

Bloomfield, R. (2002). The "incomplete revelation hypothesis" and financial reporting. *Accounting Horizons, 16*(3), 233–243.

Bushee, B. J., Core, J. E., Guay, W., & Hamm, S. J. W. (2010). The role of the business press as an information intermediary. *Journal of Accounting Research, 48*(1), 1–19.

Bushee, B. J., Matsumoto, D. A., & Miller, G. S. (2003). Open versus closed conference calls: The determinants and effects of broadening access to disclosure. *Journal of Accounting and Economics, 34*(1–3), 149–180.

Cacioppo, J. T., & Petty, R. E. (1984). The elaboration likelihood model of persuasion. *Advances in Consumer Research, 11*, 673–675.

Cade, N. (2018). Corporate social media: How two-way disclosure channels influence investors. *Accounting, Organizations and Society*. Forthcoming.

Caskey, J., Minnis, M., & Nagar, V. (2015). *Investor relations and the flow of information through investor networks*. Working Paper.

Chen, H., De, P., Hu, Y. J., & Hwang, B. H. (2014). Wisdom of crowds: The value of stock opinions transmitted through social media. *Review of Financial Studies, 27*(5), 1367–1403.

Cikurel, D., Fanning, K., & Jackson, K. (2017). *The effects of investors' judgments of getting out ahead versus responding after negative media-mentions*. Working Paper.

Curtis, A., Richardson, V., & Schmardebeck, R. (2016). Investor attention and the pricing of earnings news. *Handbook of Sentiment Analysis in Finance, Chapter 8*, 212–232.

Elliott, W. B., Grant, S. M., & Hobson, J. L. (2018). *Trader participation in disclosure: Implications of interactions with management*. Working Paper.

Elliott, W. B., Grant, S. M., & Hodge, F. D. (2018b). *Investor reaction to $ firm or CEO use of social media for # disclosures*. Working Paper.

Elliott, W. B., Hodge, F. D., & Sedor, L. M. (2012). Using online video to announce a restatement: Influences on investment decisions and the mediating role of trust. *The Accounting Review, 87*(2), 513–535.

Elliott, W. B., Loftus, S., & Winn, A. (2017). *The impact of disclosure delivery mode on investment decisions and investors' memories*. Working Paper.

Friestad, M., & Wright, P. (1994). The persuasion knowledge model: How people cope with persuasion attempts. *Journal of Consumer Research, 21*(1), 1–31.

Grant, S. M., Hodge, F. D., & Sinha, R. K. (2018). How disclosure medium affects investor reactions to CEO bragging, modesty, and humblebragging. *Accounting, Organizations and Society*. Forthcoming.

Grossman, S. J., & Stiglitz, J. E. (1980). On the impossibility of informationally efficient markets. *The American Economic Review, 70*(3), 393–408.

Hales, J., Kuang, X. I. J., & Venkataraman, S. (2011). Who believes the hype? An experimental examination of how language affects investor judgments. *Journal of Accounting Research, 49*(1), 223–255.

Hales, J., Moon, J. R., & Swenson, L. (2018). A new era of voluntary disclosure? Empirical evidence on the informativeness of rank-and-file employees' business outlook. *Accounting, Organizations and Society*. Forthcoming.

Henry, E. (2008). Are investors influenced by how earnings press releases are written? *Journal of Business Communication, 45*(4), 363–407.

Hobson, J. L., Mayew, W. J., & Venkatachalam, M. (2012). Analyzing speech to detect financial misreporting. *Journal of Accounting Research, 50*(2), 349–392.

Hollander, S., Pronk, M., & Roelofsen, E. (2010). Does silence speak? An empirical analysis of disclosure choices during conference calls. *Journal of Accounting Research, 48*(3), 531–563.

Hutton, A. P., Miller, G. S., & Skinner, D. J. (2003). The role of supplementary statements with management earnings forecasts. *Journal of Accounting Research, 41*(5), 867–890.

Jame, R., Johnston, R., Markov, S., & Wolfe, M. C. (2016). The value of crowdsourced

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009

ARTICLE IN PRESS

earnings forecasts. *Journal of Accounting Research, 54*(4), 1077–1110.

Jung, M. J., Naughton, J. P., Tahoun, A., & Wang, C. (2018). Do firms strategically disseminate? Evidence from corporate use of social media. *The Accounting Review*. Forthcoming.

Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! the challenges and opportunities of social media. *Business Horizons, 53*(1), 59–68.

