

# *Accounting narratives and impression management on social media*

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## **Accounting narratives and impression management on social media**

In this paper, we examine the defensive and assertive impression management strategies and the impact of firm performance on accounting narratives by investigating the earnings disclosures of FTSE 100 companies on Twitter. Social media has become the prevailing venue for organisational self-presentation because it provides firms with more control over the image they intend to establish and maintain through the communication and content they deliver online. Our findings show that firms minimise the disclosures of negative information but employ various patterns and dissemination techniques to emphasise positive information. Specifically, improving performers are more willing to post and disseminate earnings-related tweets to achieve a higher degree of stakeholder engagement than declining performers. Based on these findings, we conclude that firms present themselves on social media opportunistically to construct a positive public image.

Keywords: accounting narratives; impression management; financial disclosures; social media

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## **Introduction**

In this study, we investigate FTSE 100 companies' self-presentational behaviours for the disclosure and dissemination of earnings news on Twitter. We select Twitter because it has the highest corporate adoption rate among the largest firms for financial disclosures in comparison with other social media platforms, such as Facebook (Zhang 2015, Jung et al. 2016). We develop defensive and assertive impression management (IM) hypotheses to test whether firms differentially manage the disclosures of positive and negative earnings-related news, and we further test whether firms disclose their financial performance in a strategic way. Finally, we test the IM outcome in terms of stakeholder engagement. To do so, we manually collect earnings-related tweets from official corporate Twitter accounts; we first determine the tone of each tweet and then use content analysis to measure disclosure patterns. Overall, we find that firms minimise negative earnings-related news but employ various self-presentational patterns and dissemination techniques through Twitter to emphasise positive news. Specifically, when firms report improved performance, they are more willing to post and disseminate earnings-related tweets. More importantly, improving performers attain a higher degree of stakeholder engagement than declining performers on Twitter.

This study answers Miller and Skinner's (2015) call for studies of the corporate use of social media. They argue that information technology has shaped the evolving landscape of corporate disclosures. Indeed, the last decade has witnessed the rise of social media and its prevailing adoption across society, and this emergent interactive disclosure vehicle has become an increasingly vital element of organisational communication strategies. To date, research in this area has mainly drawn on economic theory and examined the role of social media in reducing information asymmetry (Blankespoor et al. 2014, Zhang 2015, Jung et al. 2016), predicting capital market

returns (Chen et al. 2014, Sprenger et al. 2014), and influencing stakeholder perceptions (Lee et al. 2015). Further, in these studies, corporate disclosures on social media are viewed as incremental information that is voluntarily provided by firms.

According to Elliott et al. (2016), most disclosures on social media are a reiteration of existing information that has already been presented in traditional media, such as press releases and annual reports. Jung et al. (2016) also find that corporate use of social media is opportunistic. In this paper, we argue that firms selectively provide information about themselves and carefully share this information to construct a positive public image on social media. Under the assumption of IM theory, corporate disclosures are driven by self-serving motives, and the information that is disclosed is neither neutral nor unbiased (Jones and Shoemaker 1994, Merkl-Davies and Brennan 2007, Beattie and Jones 2008, Brennan et al. 2009). Managers are motivated to hide adverse information and enhance their successes by their desire to distort stakeholders' perceptions of firm performance (Adelberg 1979, Bloomfield 2002).

The contribution of our study is threefold. First, this study applies IM theory from the social psychology perspective, as an emerging theoretical construct, to explain the phenomenon of corporate use of social media for financial communication. To the best of our knowledge, the most recent studies have examined only the informational role of voluntary disclosures on social media (Blankespoor et al. 2014, Chen et al. 2014, Zhang 2015, Elliott et al. 2016, Jung et al. 2016). Thus, systematic analysis of how firms present themselves on social media to impress audiences is lacking in the literature. Twitter is a rich media platform that aids vivid information presentation, and our study provides a better understanding of corporate self-presentational behaviours on social media. Second, we advance IM research by examining the manipulation of information dissemination. While previous studies have concentrated on the

manipulation of either the presentation or the disclosure of information (Merkl-Davies and Brennan 2007), our study explores how firms use unique Twitter features such as hyperlinks and hashtags and/or cashtags to disseminate favourable earnings news. We find that the manipulation of information dissemination enables positive information to go viral. Finally, we contribute to IM research by providing empirical evidence on the effect of using IM strategies. Many studies on accounting narratives have explicitly focused on firms' use of different IM techniques (Beattie and Jones 2002, Curtis 2004b, Aerts 2005, Clatworthy and Jones 2006, Li 2008, Brennan et al. 2010, Cho et al. 2010, García Osma and Guillamón-Saorín 2011, Tan et al. 2014, Benson et al. 2015, Leung et al. 2015); however, little research has examined the outcome of IM. 'Best tweets', which automatically displays tweets that receive a higher degree of engagement in a larger font size, provides us with an opportunity to assess whether IM strategies achieve their purpose.

The rest of the paper is organised as follows: the next section develops hypotheses; the data and methodology are described next; the presentation of the results is offered in the penultimate section; and, finally, the discussion, implications of the study and directions for future research are discussed in the last section.

### **Hypotheses development**

The phenomenon of IM originates from (social) psychology, which suggests that in social interactions, individuals tend to manage other people's impressions of them by altering their manner, appearance and setting in different social scenarios (Goffman 1959). In accounting narrative studies, the IM literature suggests that firms have an incentive to manage impressions of their organisational image and reputation by presenting a self-serving view of their performance (Jones and Shoemaker 1994, Aerts 2005, Merkl-Davies and Brennan 2007, Beattie and Jones 2008, Brennan et al. 2009,

García Osma and Guillamón-Saorín 2011). Once motivated to present themselves in the most favourable light, firms will enter the impression construction stage, deciding how to enhance, retain or repair their corporate image and reputation with proper IM strategies (Leary and Kowalski 1990).

According to Tedeschi and Melburg (1984), IM strategies can be either defensive or assertive. A defensive IM strategy highlights the underreporting, downplaying, omitting, minimising or concealment by which firms manage or maintain a positive impression of their organisational image in the context of negative circumstances (Abrahamson and Choelsoon 1994, Westphal et al. 2012). An assertive IM strategy relates to how firms can use language and presentational patterns to signal good performance (Morris 1987, Smith and Taffler 1992) and make attributions about positive outcomes to their own actions (Clapham and Schwenk 1991, Aerts 2005).

