N. Nkhi
Z. Varachia
D. Cerbone

Impression management techniques employed by listed companies on the Johannesburg Stock Exchange when using Twitter

ABSTRACT

The study investigates if companies listed on the Johannesburg Stock Exchange (JSE) use impression management techniques when disclosing earnings-related information on Twitter. A content analysis was followed as a research methodology to conduct the study. The findings indicate that Twitter is not widely used by listed companies to disclose earnings information. However, where Twitter is used, companies do employ impression management techniques. The impression management techniques differ depending on whether the earnings information distributed is positive or negative. This was evident as tweets with a positive tone were circulated much more than tweets with a negative or neutral tone. The use of self-presentational and dissemination patterns also differed significantly across the tone of tweets. Positive tweets contained more narratives compared to negative tweets, indicating that negative information is concealed. Negative tweets predominantly did not contain hashtags, once again indicating that companies often conceal negative information. Most positive and neutral tweets contained hashtags, illustrating that companies often use Twitter as a means to alter users' perceptions towards a positive image. Understanding how companies use impression management techniques will assist users in interpreting and using the information shared. The research may also be beneficial to regulators who may consider drafting guidance and standards regarding the use of social media by companies.

Keywords: Impression management; Twitter; self-presentation; dissemination; social media.

Naledi Nkhi is a Senior Lecturer in the Tax Division at the University of the Witwatersrand. Her research interests include stakeholder engagement by companies.

Zakiyyah Varachia is a Senior Lecturer in the Auditing Division at the University of the Witwatersrand. Her research interests include stakeholder engagement by companies.

Dannielle Cerbone is a Senior Lecturer at the School of Accountancy where he teaches Auditing and integrated reporting to undergraduate and postgraduate students. His research interests include value creation, materiality determination, business model development and integrated thinking in general.

INTRODUCTION

Given the change in information technology over the last two decades, there is visible transformation regarding how companies communicate with stakeholders (Lee et al., 2015). Different communication channels have been used by companies over the years such as conference calls, traditional media, and more recently social media to communicate with stakeholders (Miller & Skinner, 2015). The rise of social media is shifting the way information is produced, disclosed, and circulated (Lei et al., 2019). Not only are companies using social media to disclose financial information on an increasing basis, but investors are also using social media to obtain information about companies (Blankespoor et al., 2014, Alden, 2013). The visible integration of social media as part of communication channels indicates how important the use of social media is in distributing information about a company, including financial information (Bloomberg, 2013). Companies that do not incorporate social media in their communication strategy may be disadvantaged within the investment community (Alexander & Gentry, 2014).

The use of social media allows intermediaries to be bypassed, as a company can communicate with users directly by sending information to its followers (Lee et al., 2015). This was not the case with traditional communication as intermediaries, such as the press, were relied on to disseminate information and there was a lack of a regular and continuous communication channel with stakeholders (Blankespoor et al., 2014). Social media platforms such as Twitter and Facebook reduce these issues as the sites are interactive, which allows companies and stakeholders to engage in real-time conversations at a faster pace, across distances, and at a lower cost (Lei et al., 2019, Lee et al., 2015). Further, social media allows companies to communicate with a large group of stakeholders, which can assist with the reduction of information asymmetry (Lee et al., 2015, Blankespoor et al., 2014).

Although there are advantages to social media such as allowing easy access to extremely large audiences, resulting in more brand awareness, there are also disadvantages (Zarrella, 2009, Weinberg, 2009). Social media has caused a change in the information sharing process, as the recipients of information also form part of a company's information-sharing process by retransmitting and providing commentary (Lee et al., 2013). As a result, companies no longer have full control over the information-sharing process (Yang et al., 2016). This is because social media users are also powerful creators and distributors of information (Alexander & Gentry, 2014). The opinions of these social media users play a pivotal part in shaping opinions about companies, which impacts their reputations (Lee et al., 2015, Bartov et al., 2018, Blankespoor et al., 2014). This presents companies with new opportunities and challenges regarding their information-sharing processes (Lei et al., 2019).