Kimbrough, M. D., & Wang, I. Y. (2014). Are seemingly self-serving attributions in earnings press releases plausible? Empirical evidence. *The Accounting Review, 89*(2), 635–667.

Lawrence, A. (2013). Individual investors and financial disclosure. *Journal of Accounting and Economics, 56*(1), 130–147.

Lee, L. F., Hutton, A. P., & Shu, S. (2015). The role of social media in the capital market: Evidence from consumer product recalls. *Journal of Accounting Research, 53*(2), 367–404.

Libby, R., & Emett, S. A. (2014). Earnings presentation effects on manager reporting choices and investor decisions. *Accounting and Business Research, 44*(4), 410–438.

Li, E. X., Ramesh, K., & Shen, M. (2011). The role of newswires in screening and disseminating value-relevant information in periodic SEC reports. *The Accounting Review, 86*(2), 669–701.

Loughran, T., & McDonald, B. (2011). When is a liability not a liability? Textual analysis, dictionaries, and 10-Ks. *The Journal of Finance, 66*(1), 35–65.

Luca, M. (2015). User-generated content and social media. In *Handbook of media economics* (Vol. 1, pp. 563–592). North-Holland.

Madsen, J., & Niessner, M. (2016). *Is investor attention for sale? The role of advertising in financial markets*. Working Paper.

Mayew, W. J., & Venkatachalam, M. (2012). The power of voice: Managerial affective states and future firm performance. *The Journal of Finance, 67*(1), 1–44.

Miller, B. P. (2010). The effects of reporting complexity on small and large investor trading. *The Accounting Review, 85*(6), 2107–2143.

Q4 Web Systems. (2013). *Public company use of social media for investor relations*. Part 1: Twitter and StockTwits. https://s21.q4cdn.com/603727328/files/doc_downloads/whitepapers/Q4_2013-Twitter-Whitepaper-FINAL_online.pdf Accessed 2/5/2018.

Rennekamp, K. (2012). Processing fluency and investors' reactions to disclosure readability. *Journal of Accounting Research, 50*(5), 1319–1354.

Rennekamp, K. M., & Witz, P. D. (2018). *Linguistic formality and perceived engagement—investors' reactions to two unique characteristics of social media disclosures*. Working Paper.

Rogers, J. L., Skinner, D. J., & Zechman, S. L. C. (2016). The role of the media in disseminating insider-trading news. *Review of Accounting Studies, 21*(3), 711–739.

Snow, N. M., & Rasso, J. (2017). *If the tweet fits: How investors process financial information received via social media*. Working Paper.

Tan, H. T., Ying Wang, E., & Zhou, B. O. (2014). When the use of positive language backfires: The joint effect of tone, readability, and investor sophistication on earnings judgments. *Journal of Accounting Research, 52*(1), 273–302.

Tetlock, P. C. (2007). Giving content to investor sentiment: The role of media in the stock market. *The Journal of Finance, 62*(3), 1139–1168.

Twedt, B. (2016). Spreading the word: Price discovery and newswire dissemination of management earnings guidance. *The Accounting Review, 91*(1), 317–346.

Zhou, M., Lei, L., Wang, J., Fan, W., & Wang, A. (2015). Social media adoption and corporate disclosure. *Journal of Information Systems, 29*(2), 23–50.

Web references

Chamberlain, A., & Smart, M. (2017). *Give to get: A mechanism to reduce bias in online reviews*. https://www.glassdoor.com/research/app/uploads/sites/2/2017/10/Glassdoor_GiveToGet_Oct2017.pdf Accessed 2/5/2018.

Cooper, B. B. (2013, September 24, updated April 19). *The surprising history of Twitter's hashtag origin and 4 ways to get the most out of them [Blog post]*. Buffer app. Retrieved from https://blog.bufferapp.com/a-concise-history-of-twitter-hashtags-and-how-you-should-use-them-properly.

Kolowich, L. (2017, April 25, updated October 31). *The character count guide for blog posts, videos, tweets, and more [Blog post]*. Hubspot. Retrieved from https://blog.hubspot.com/marketing/character-count-guide.

Rosen, A. (2017, November 7). *Tweeting made easier [Blog post]*. Twitter. Retrieved from https://blog.twitter.com/official/en_us/topics/product/2017/tweetingmadeeasier.html.

Please cite this article in press as: Blankespoor, E., Firm communication and investor response: A framework and discussion integrating social media, Accounting, Organizations and Society (2018), https://doi.org/10.1016/j.aos.2018.03.009