Firms engage in an assertive IM strategy to proactively establish and manage a particular organisational identity through emphasis, enhancement and ingratiation (Bolino et al. 2008, Benson et al. 2015). A growing accounting literature has documented the employment of these two strategies in corporate narratives, depending on different circumstances (Clatworthy and Jones 2003, Ogden and Clarke 2005, Cho et al. 2010, Samkin and Schneider 2010, Merkl-Davies et al. 2011, Guillamon-Saorin et al. 2012, Cooper and Slack 2015). For example, Cooper and Slack (2015) suggest that firms adopt a defensive IM strategy such as omission or concealment in water leakage disclosures when they fail to meet the regulation target and employ an assertive strategy such as visual effects to emphasise target attainment. In this study, we build our hypotheses upon both defensive and assertive IM strategies to investigate how firms employ different IM strategies for the disclosure and dissemination of earnings news on Twitter and how effective these IM strategies are.

### *Defensive hypotheses*

Defensive IM studies have mainly tested the managerial obfuscation hypothesis (Adelberg 1979, Courtis 1998, Li 2008, Miller 2010, Lee 2012, Loughran and McDonald 2014). According to Merkl-Davies and Brennan (2007), firms can manipulate reading ease and rhetoric to conceal negative information. For example, managers in poorly performing firms deliberately construct communication barriers between management and stakeholders by using difficult and complex writing (Courtis 1998, 2004b). In extending Merkl-Davies and Brennan's (2007) framework, Leung et al. (2015) suggest that minimal narrative disclosure serves as another concealment strategy to cover up or diminish negative information.

Lee et al. (2015) find that firm-initiated disclosures on social media in a crisis setting are able to influence stakeholders' perceptions regarding a negative event and to minimise potential damage to a firm's reputation. However, disseminating negative information on social media can also exacerbate a crisis by spreading bad news to a broader audience more directly and quickly than traditional media (Lee et al. 2015, Miller and Skinner 2015). Because the information environment on social media is uncontrollable, it is difficult to predict the outcome of disseminating negative information (Lee et al. 2013, Cade 2015, Elliott et al. 2016). Therefore, firms employ strategic disclosures to control their presence on social media. The most recent empirical studies suggest that minimising negative earnings news is a prevailing disclosure strategy on Twitter (Blankespoor et al. 2014, Chen et al. 2014, Miller and Skinner 2015, Jung et al. 2016). In particular, poorly performing firms tend to omit or minimise earnings disclosures to divert investors' attention from poor performance or unfavourable company news (Bloomfield 2002, Clatworthy and Jones 2003, Merkl-



Davies and Brennan 2007, Leung et al. 2015). These arguments lead to our first set of hypotheses:

**H1a.** Firms are less likely to post negative earnings-related tweets than positive earnings-related tweets.

**H1b.** Declining performers post fewer earnings-related tweets than improving performers.

### *Assertive hypotheses*

Managers in high performing firms have an incentive to provide and highlight positive information in order to signal their superior performance and distinguish themselves from firms that report poor performance (Healy and Palepu 2001, Verrecchia 2001). Firms employ an assertive IM strategy by emphasising positive information through presentation manipulation (Beattie et al. 2004, Merkl-Davies and Brennan 2007, Beattie and Jones 2008, Brennan et al. 2009). Such a strategy can be achieved through *visual effects, repetition, reinforcement and positioning* (Beattie and Jones 2000, Curtis 2004a, Bowen et al. 2005, Clatworthy and Jones 2006, Elliott 2006, Brennan et al. 2010, García Osma and Guillamón-Saorín 2011). To summarise, an assertive IM strategy is employed to make a positive outcome more obvious to an audience.

Compared to traditional disclosure channels, the power of some of the emphasis strategies that have been adopted is diluted on social media. For example, a visual emphasis through presentational effects can be found for every tweet because of the default settings on Twitter. All of the earnings tweets are comparable to headlines, which are effectively organised visually. In addition, most earnings tweets contain information that has already been disclosed in earnings press releases. Therefore, they are largely repetitive in nature. However, the multimedia tools and dissemination

functions available on social media still enable firms to reinforce and position their positive information for the purpose of corporate image building.

### *Presentation manipulation*

Firms can reinforce positive information by using self-presentational patterns such as textual narratives, quantitative formats or visual aids to cast a favourable light on their performance (García Osma and Guillamón-Saorín 2011). Prior textual narrative studies (Lounsbury and Glynn 2001, Martens et al. 2007, Parhankangas and Ehrlich 2014) find that managers extensively employ crafted narratives to construct a confident and credible image of their business in order to secure external funding. Moreover, Skinner (1994) documents a quantitative bias in earnings-related voluntary disclosures, as managers tend to present positive information in quantitative formats instead of qualitative statements. Examining the disclosure patterns in chairmen's statements from 100 UK companies, Clatworthy and Jones (2006) find that profitable firms are more likely to use key financial indicators and quantitative references than declining performers in order to emphasise their favourable results.

From the perspective of human cognition and memory (Tversky 1974, Anderson 1990), visual presentations are effective for information display and impression construction (Beattie and Jones 2008, Bell and Davison 2013, Davison 2015). For instance, Beattie and Jones (2000) find that the manipulation of financial graphs is related to firm performance, as firms with increased income and earnings per share (EPS) are more likely to include financial graphs in their annual reports in order to portray a favourable impression of firm performance. Therefore, based on the above arguments and the availability of various presentational forms on Twitter, we propose the following hypotheses:

**H2a.** Firms are more likely to employ self-presentational patterns to emphasise positive earnings-related tweets than negative or neutral earnings-related tweets.

**H2b.** Improving performers are more likely to employ multiple self-presentational patterns than declining performers on Twitter.

### *Dissemination manipulation*

Social media is not only a disclosure venue but also a platform for direct and immediate information dissemination, bypassing third-party media (Blankespoor et al. 2014).

Firms can use this accelerated dissemination channel to construct a desired corporate image at great convenience and a lower cost than traditional information dissemination media. In traditional corporate documents, firms employ the emphasis strategy of strategic positioning to distort readers' attention by directing them to more positive information placed in more visible locations (Merkl-Davies and Brennan 2007, Brennan et al. 2009, García Osma and Guillamón-Saorín 2011). On Twitter, firms can achieve such distortion by deliberately making the positive information more easily accessible and searchable with the aid of new dissemination functions (Cade 2015, Elliott et al. 2016). Moreover, firms can send the information to followers' news feeds by selectively linking the positive information to webpages with more detailed elaborations. By doing so, firms direct stakeholders' attention to the information that they would like to show and share on social media. In this regard, Jung et al. (2016) study strategic information dissemination on Twitter during earnings announcement events and find that firms are opportunistic in their dissemination in such a way that good news is more likely to be disseminated than bad news. We expect firms to use Twitter as a manipulation tool for strategic information dissemination with the aim of enhancing their corporate image and reputation. We therefore propose the following hypotheses:

**H3a.** Firms are more likely to disseminate positive earnings-related tweets than negative or neutral earnings-related tweets.