Yang and Liu (2017) completed a study to understand whether the Financial Times Stock Exchange (FTSE) 100 companies strategically disseminate information on Twitter depending on whether the results are positive or negative. It was found that companies utilise certain

impression management techniques to present a more favourable image to the public. This research follows a similar approach to that of Yang and Liu (2017) within a South African context and examines impression management techniques relating to tweets regarding earnings. The study is based on the Twitter accounts of companies listed on the main board of the Johannesburg Securities Exchange (JSE), and is one of the first to examine the use of impression management techniques in social media (specifically Twitter) by South African companies.

There is a large existing body of research which focuses on impression management. Prior research on impression management techniques has focused on the traditional forms of communication such as annual reports (Beattie & Jones, 2008, Leung et al., 2015) and press releases (Osma & Guillamón-Saorín, 2011). Early research considers different components of annual reports, such as the use of graphs (Beattie & Jones, 2008), the chairman's statements (Clatworthy & Jones, 2001), and photographs (Buchanan, 2001). The existing body of research tends to focus on corporate reporting and not on social media. Studies that do emphasise the social media aspect of impression management have primarily been performed in European, American, and Oceanic settings. This study will indicate whether impression management techniques are applied in a developing country like South Africa when using social media platforms. South Africa is known for its role in promoting good corporate governance, for instance by being the first country to require all listed companies to produce integrated reports, in 2010. Thus by 2020, South African listed companies have been producing integrated reports for ten years (Rensburg & Botha, 2014, Atkins & Maroun, 2015, EY, 2020). A recent study by Eccles et al. (2019) found that the quality of disclosure of South African integrated reports is considered high, with South Africa obtaining higher scores than countries such as the Netherlands, Germany and the United Kingdom. Given these findings, it would be interesting to see how South African companies disclose earnings using less traditional disclosure mediums such as social media.

The final contribution of the study is practical, as the findings may also be beneficial to regulators, who may consider drafting guidelines and standards regarding a company's usage of social media. Such regulations do not currently exist in South Africa but do in other jurisdictions such as Regulation Fair Disclosure (FD) in the United States, and the International Standard on Auditing (ISA) 720 – The Auditor's Responsibilities Relating to Other Information, requires that the auditor reports on material inconsistencies between the audited financial statements and unaudited integrated reporting information. Social media is not considered to be other information, leaving room for companies to manipulate information provided on social media platforms. Guidelines may be necessary to ensure that the information distributed on social media platforms is fair, accurate and neutral.

Although there are many platforms for social media, the study is limited to Twitter as it is the

platform most widely used by corporates (Yang & Liu, 2017, Zhang et al., 2017, Lee et al., 2015, Blankespoor et al., 2014). Further, the field of impression management includes a vast amount of literature, and to delve into all aspects of the area is not within the scope of this study. The impression management techniques used for the study are isolated in Table 1 (contained in the next section).

The remainder of the paper is structured as follows: the next section reviews the prior literature regarding social media with a focus on Twitter and the literature relating to impression management. Thereafter, the methodology including the sample selection is discussed. The results from the research are then investigated, followed by the conclusion of the paper, as well as future areas of research.

1. LITERATURE REVIEW

1. Social media and Twitter

For capital markets to function efficiently, accurate and complete information must be available timeously (Healy & Palepu, 2001). The results from a study by Lee et al. (2015) indicate that a company can use social media to fill the information gap before false information is distributed. Due to the separation of ownership in public companies, managers of companies generally have more information about a company than other stakeholders, resulting in information asymmetry (Beyer et al., 2010, Jensen & Meckling, 1976). Voluntary disclosure, such as disclosure on social media platforms or the voluntary section of the integrated report, is viewed as a means to reduce information asymmetry and provide clear information relating to the company (Healy & Palepu, 2001). Twitter results in higher levels of dissemination because of its classification as a direct-access information technology (DAIT) (Blankespoor et al., 2014). DAIT allows companies to access investors directly and allows companies to push information to investors, rather than investors having to request information, eliminating the need for intermediaries (Blankespoor et al., 2014). Acquisition costs for investors are reduced as information is provided instantaneously and the possibility of misinterpretation by a third party is eliminated (Blankespoor et al., 2014).