**H3b.** Improving performers are more likely to disseminate earnings-related tweets than declining performers.

### ***IM outcome***

In the argument for IM, influencing others' perceptions is the ultimate goal of using self-presentational strategies (Goffman 1959, Jones 1990, Leary and Kowalski 1990). Traditional IM studies provide experimental evidence that the manipulation of disclosure presentations can influence readers' perceptions about firm performance (Beattie and Jones 2002, Elliott 2006, Tan et al. 2014). For example, Beattie and Jones (2002) find that measurement distortion in financial graphs misleads readers to perceive a more favourable impression of firms' financial performance. Elliott (2006) concludes that the positioning emphasis of pro forma earnings before GAAP earnings induces some investors to make significantly higher judgements of financial performance. Additionally, Tan et al. (2014) find that the manipulation of disclosure forms and linguistic tone have a joint effect on investors' judgements of earnings performance.

Social media brings a revolutionary change to corporate disclosure practices by realising two-way communication between firms and stakeholders at any time and at any geographic location. It provides firms with great convenience and control for managing the impressions that stakeholders directly perceive; the favourable impression that stakeholders perceive can be emphasised through the use of self-presentational patterns. Moreover, the dissemination manipulation can broadly influence people's perceptions and enable the emphasised information to be circulated and widely engaged with on social media – that is, to go viral. Berger and Milkman (2012) examine the content characteristics that make a piece of information go viral online and find that

positive information is more likely to go viral than negative information. Lee et al. (2013) find that tweets that are posted by firms with higher corporate social responsibility (CSR) ratings receive more 'retweets' than those with lower CSR ratings. Based on the findings in traditional IM narrative studies and recent evidence on social media virality, we argue that stakeholders' favourable perceptions of firm performance can be further enhanced by the self-presentational patterns and strategic dissemination of positive information. Consequently, more attention and engagement are gathered from stakeholders. Therefore, we posit the following hypotheses:

**H4a.** Positive earnings-related tweets are more likely to attain stakeholder engagement than negative or neutral earnings-related tweets.

**H4b.** Improving performers are more likely to attain stakeholder engagement than declining performers on Twitter.

### **Sample and methodology**

To test our hypotheses, we first constructed two groups of firms with improving and declining performance on the basis of profitability in the fiscal years (FY) of 2014 and 2013. We collected financial performance data from Osiris and earnings tweets from firms' official corporate Twitter accounts. We classified earnings tweets into three categories based on their tone (i.e., positive, negative or neutral). We then conducted a manual form-oriented content analysis to document a range of IM variables and used t-tests to examine the different self-presentational behaviours and their outcome. The procedures are described in the following sections.

#### ***Sample selection***

We started with FTSE 100 companies that were listed on the London Stock Exchange as of January 2015. We focused our analyses on large firms for a number of reasons.

First, about 60% of FTSE 100 companies use social media for earnings disclosures on Twitter, whereas 28% of FTSE 250 companies do so. Furthermore, we aimed to reduce the noise caused by inclusion in different indices because the communication strategies of the firms listed in these different indices might show substantial divergence. More importantly, FTSE 100 companies usually have high visibility, and they have already attracted a number of analyst followers and much media coverage. Therefore, the motive for their additional earnings disclosures on Twitter is an intriguing research question that is worth exploring.

We searched for the official Twitter accounts by visiting each company's corporate site, searching keywords on Twitter and using Google. We excluded firms from the sample that do not have an official Twitter account or a group Twitter account. We further excluded firms whose Twitter account serves as a platform for customer service, marketing or career information. Additionally, we excluded firms whose Twitter accounts restrict public access or were inactive in the year of an earnings announcement. We also excluded firms that have never posted earnings tweets since their Twitter account creation. Two firms – HSBC Holdings and Intertek Group – posted earnings tweets in prior years but did not tweet on FY 2014 earnings events. They both experienced declining profits in comparison with the previous year; they may have been aiming, with strategic purpose, to avoid extra media exposure. However, since our analysis concentrates on the characteristics of earnings tweets and the firms that made such disclosures, we removed these two firms from our sample. In applying these stringent standards to our selection, we secured a sample of 57 FTSE 100 firms. Table 1 presents a detailed breakdown of the sample selection process that we used in our analysis.

Table 1. Sample selection.

Sample selection criteria	Excluded	Sample size
FTSE 100 on 1 January 2015		100
No Twitter accounts	9	
No group Twitter accounts	1	
Main Twitter account is for careers, customer services or marketing	7	
Twitter account has no public access	1	
Twitter account was not active in 2014	8	
Twitter account never posted earnings tweets	15	
Twitter account did not post earnings tweets in 2014	2	
<b>Total sample from FTSE 100</b>		<b>57</b>

### *Classification of firms*

In this study, we are interested in examining the effects of profitability on accounting narratives. Therefore, we divided the 57 firms into two groups – *improving performers* and *declining performers* – by calculating the percentage change in profit before taxation for the period between 2013 and 2014. We adopted this method by referring to prior studies that employed similar sampling procedures (Courtis 1998, Clatworthy and Jones 2003, Clatworthy and Jones 2006). Clatworthy and Jones (2003) examine the differences when reporting good and bad news between firms with improving and declining performance. They study the top 50 and bottom 50 non-financial UK listed companies based on the percentage change in profit before taxation. However, because using Twitter to report earnings remains an emerging phenomenon for FTSE 100 firms, we started with a relatively small sample after we applied our sample selection criteria. Therefore, to keep as many qualifying firms in our analysis as possible, we included all 57 firms in this study and used the direction of percentage change as grouping benchmarks. Our grouping procedure yielded 31 improving performers with a positive percentage change in profit before taxation and 26 declining performers with a negative percentage change. We posit that the disclosure behaviours between improving and declining performers differ.

Table 2. Descriptive statistics for firm performance.

Profit before taxation (£b)	Improving performers (n=31)		Declining performers (n=26)	
	2014	2013	2014	2013
Year				
Mean	1.51	0.68	1.83	4.33
Standard deviation	1.76	2.25	5.94	8.34
Min	0.15	-8.24	-6.41	0.28
Max	7.65	7.11	28.59	33.59

Table 2 summarises the descriptive statistics of the sample firms' profit before taxation. Improving firms report an average of £1.51b in 2014 compared with £0.68b in 2013. The mean profit figure thus more than doubled year over year. In contrast, the average profit before taxation for declining performers is £1.83b in 2014 compared with £4.33b in 2013, showing a significant drop in mean profit.

### *Classification of tweets*

We also investigated the corporate use of IM strategies on Twitter, considering the tone of earnings-related tweets. After excluding announcement-only reminder tweets, we classified the rest of the earnings-related tweets into three tone types: positive, neutral and negative. Because this study focuses on the accounting narratives at the syntactic level, namely the disclosure patterns or forms, analysing the tone of tweets is for categorising purposes. This approach is different from that taken in prior thematic studies, which aim to parse the 'optimism' level of disclosures (Cho et al. 2010, Loughran and McDonald 2013, Chen et al. 2014). As the 140-character limit on Twitter makes each tweet a relatively independent unit, we conducted the classification tweet by tweet. By referring to the categorising method adopted for sentences in Rodrigue et al. (2015), we manually assessed the tweets individually by examining whether the attitude or activity that is reflected in each tweet is beneficial, detrimental or indifferent to the



firms. Figure 1 shows example tweets that are classified as positive from British Land, negative from Johnson Matthey and neutral from Tullow Oil, respectively. We employed two teams to work on the classification separately in order to reduce the subjectivity in the coding process, and we followed similar coding stages when we coded for IM variables. The detailed processes will be discussed in the measure of IM.

Figure 1. Examples of narrative earnings-related tweets in three tone types.

#### Positive



#### Negative



#### Neutral



Table 3. Descriptive statistics for narrative earnings-related tweets.

Type	No. of earnings-related tweets		
	Total	Improving performers	Declining performers
<i>Positive</i>	290	214 (74%)	76 (26%)
<i>Negative</i>	12	8 (67%)	4 (33%)
<i>Neutral</i>	82	41 (50%)	41 (50%)

#### Note:

*Positive* = Narrative earnings-related tweets that contain **ONLY** positive information;

*Negative* = Narrative earnings-related tweets that contain **ANY** negative information;

*Neutral* = Narrative earnings-related tweets that contain neutral information.

Table 3 presents the descriptive statistics of the tone of the earnings-related tweets that are used in our analysis. A total of 290 tweets include positive information, which constitutes almost 62% of all of the earnings-related tweets. In contrast, only 12 tweets contain negative information (see Appendix), comprising just 2.5% of all earnings-related tweets.

### ***Measure of IM***

Directly measuring IM in accounting narratives is difficult (García Osma and Guillamón-Saorín 2011). To examine the differences in the disclosure and dissemination of earnings news contingent on the tone type and firm performance, we used seven variables (see Table 4) that capture the unique features of Twitter for defensive and assertive IM strategies, as well as IM outcomes. We adopted a dichotomous scheme (1 = yes, 0 = no) to code these features for each tweet and counted the number of earnings tweets that were posted by each firm. In doing so, we are able to reveal the strategic disclosure and dissemination of financial information and IM outcomes.

Manual content analysis was conducted in three stages to ensure the rigour of the coding results and to alleviate any problems caused by subjectivity. In the first stage, the authors and research assistants worked independently as two teams to code 470 tweets based on the measurement for each variable. Detailed textual coding guidance was provided. In the second stage, the two teams compared the coding results and checked them for consistency and coding errors. An agreement ratio was computed for the coding results of each variable. On average, there was over 96% agreement between the two teams, which is viewed as a favourable rate of agreement according to prior literature (Clatworthy and Jones 2003, García Osma and Guillamón-Saorín 2011). In the last stage, the two teams reviewed the tweets with coding inconsistencies that

were identified in Stage 2 and discussed the interpretations that support their coding.

Finally, the coding results were refined through a process based on mutual agreement.

Table 4. IM strategies and functions.

<b>IM strategy</b>	<b>Technique</b>	<b>Variable</b>	<b>IM function</b>
<i>Defensive</i>	Minimising	Volume	Reducing the volume of tweets can help avoid extra media exposure and avoid public attention.
		Narrative information (see Figure 2)	Using narrative information to describe earnings details can enhance managerial interpretations of good firm performance.
<i>Assertive</i>	Self-presentational patterns	Quantitative information (see Figure 3)	Highlighting key financial indicators or performance comparison with numbers, percentages or monetary formats can assist firms in emphasising good financial results.
		Visual information (see Figure 4)	Graphs, pictures or videos can be embedded in tweets to help present positive information in a vivid, eye-catching manner.
	Dissemination	Hashtag/Cashtag (see Figure 5)	Using a hashtag # or cashtag \$ in tweets helps firms highlight the tweets with information that they would like to show and share by making them more easily searchable than other tweets.
		Hyperlink (see Figure 5)	Incorporating hyperlinks in tweets enables firms to manipulate the dissemination of information. They can direct audiences to a piece of information that they would like to disseminate by linking them to external websites with detailed elaborations.
<b>IM outcome</b>			
<i>Engagement</i>		Best tweets (see Figure 6)	A unique function on Twitter that automatically displays the tweets that receive more engagement in terms of likes, retweets and replies in a larger font size.

*Defensive IM strategy: minimising through reduced disclosure*

*Volume.* One method to omit unfavourable information and minimise any unnecessary disclosure is to reduce the total disclosure quantity. Leung et al. (2015) adopt a score-rating index to examine the existence of 77 informational items in the annual reports of Hong Kong firms in order to measure the extent of minimal disclosure. This method may be useful for investigating lengthy corporate documents that initially provide relatively sufficient narratives; however, it is inappropriate for headline-style earnings tweets with condensed narratives. Prior studies of corporate disclosures on Twitter use the number of tweets as a measure for the extent of disclosures in their analysis (Blankespoor et al. 2014, Lee et al. 2015, Jung et al. 2016). For example, Lee et al. (2015) count the daily number of tweets regarding product recalls that are posted by firms and other users to distinguish firm-initiated disclosures from the content that is generated by other users. In this study, we counted the total number of earnings-related tweets that are posted by each firm on the earnings announcement day to gauge the extent of disclosures, and to gauge the level of the different types of information that were disclosed, we counted the number of positive and negative earnings-related tweets.

*Assertive IM strategy: emphasis through presentation manipulation*

*Narrative information.* There are two types of earnings-related tweets on Twitter: announcements-only tweets and tweets that contain narrative information. The former are earnings announcement reminders that inform firms' Twitter followers about the release of annual results or the timing of presentations. These tweets do not contain any material information about financial performance. Meanwhile, earnings-related tweets that contain narrative information describing earnings details can help to enhance favourable managerial interpretations of good firm performance. Thus, we distinguish

the announcement-only tweets from narrative tweets. Figure 2 shows an example of an announcement-only tweet from easyJet and a narrative tweet from BAE Systems.

Figure 2. Examples of an announcement-only earnings-related tweet and a narrative earnings-related tweet.