Although there are advantages with a two-way communication channel, the major risk with this is the loss of control over the information-sharing process by companies (Lee et al., 2015; Miller & Skinner, 2015). Users may distort a firm's communication, spread negative publicity, and falsify information that could go viral (Lee et al., 2015). Further risks are the legal, security, and reputational issues that may arise, for instance if privacy or copyright laws are violated (Elliott et al., 2018; Mushwana & Bezuidenhout, 2014). Although there are disadvantages relating to the use of social media, companies face a bigger risk if they do not engage with social media platforms (Elliott et al., 2018; Lee et al., 2015). Given that users' interaction with traditional

media (television, radio, telemarketing and informational websites) is declining with the shift to social media, companies that do not engage will be disadvantaged (Tiago & Veríssimo, 2014).

Twitter facilitates communication by allowing users to send a “tweet”, which is a text-based message of up to 280 characters, up from the previous limit of 140 characters (Elliott et al., 2018). Given the restriction on characters, information that is distributed is concise and clear, which may aid effective communication. A criticism of the annual report has been that due to the volume of information and the jargon used, the annual report is not a clear document, which can thus widen the information gap (Efretuei, 2013). Twitter allows tweets to incorporate hyperlinks, pictures, graphs, and videos (Crowley et al., 2018), which are known to raise users’ interest in the content and have a different impact on the users’ decision-making process (Bierstaker & Brody, 2001). Although social media such as Twitter, surpasses traditional communication media, it may serve as an additional channel whereby companies can strategically manage the perceptions of a company (Yang & Liu, 2017).

1. Impression management

Given the features on Twitter such as the “like”, “tweet” and “re-tweet” buttons, both negative and positive sentiments regarding a company can rapidly go viral, which can have an immediate impact on a company’s reputation (Crowley et al., 2018). This provides companies with the opportunity to engage in impression management. Impression-management literature can be viewed as a manifestation of agency theory, as it regards voluntary disclosure as being driven by managerial self-serving reporting bias (Leung et al., 2015). Impression management is the field of study that considers how individuals present themselves to be viewed in a positive light (Hooghiemstra, 2000). It is behaviour taken by a party to create, protect or alter an image that is held by others to ensure a favourable outlook (Goffman, 1959; Schniederjans et al., 2013; Hooghiemstra, 2000). To influence the perceptions of other parties, the information that is shared is controlled, to maximise rewards when there is positive information and minimise punishment when there is negative information (Tashmin, 2016).

Companies engage in impression management using two strategies, namely assertive and defensive (Tedeschi & Melburg, 1984). Assertive strategies (see Table 1) occur when a positive or favourable image is established or promoted through the use of language or visuals such as graphs or photographs (Stanton & Stanton, 2002, Drory & Zaidman, 2007). Companies tend to attribute success to internal factors such as management performance (Aerts, 2005, Brennan et al., 2009). Regarding defensive strategies (see Table 1), justifications, or excuses are provided to repair a damaged reputation (Drory & Zaidman, 2007). Companies will attribute reasons for poor performance to factors outside their control (Brennan et al., 2013). Impression management is found to occur in less regulated narrative disclosures which focus on interpreting financial outcomes (Brennan et al., 2009). Similar to the front section of annual

reports, communication on Twitter is not audited or regulated, giving management the freedom to communicate in the way desired. The JSE listing requirements mandate that those involved in the dissemination of information exercise the highest levels of care, but no report is issued from regulators regarding the dissemination of earnings-related tweets. Companies are given the opportunity to distribute information in a manner that may result in users' perceptions of the underlying information being distorted (Stanton et al., 2004). Information relating to the financial performance of a company impacts management's reputation, with favourable news enhancing a company's reputation and therefore increasing the remuneration awarded to management (Jensen & Meckling, 1976). The unique nature of Twitter in terms of its character limit, instantaneous communication, and rapid dissemination and the option to include visuals, videos and hyperlinks allows a company to employ impression-management techniques in its communication with shareholders and other stakeholders.

Table 1: Summary of impression management strategies and techniques, adapted from Yang & Liu, 2017:682

Strategy	*Technique*	*Variable*	*Impression management function*
Defensive	Minimising	Volume	Reducing the volume of tweets can help avoid exposure and avoid public attention.
Assertive	Self-presentational	Narrative information	Narrative information can be used by management to tell their own story which can be used to enhance performance (Jameson, 2000).
		Quantitative information	Quantitative information can be used to highlight financial information or to compare trends.
		Visual information	Graphs, pictures, or videos can be embedded in tweets to highlight positive information.
	Dissemination	Hashtag/ Cashtag	Using a hashtag # or cashtag $ in tweets helps firms highlight the tweets by making them more easily searchable.
		Hyperlink	Incorporating hyperlinks in tweets enables firms to manipulate the dissemination of information.

Source: Yang & Liu (2017)

1.3 Development of research questions

Yang and Liu (2017) developed factors to consider if Twitter is used as an impression-management tool (Table 1). Impression-management literature has found that omission, language, and visuals such as graphs and pictures can be used to influence perceptions (Beattie & Jones, 2008; Simpson, 2000). Regarding the omission of information: this can be seen as a defensive strategy as companies conceal information to hide negative news (Leung et al., 2015, Aerts, 2005). A study conducted by Leung et al. (2015) found that management omits narrative disclosure when there is negative performance to conceal such results and therefore employs impression management techniques. Jung et al. (2018) found that companies will be less likely to tweet information when it is negative. Based on the above literature and the premise that companies will not distribute negative news, the following research question was developed, using the study of Yang and Liu (2017):

RQ1. Are companies less likely to post negative earnings-related tweets than positive earnings-related tweets?

Narrative information such as information distributed on social media is optional and is an important part of the information-sharing process as it allows stakeholders to assess a company's performance (Leung et al., 2015). Research shows that where there is negative performance, more technical and complicated language is often used, making it difficult to interpret the results (Aerts, 2005; Merkl-Davies & Brennan, 2007). However, with a positive performance, the language in most instances is clear and understandable (Aerts, 2005; Merkl-Davies and Brennan, 2007). Imagery such as photographs, graphs and tables are seen as elements that can enhance understanding, invoke users' interest, highlight trends, and reduce decision-making time (Beattie & Jones, 2008). Photographs influence users' decisions, as they can distract user attention from the actual information (Simpson, 2000). Similarly, graphs can also be used as an impression-management tool in terms of selectivity, presentational enhancement (the features of the graph can be changed to alter the interpretation of the graph and its trend), and measurement distortion (Beattie & Jones, 2008; Penrose, 2008). Using these self-presentational patterns (see Table 1), a tweet can incorporate all the elements to alter users' perceptions. Given the 280-character limit, one thought is encouraged to be delivered per tweet, which focuses the user's attention (Sul et al., 2014) and can attract interest in a company. Twitter allows a tweet to contain other visual elements that can be used to reinforce a positive image and also emphasise positive news (Yang & Liu, 2017). As is clear from the above literature, companies can reinforce a positive position by using narratives, graphs, or photographs (Osma & Guillamón-Saorín, 2011; Beattie & Jones, 2008); based on this, the following research question is developed:

RQ2. Do the self-presentational patterns used differ amongst positive, negative, and neutral earnings tweets?