#### Announcement-only



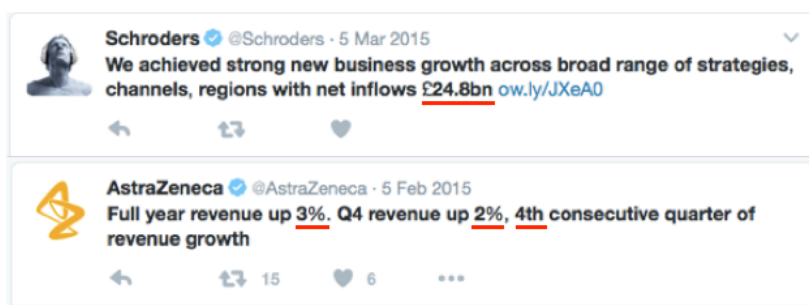
#### Narrative



*Quantitative information.* Quantitative formats can be used as hard quantitative references to highlight key financial indicators or performance comparisons for the purpose of emphasising positive earnings results (Clatworthy and Jones 2006).

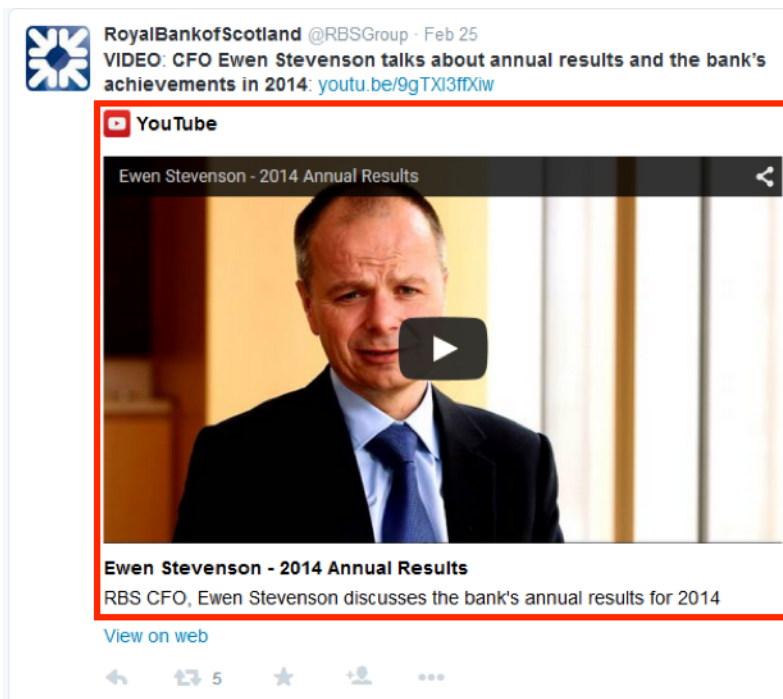
Guillamon-Saorin et al. (2012) suggest that, regardless of their performance, firms are inclined to emphasise the good news with performance figures in order to reinforce a positive outcome. In this study, we identified three types of quantitative formats (see Figure 3): (i) numerical monetary amount, (ii) performance percentage and (iii) any other performance number. Type (iii) includes only standalone numbers that provide performance-related information such as '4th' in AstraZeneca's tweet in Figure 3; therefore, dates and times (end of financial year, time of presentation) were excluded in the coding.

Figure 3. Examples of earnings-related tweets with quantitative information.



*Visual information.* Posting visuals on Twitter is an emphasis technique to attract readers' attention with the potential to influence their perception. Visuals, especially graphs, are powerful for communicating trends or patterns in a vivid and direct manner in financial disclosures (Beattie and Jones 2008). Pictures or photographs may not be effective in communicating financial information, but their expressive representation of objects can cognitively convey the intended information to both sophisticated and unsophisticated readers (Davison 2015). Videos that are attached to tweets are also powerful visual aids for information presentation. In this regard, Elliott et al. (2012) find that financial disclosures through videos retain more investor attention and therefore investor trust and that investments are especially increased when managers make internal attributions for the restatements. For corporate events, such as earnings announcements, videos of presentations or interviews with managers are usually embedded in earnings-related tweets. In this study, we coded graphs, pictures, photographs and videos aggregately as visuals. Figure 4 is an example of an earnings-related tweet with visuals from the Royal Bank of Scotland.

Figure 4. Example of an earnings-related tweet with visuals.



*Assertive IM strategy: emphasis through dissemination manipulation*

*Hashtag/Cashtag.* On Twitter, firms can use a hashtag (#) or cashtag (\$) in tweets to make the information that they wish to disseminate more easily searchable than it would be if conveyed without these elements, as Twitter enables users to preface a keyword or topic with a hashtag or cashtag symbol before a stock ticker symbol. This function allows tweets with the same or similar hashtag/cashtag to appear more easily in a Twitter search. In this study, we coded tweets that contained hashtags or cashtags as evidence of the use of dissemination manipulation for assertive emphasis. Figure 5 shows an example tweet with the hashtag ‘#ARMEarnings’ and the cashtag ‘\$ARMH’ from ARM Holdings.

Figure 5. Example of an earnings-related tweet with information dissemination functions.



*Hyperlink.* By incorporating hyperlinks in certain tweets, firms can direct stakeholders' attention to a piece of information that they wish to emphasise with further elaboration. For earnings announcement events, firms usually insert hyperlinks of their corporate or third-party media webpages in earnings-related tweets as a means of additional information dissemination (Blankespoor et al. 2014). Therefore, we used hyperlinks as a measure of information dissemination to reveal potential opportunistic dissemination behaviour. In Figure 5, the example earnings-related tweet from ARM Holdings also contains a hyperlink.

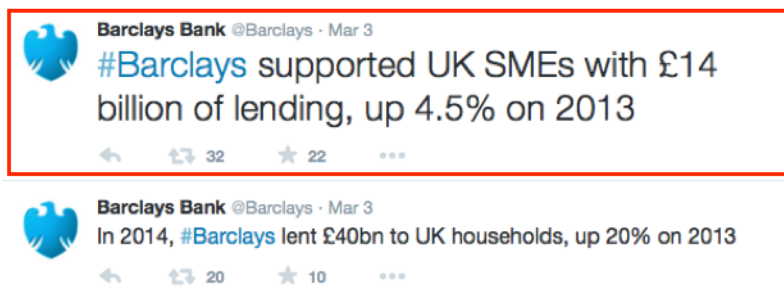
#### *IM outcome*

*Best tweets.* Twitter, as a social network website, offers a variety of interactive functions to encourage conversations between users and to assist network expansion. 'Best tweet' is a unique feature on Twitter that automatically displays tweets with a higher level of engagement in terms of the number of 'retweets', 'likes' and 'replies' in a larger font size. 'Retweeting' is similar to the behaviour of sharing a piece of information by forwarding and circulating it to users' own online networks. To 'like' is to show agreement or appreciation towards a tweet, while 'replies' refer to the comments that are posted by other users below a tweet. These interactive functions provide an opportunity to observe the immediate responses from stakeholders, and thus they allow us to gain insight into whether firms successfully construct a desired corporate image through their self-presentational emphasis and strategic information



dissemination. We visited each firm's profile page on Twitter to identify whether a tweet is displayed in a larger font size. Figure 6 presents an example illustrating a larger tweet in comparison with a normal tweet from Barclays:

Figure 6. Example of a 'best tweet'.



### *Summary statistics*

Table 5 presents some descriptive statistics regarding the IM variables that are used in our analysis. We obtained a total of 470 earnings tweets from 57 firms, of which 86 tweets are the announcement-only type. The total numbers of earnings tweets with self-presentational patterns in narrative, quantitative and visual forms are 384, 167 and 113, respectively. A total of 279 of 470 earnings tweets include hyperlinks, while 239 earnings tweets contain hashtags and/or cashtags. Eighty-one earnings tweets are labelled 'best tweets', which are displayed in a larger font size on firms' Twitter profile pages.

Table 5. Descriptive statistics for key IM variables in earnings-related tweets.

IM Type	Variables	No. (%) of earnings-related tweets <sup>1</sup> posted by		
		All firms	Improving performers	Declining performers
Minimising	<i>Volume</i>	470	311 (66%)	159 (34%)
Self-presentational patterns	<i>Announcement-only</i>	86	48 (56%)	38 (44%)
	<i>Narrative information</i>	384	263 (69%)	121 (31%)
	<i>Quantitative information</i>	167	127 (76%)	40 (24%)
	<i>Visual information</i>	113	91 (81%)	22 (19%)
Dissemination	<i>Hashtag/Cashtag</i>	239	134 (56%)	105 (44%)
	<i>Hyperlink</i>	279	184 (66%)	95 (34%)
Engagement	<i>Best tweets</i>	81	70 (86%)	11 (14%)

Variable definitions:

*Volume* = The total number of earnings-related tweets posted on a firm's annual earnings announcement day;

*Announcement-only* = Earnings-related tweets that are only earnings announcement reminders without any detailed performance information;

*Narrative information* = Earnings-related tweets containing detailed narratives about a firm's financial performance;

*Quantitative information* = Earnings-related tweets that contain numbers, percentages or a monetary format;

*Visual information* = Earnings-related tweets that are embedded with graphs, pictures, or videos;

*Hashtag/Cashtag* = Earnings-related tweets that contain hashtag # or cashtag \$;

*Hyperlink* = Earnings-related tweets with hyperlinks that provide links to corporate websites or other external websites;

*Best tweets* = Earnings-related tweets that are displayed in a larger font size.

<sup>1</sup> No. of earnings-related tweets with visuals, hashtag/cashtag, hyperlink and best tweets is the sum of tweets presented in both narrative and announcement-only.

## Results

This study used one-tailed t-tests to examine the statistical significance of four sets of hypotheses. The results for the defensive hypotheses are summarised in Table 6 and Table 7. Table 6 shows the results of tests regarding *H1a*; these compare the mean volume of positive and negative earnings-related tweets that are posted by each firm on earnings announcement day. Table 7 presents the difference in the mean disclosure volume of improving and declining performers to test *H1b*. Table 8 and Table 9 illustrate the test results for an assertive IM strategy and outcome. As summarised in Table 8, the results for *H2a*, *H3a*, and *H4a* show the differences between positive and other types of earnings-related tweets in terms of the use of self-presentational patterns, the use of dissemination, and their IM outcome, respectively. Table 9 shows the results for *H2b*, *H3b* and *H4b*, which compare the differences in the mean percentages of firms adopting assertive emphasis and receiving ‘best tweets’ in their earnings disclosures between the two groups.

### *Defensive IM strategy*

Table 6. Comparisons of the mean volume of positive and negative earnings-related tweets.

	No. of tweets <sup>2</sup>	Mean		Difference
		Positive	Negative	
<b>Disclosure volume</b>				
All	302	5.09	0.21	4.88***
Improving performers	222	6.90	0.26	6.64***
Declining performers	80	2.92	0.15	2.77***

**Note:** \*\*\* indicates significant difference at the 0.01 level in one-tailed t-tests.

<sup>2</sup> No. of tweets is the sum of positive and negative earnings-related tweets, but excluding neutral tweets in Table 3.

The first hypothesis (*H1a*) predicts that firms are less likely to post negative information than positive information on Twitter and thus addresses the use of a defensive strategy in different tone types. Table 6 shows that the total number of positive and negative earnings-related tweets that were posted by all 57 firms is 302. We first compared the volume of the two types of earnings-related tweets that were posted by each firm in our full sample (n=57). The mean volume of negative earnings-related tweets is 0.21, whereas the mean volume is 5.09 for positive earnings-related tweets. The difference is highly significant at the 0.01 level. Additionally, we constructed two sub-samples by distinguishing the tweets that were posted by improving and declining performers in order to examine whether the results still hold within each group. For the improving group, the mean volume of negative earnings-related tweets is 0.26, which is significantly lower than that of positive earnings-related tweets (6.90) at the 0.01 level. The significant difference also holds for declining performers ( $p < 0.01$ ). Thus, *H1a* is supported. The results therefore show that regardless of firm performance, all firms tend to disclose a significantly lower volume of negative earnings-related information than positive earnings-related information on Twitter.

Table 7. Comparisons of the mean disclosure volume posted by improving performers and declining performers.

	No. of tweets	Mean		Difference
		Improving performers	Declining performers	
<b>Disclosure volume</b>				
All	470	10.03	6.12	3.91**
Announcement-only	86	1.55	1.46	0.09
Narrative information	384	8.48	4.65	3.83**

**Note:** \*\* indicates significant difference at the 0.05 level in one-tailed t-tests.

*H1b* centres on the differences between improving and declining performers in their adoption of a defensive strategy. According to *H1b*, declining performers are more likely to minimise earnings disclosures than their counterpart group. The mean volume of all earnings-related tweets for declining performers is 6.12, whereas the mean volume is 10.03 for improving performers (see Table 7). The difference in the means is statistically significant at the 0.05 level. Since the announcement-only tweets constitute approximately 18% of all earnings-related tweets, we further distinguished them from other earnings-related tweets to determine whether *H1b* can still be supported after we exclude these reminder tweets. In Table 7, it is interesting to note that both groups seem to post a similar amount of reminder earnings-related tweets. After we excluded these tweets, declining performers post a mean volume of 4.65 earnings-related tweets with narrative information, whereas the mean volume is 8.48 for improving performers. The difference is also significant at the 0.05 level. Therefore, based on the results, *H1b* is supported. Firms with declining performance tend to minimise earnings disclosures, especially narrative disclosures, in order to avoid public attention on Twitter.

### *Assertive IM strategy*

Table 8. Comparisons of the mean number of different types of earnings-related tweets that employ an assertive strategy and IM outcome.