Information on Twitter can spread at a rapid pace with minimum effort and costs. When a company tweets a message, followers will be able to re-tweet it to other users. As the size of a company's followers increases, this allows a company to reach a much larger audience (Crowley et al., 2018). Hyperlinks to a company's results, annual reports, and earnings announcements can be included in a tweet, which also allows more information to be distributed. Because the company can choose the type of information to be distributed, the user's attention can be directed to information that will enhance a company's public image (Yang & Liu, 2017; Crowley et al., 2018). Companies can also use hashtags (#) or cashtags ($) (see Table 1), which enables content to be searchable and easier to find (Yang & Liu, 2017). Cashtags were adopted by Twitter in 2012 to allow users to track news relating to companies, as the cashtag represents a financial theme in a tweet (Alexander & Gentry, 2014; Hentschel & Alonso, 2014). This leads to the following research question:

RQ3. Do the dissemination patterns used differ amongst positive, negative, and neutral earnings tweets?

The next section discusses the method followed to answer the above research questions.

2. METHOD

A qualitative approach was followed to answer the research questions. Data were collected by quantifying qualitative earnings data from Twitter accounts for the period ending 30 June 2019. A form-oriented content analysis was performed to document a range of impression management elements based on the earnings tweets which were obtained from the official corporate Twitter accounts of JSE-listed companies. The coding of tweets required an interpretative analysis. The impression management elements that were analysed are noted in Table 1. The analysis of the data is presented using numerical representation including the use of graphs and tables. As the data collected are non-parametric, Kruskal-Wallis tests were also used to answer the research questions and to provide further analysis.

1. Sample selection and size

There were 314 companies listed on the Main Board of the JSE during the period of research. Of all companies listed, only 63 (20.1%) companies use social media for earnings disclosures on Twitter. Table 2 provides a summary of the use of Twitter accounts for the population of companies in this research.

Table 2: Category of Twitter accounts

Category	***Total***
The Twitter account is used for earnings disclosures	63
No Twitter account	147
Twitter account is for careers, customer services, or marketing	64
Twitter account has no public access	3
Twitter account was not active in 2018/2019	37
Total	**314**

Source: Researchers' own data (2020)

2.2 Classifying the tone

The capturing of earnings tweets was limited to the day when the earnings announcement of the company was made. Further, the tweets analysed only linked to the financial performance of a company (earnings-related tweets). No attempt was made to analyse tweets that did not contain earnings information. Data were collected using the advanced search function on Twitter on the earnings date for each company. Earnings-related tweets were then classified into three tone types: positive, neutral, and negative. The sentiment or tone was determined by considering the choice of words and the use of punctuation marks and emoticons (Xu & Saxton, 2019). Certain words such as "excited", "thrilled", "excellent" evoke positive emotions, whilst words such as "disappointed", "poor", "angered" evoke negative emotions. This study performs an analysis on the narratives based on the disclosure patterns or forms; analysing the tone of tweets was for categorising purposes only. Using the categorising method adopted for sentences in Yang and Liu (2017) as a reference, the tweets were assessed individually by examining whether the tone reflected in each tweet was positive, negative, or neutral.

2.3 Data collection

The measurement of impression management is difficult (Yang & Liu, 2017). Tweets dealing

with earnings vary over time and are not consistent from company to company. They also include a mix of qualitative and quantitative information. To examine the differences in the self-presentational and dissemination of earnings-related tweets we used six variables (see Table 1) that capture the unique elements of Twitter for defensive and assertive strategies. A dichotomous scheme (0 = no and 1 = yes) was adopted to code these elements for each tweet. The number of earnings tweets posted by each firm was also counted.