	No. of tweets <sup>3</sup>	Mean		Difference
		Positive	Neutral & negative	
<b>Self-presentational patterns</b>				
Narrative	384	5.09	1.65	3.44***
Quantitative	167	2.53	0.40	2.13***
Visual	99	1.11	0.63	0.48**
<b>Dissemination tools</b>				
Hashtag/Cashtag	196	2.49	0.95	1.54***
Hyperlink	199	2.39	1.11	1.28***
<b>IM outcome</b>				
Best tweets	70	0.89	0.33	0.56***

**Note:** \*\* and \*\*\* indicate significant difference at the 0.05 and 0.01 levels respectively, in one-tailed t-tests.

Our second set of hypotheses – *H2a* and *H2b* – concentrates on the use of self-presentational patterns in earnings-related tweets as means of assertive emphasis. *H2a* predicts that firms tend to employ self-presentational patterns, including textual narrative and quantitative and visual formats, to emphasise positive information over other types of information (i.e., negative and neutral) on Twitter. The results for *H2a* are summarised in Table 8. Notably, the mean number of positive earnings-related tweets that contain narrative information is 5.09, while the mean number of other types of narrative earnings-related tweets is 1.65. This difference in means is highly

<sup>3</sup> No. of tweets with visuals, hashtag/cashtag, hyperlink and best tweets is the sum of earnings-related tweets presented in narrative, but excluding announcement-only in Table 5.

significant at the 0.01 level. A significant difference ( $p < 0.01$ ) is also found for the quantitative format. The mean number of pieces of quantitative information in positive earnings-related tweets is 2.53, whereas the mean number is 0.40 for negative and neutral earnings-related tweets. As for the use of visuals, the mean number of positive earnings-related tweets with embedded visuals is 1.11, while it is 0.63 for other types of earnings-related tweets. The difference is statistically significant at the 0.05 level. *H2a* is thus supported. Positive earnings-related tweets are more likely to be emphasised with a more extensive use of narrative, quantitative and visual presentations than negative and neutral earnings-related tweets.

Table 9. Comparisons of the mean proportion of firms in improving and declining categories that adopt an assertive IM strategy and IM outcome.

	No. of firms	% of firm in each group		Difference
		Improving performers	Declining performers	
<b>Self-presentational patterns</b>				
All three patterns	29	61.3	38.5	22.8%**
<b>Dissemination tools</b>				
Both tools	25	74.2	42.3	31.9%**
<b>IM outcome</b>				
Best tweets	30	80.6	19.2	61.4%***

**Note:** \*\* and \*\*\* indicate significant difference at the 0.05 and 0.01 levels respectively, in one-tailed t-tests.

*H2b* predicts that firms with improving performance are more likely to adopt multiple self-presentational patterns than their counterparts on Twitter. We thus compared the adoption of all three of the above self-presentational patterns between the two groups. From Table 9, we can see that 61.3% of improving firms adopt all three patterns, which is significantly higher than the 38.5% in the declining group at the 0.05 level. The results thus support the prediction of *H2b*. Therefore, multiple self-presentational patterns are not only used to emphasise positive earnings-related information but also more likely to be employed by improving performers to enhance their favourable position.

Hypotheses *H3a* and *H3b* address dissemination manipulation for the purpose of assertive emphasis. *H3a* focuses on the dissemination of different types of earnings information, while *H3b* compares the proportion of adopters of dissemination tools considering improving and declining performers. In *H3a*, we anticipate that firms are more likely to disseminate positive earnings-related tweets than negative and neutral earnings-related tweets on Twitter. The results in Table 8 show that the mean number of positive earnings-related tweets that are embedded with hashtags and/or cashtags is 2.49, whereas the mean number is 0.95 for negative and neutral earnings-related tweets. This difference is highly significant at the 0.01 level. As for hyperlinks, the mean number of positive earnings-related tweets with hyperlinks (2.39) is also significantly higher than that of negative and neutral earnings-related tweets with hyperlinks (1.11) at the 0.01 level. *H3a* is thus supported.

*H3b* predicts that firms with improving performance are more likely to disseminate their earnings news than their declining counterparts on Twitter. Firms are coded as adopters of dissemination tools if they utilise both hyperlinks and hashtags and/or cashtags in their earnings disclosures. The results for *H3b* are presented in Table



9. The mean proportion of improving firms adopting dissemination tools (74.2%) is significantly higher than that of declining performers (42.3%) at the 0.05 level. The results thus also support *H3b*. Therefore, the results for *H3a* and *H3b* suggest that dissemination tools are more likely to be inserted into positive information than into other types of information and that improving performers are more likely to exploit dissemination manipulation than declining performers.

### ***IM outcome***

The last set of hypotheses concerns the outcome of IM as reflected in the level of engagement on Twitter. In *H4a*, we posit that positive earnings-related tweets have the potential to better engage stakeholders than other earnings tweets given the multiple emphases that are placed on them by firms. From Table 8, we can see that the mean number of positive earnings-related tweets that are displayed in a larger font as ‘best tweets’ is 0.89, which is significantly higher than that of negative and neutral tweets (0.33) at the 0.01 level. *H4a* is thus supported. We also compared the percentage of firms with earnings-related tweets that are displayed as ‘best tweets’ between improving and declining performers. Table 9 shows that 80.6% of improving performers and 19.2% of declining performers have earnings-related tweets that are displayed in a larger font size. This difference is also highly significant at the 0.01 level (see Table 9). Thus, the results support the prediction of *H4b* that firms with improving performance are more likely to obtain stakeholder engagement than declining firms on Twitter.

### **Discussion and conclusion**

Prior social media studies on corporate disclosures largely focus on the role of social media as voluntary disclosure outlets and additional information dissemination channels (Blankespoor et al. 2014, Lee et al. 2015, Jung et al. 2016). However, the voluntary

nature of this rich media platform grants firms great flexibility to disclose and disseminate earnings news as they wish. In this regard, social media provides an ideal setting for organisational self-presentation. Thus, our study addresses an important topic that has rarely been studied in the accounting narrative research: the examination of corporate self-presentational behaviours for earnings news disclosure and dissemination on Twitter through the lens of IM. Using a sample of FTSE 100 companies, we find that firms adopt defensive and assertive IM strategies for a self-presentational purpose on Twitter.

First, we find that firms tend to omit negative earnings news by posting a significantly lower volume of negative earnings-related tweets than positive earnings-related tweets. By classifying firms into improving and declining performers, we find that firms are more likely to minimise disclosure on Twitter if they are reporting declining performance. These findings indicate that to maintain the best possible corporate image on social media, firms adopt a defensive IM strategy to avoid drawing extra media exposure and public attention to bad earnings news. These findings are in line with Merkl-Davies and Brennan's (2007) IM framework on the concealment of negative information and consistent with the findings in Leung et al. (2015) that firms adopt a minimal narrative disclosure strategy in annual reports to camouflage poor financial performance.