2.4 Analysis of tweets

Descriptive statistics were used to analyse earnings-tweet elements such as the number of tweets and the number of Twitter accounts included in the study. Information specific to the content and nature of the tweets are presented in graphic or tabular format. Data are presented in tabular format for ease of interpretation and provide the basis for concluding on **RQ1**. Kruskal–Wallis tests, supported by Jonckheere–Terpstra post hoc assessment, were then used for **RQ2** and **RQ3**. Non-parametric tests were used, as these are less sensitive to sample-size effects and departures from normality. As the study is an exploratory one, and is not concerned with testing possible drivers of earnings-tweets or establishing a causal model for generalising findings, regression or structural equation models are not used. The specified non-parametric tests are used only to add to the study's exploratory detail.

3. RESULTS

The results begin with an overall analysis of the nature and content of the tweets observed in the sample. A Kendall's tau-b is performed on the non-parametric data to examine the existence of any statistically significant relationships between the variables. Lastly, **RQ1, RQ2**, and **RQ3** are answered based on the various descriptive and statistical evidence.

3.1 Nature and content of tweets

Table 2 provides information regarding the categories of Twitter accounts. A total of 138 (43.9%) companies did not have Twitter accounts. A further total of 64 (20.4%) companies had active Twitter accounts; however, no earnings tweets were posted on the account. It appears that most listed South African companies do not consider Twitter as a useful communication medium, as only 63 (20.1%) had active Twitter accounts for earnings information. The total number of earnings tweets tweeted by companies was 283 (on average each company tweeted 4.5 earnings tweets).

Table 3 also provides information regarding the content of tweets. The majority of earnings tweets contain narrative information (68.6%) and visual information (63.3%). Quantitative information is used the least (44.5%). The use of two types of self-presentational elements (see Table 1) is the most prevalent for all tweets (34.6%), as shown in Figure 1 below.

Given the character limit on tweets, the use of visuals can provide additional information. The use of visuals when communicating is seen to focus the user's attention and facilitates better responses to content than using only narratives (Kuma, 2016). Its use is also seen to increase more engagement, as tweets with images receive more clicks and retweets (Kuma, 2016). Visuals appear to be used by companies to complement the narrative and quantitative data and to facilitate engagement with users. This seems to be consistent with research regarding the annual report where the use of different elements such as graphs, tables, and photographs impact the user's interpretation and understanding of the underlying data (Bierstaker & Brody, 2001).

Table 3: Overall features of tweets

Feature	***Number of tweets***	***Percentage based on total tweets (%)***
Tone		
Tone – Negative	6	2.1
Tone – Neutral	88	31.1
Tone – Positive	189	66.8
Self-presentational pattern		
Narrative	194	68.6
Quantitative	126	44.5
Visual	179	63.3
Dissemination		
Hashtag	183	64.7
Cashtag	21	7.4
Hyperlink	134	47.3

Source: Researchers' own data (2020)

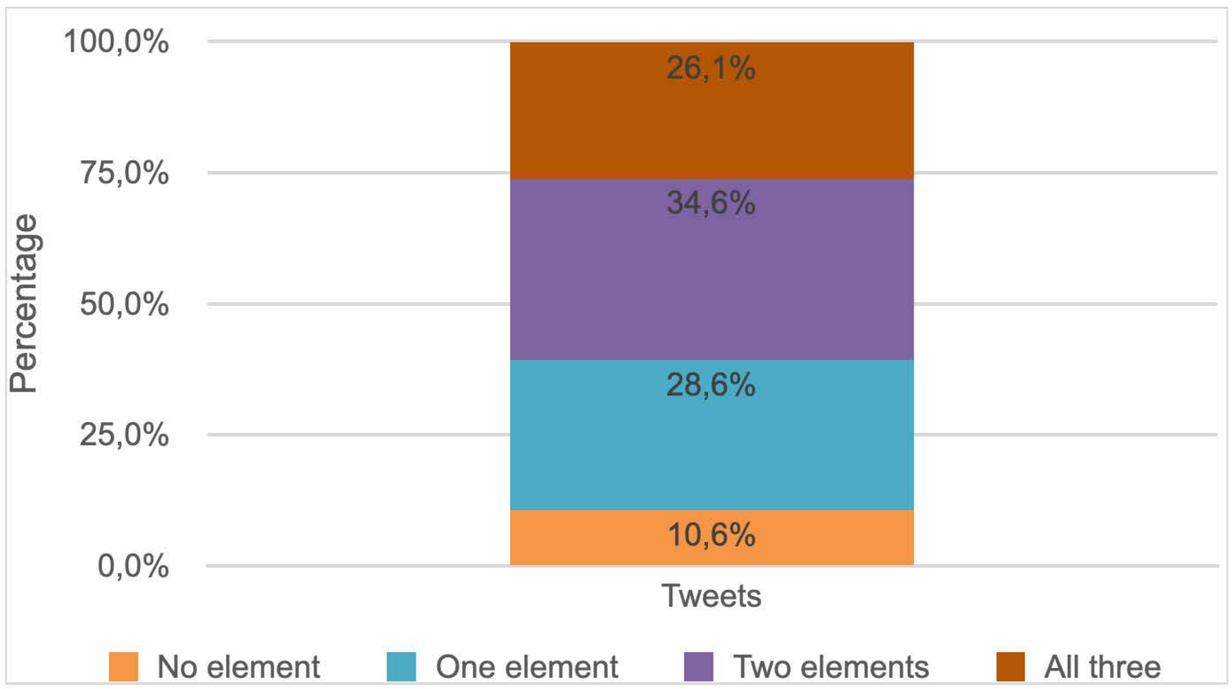

Figure 1: Number of self-presentational patterns used per tweet
Source: Researchers' own data (2020)

Figure 2 provides an example of a tweet that has a positive tone and contains all self-presentational and dissemination elements. Compared to the annual reports that have been criticised in recent times for containing complex and voluminous information (Frownfelter-Lohrke & Fulkerson, 2001), tweets by companies are required to explain the information within the 280 character limit. As a result, the use of technical jargon is eliminated, and users are only given the pivotal highlights relating to a company.

Figure 2: Tweet that contains all elements (self-presentational and dissemination)
Source: Researchers' own data (2020)

Regarding dissemination, companies use hashtags to a large degree, as 64.7% of tweets

contained a hashtag. This means that companies are using the features of Twitter to allow information to be easily searchable by users when financial information is released. Hyperlinks are also used by companies (47.3%), although they are not as popular as hashtags. Cashtags are the least popular dissemination pattern used (7.4%). South African listed companies are more inclined to use hashtags as opposed to cashtags. Given that cashtags were introduced by Twitter in 2012 to track company-related news (Kim, 2012), further research will need to be conducted to understand why companies are not using cashtags. The use of one dissemination element is the most predominant when tweeting as indicated in Figure 3. As noted above, it is more likely to be hashtags, followed by hyperlinks.