Second, by examining the manipulation of information presentation in form-rich financial narratives on Twitter, we find that firms employ an assertive IM strategy to emphasise positive outcomes through multiple self-presentational patterns. When firms report improved performance, they are especially more likely to embellish their disclosures with multifarious presentational patterns than firms that are experiencing declining performance. Presentational emphases on good earnings news easily convey

rich earnings information and impress stakeholders. These findings are in line with prior evidence on selective presentation in accounting narratives (Skinner 1994, Beattie and Jones 2000, Clatworthy and Jones 2006, Martens et al. 2007, Parhankangas and Ehrlich 2014).

Third, we also provide supportive evidence of firms' assertive information dissemination behaviour on Twitter. Specifically, we find that firms are more likely to disseminate positive earnings information than negative and neutral information by strategically utilising dissemination tools. Additionally, improving performers are more likely to disseminate earnings news than declining performers. The selective use of hashtags and/or cashtags related to positive information could cause an information exposure bias (Elliott et al. 2016), as positive information enjoys the advantage of accelerated and broadened dissemination. Moreover, the manipulative use of hyperlinks in earnings tweets could also lead to biased information dissemination, as stakeholders' news feeds on Twitter become filled with more readily clickable good news and more comprehensive stories to complement a favourable corporate image. Consequently, stakeholders are more likely to be exposed to carefully crafted positive information and are therefore more easily able to form favourable impressions of firm performance. In this regard, our findings support Jung et al.'s (2016) contention that firms are opportunistic in the dissemination of earnings news on Twitter.

Finally, the interactive functions on Twitter help us reveal the outcome of IM on social media. We find that positive earnings news receives a higher level of engagement than other types of information, as positive earnings-related tweets are more often displayed in a larger font size, namely, as 'best tweets'. This finding is consistent with Berger and Milkman's (2012) finding that positive content is more likely to go viral online. In addition, we find that improving performers are more likely to have earnings-

related tweets awarded as ‘best tweets’ than declining performers. These results are in line with Lee et al.’s (2013) findings on social media virality. Our findings suggest that improving performers are more successful at constructing a favourable corporate image on Twitter because they successfully attract stakeholders’ attention and ‘seduce’ them into participating in financial communication. Moreover, our findings may indicate that declining performers are also successful at employing a defensive IM strategy to avoid public attention and to maintain their existing image.

Our study contributes to IM research by providing novel evidence of the corporate use of social media during earnings announcement events. In addition to reducing the information gap, large firms, irrespective of their performance, tend to use different corporate disclosure strategies to construct a favourable corporate image on social media. Furthermore, in prior accounting narrative studies, IM behaviours are more pronounced for firms who need to retain or repair their corporate image and reputation in unfavourable circumstances, such as reporting poor financial or environmental performance (Courtis 1998, 2004b, Li 2008, Cho et al. 2010, Leung et al. 2015) or requiring legitimacy construction (Ogden and Clarke 2005, Criado-Jiménez et al. 2008, Samkin and Schneider 2010). We add to the IM literature by showing that firms also extensively involve self-presentational behaviours to enhance their corporate image in favourable circumstances. Additionally, we demonstrate that firms are adaptive in the employment of IM strategies for the new disclosure medium; not only is the disclosure itself biased, but the dissemination of the disclosure is also manipulated to achieve a more favourable image construction. Finally, we provide initial insight into the outcome of IM by examining the immediate responses from stakeholders enabled by the interactive functions on Twitter.

Our results also engender several new directions for further research. Longitudinal studies could provide an opportunity to examine the factors determining disclosure decisions and changes in disclosure patterns over time. With the increasing popularity of social media for corporate communications, future research could also extend the sample size and obtain more observations by examining other corporate events under different settings such as CSR, mergers and acquisitions, investment announcements and new product launches.

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## Appendix List of earnings-related tweets with a negative tone

Company name	Earnings-related tweets with a negative tone
Aviva	FY14 CEO: “It would be <u>wrong</u> to assume our turnaround is nearing completion – we have further to travel than the distance we have come.” Mar 05, 2015 (1)
Johnson Matthey	PMP Manufacturing sales <u>down</u> 3% to £259m, flat at constant rates. Mixed performance in businesses. Live: <a href="http://t.co/3nrlNyuzQR">http://t.co/3nrlNyuzQR</a> Jun 04, 2015 (2)
	PMP Services sales <u>down</u> 26% to £120m. Impact of Anglo contracts and a mixed year in Refining. Live: <a href="http://t.co/3nrlNyuzQR">http://t.co/3nrlNyuzQR</a> Jun 04, 2015 (3)
	Precious Metal Products impacted by changes in Anglo contracts. Sales <u>-12%</u> to £379m. Excl. Anglo performance steady <a href="http://t.co/3nrlNyuzQR">http://t.co/3nrlNyuzQR</a> Jun 04, 2015 (4)
	ROIC <u>fell</u> below our 20% target (18.8%) following change in Anglo Platinum contracts and increase in pgm balances. <a href="http://t.co/3nrlNyuzQR">http://t.co/3nrlNyuzQR</a> Jun 04, 2015 (5)
	Results: ROIC at 18.8%, <u>down</u> 2% due to <u>loss</u> of income from Anglo Platinum and higher working capital. <a href="http://t.co/V4wSmduO4S">http://t.co/V4wSmduO4S</a> Jun 04, 2015 (6)
Reed Elsevier	#ReedElsevier print revenues were <u>just</u> 18% compared with 64% in 2000, or 50% in 2007 #ReedElsevier #results #RELX #digitaltransformation Feb 26, 2015 (7)
Royal Bank of Scotland Group	RBS results: £3.5bn attributable <u>loss</u> following a £4bn write-down on Citizens. Feb 26, 2015 (8)
BP	Underlying replacement cost profit for 4Q was <u>\$2.2b</u> , compared with <u>\$2.8b</u> for 4Q 2013 #BP \$BP Feb 03, 2015 (9)
	Full year underlying replacement cost profit was <u>\$12.1b</u> compared with <u>\$13.4b</u> reported for 2013 #BP \$BP Feb 03, 2015 (10)
Glaxosmithkline	2014 Gp sales £23bn ( <u>-3%</u> ), core EPS 95.4p ( <u>-1%</u> ).Both ex-div'ments. EPS benefit from cost & fin efficiencies #GSKFY14 <a href="http://t.co/W7BKku1b9q">http://t.co/W7BKku1b9q</a> Feb 04, 2015 (11)
Kingfisher	Kingfisher reports sales up 2.9%, adjusted pre-tax profit of £675m, <u>down</u> 7.5% <a href="http://t.co/knLAee6s6I">http://t.co/knLAee6s6I</a> #KGFFY Mar 31, 2015 (12)
<b>Note:</b> The criteria for negative earnings-related tweets = tweets containing ANY negative information.	