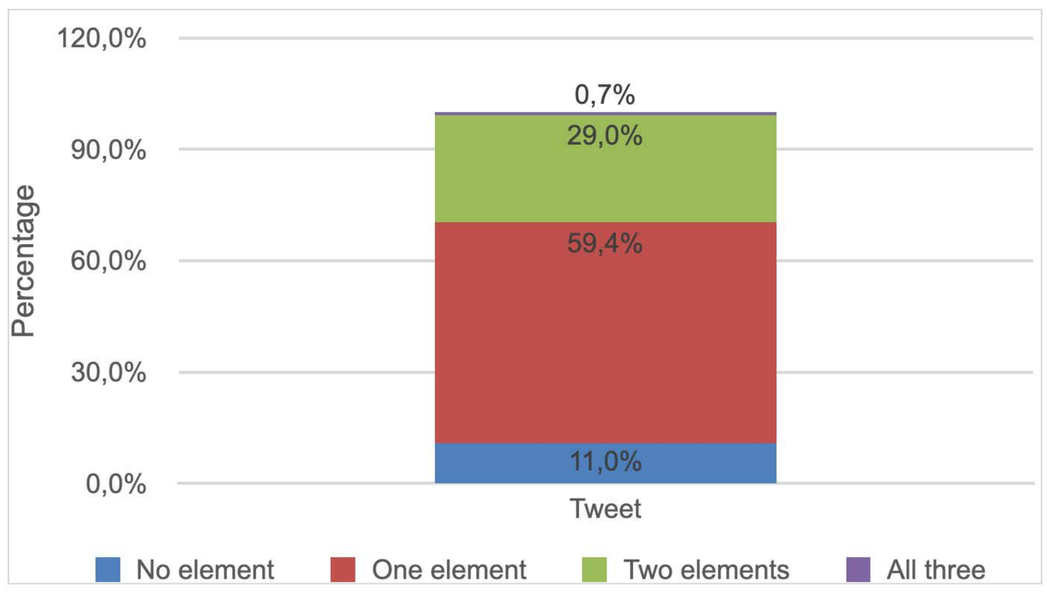

Figure 3: Number of dissemination patterns used in a tweet
Source: Researchers' own data (2020)

3.2 Correlation analysis between variables

Table 4: Kendall's tau-b correlation

Correlation							
	TONE	**NARRATIVE**	**QUANTITATIVE**	**VISUAL**	**HASHTAG**	**CASHTAG**	**HYPERLINK**
TONE	1.000	0.725**	0.331**	0.076	0.108	−0.052	−0.226**
NARRATIVE		1.000	0.469**	−0.043	0.136*	−0.041	−0.379**
QUANTITATIVE			1.000	0.049	−0.007	−0.064	−0.166**
VISUAL				1.000	−0.057	−0.008	0.077
HASHTAG					1.000	−0.298**	−0.261**
CASHTAG						1.000	.164**
HYPERLINK							1.000
** Correlation is significant at the 0.01 level (2-tailed).							
* Correlation is significant at the 0.05 level (2-tailed).							

Source: Researchers' own data (2020)

Table 4 presents Kendall's tau-b correlation table and provides preliminary findings on the associations between the variables. As illustrated, there is a strong correlation (0.725, $p < 0.01$) between tone and narrative. This shows that the more positive the tweet, the more likely that the tweet contained some form of a narrative. Similarly, tone is moderately correlated (0.331, $p < 0.01$) to quantitative data. This means that positive tweets can also be associated with the inclusion of quantitative information. A moderate correlation between narrative and quantitative data also exists (0.469, $p < 0.01$). This indicates that tweets with a positive tone are most likely to include a story and be backed with numbers. This implies that companies are using impression management techniques to communicate with stakeholders.

The negative relationship between the use of the hyperlink with most variables is aligned with the findings of the study by Yang and Liu (2017) about the visibility of tweets. Hyperlinks have a weak correlation with tone (−0.226, $p < 0.01$), quantitative data (−0.166, $p < 0.01$), hashtags (−0.261, $p < 0.01$) and cashtags (0.164, $p < 0.01$). Hyperlinks also have a moderate negative correlation (−0.379, $p < 0.01$) with narrative. This suggests that where tweets have narrative explanations, companies do not include hyperlinks. It also supports Yang and Liu (2017) who found that hyperlinks are used as a distraction tactic to move the reader to different (possibly, more favourable) information, a defensive impression management technique.

3.3 Tone of tweets

Table 3 indicates the features of different tweets. In terms of the tone of tweets, most of the earnings tweets are positive (66.8%) with only 2.1% of tweets being negative and 31.1% of tweets being neutral. Table 3 shows that firms post more positive earnings tweets than negative and neutral earnings tweets. As a result, for **RQ1**, it can be concluded that JSE listed companies tend to disclose more positive information about their earnings and steer away from tweeting negative information relating to the company. This is aligned with the findings of prior studies such as (Clatworthy and Jones, 2003), where it was found that companies tend to emphasise positive performance, and Leung et al. (2015), where negative information is concealed. These studies were conducted in the United Kingdom and Hong Kong respectively, with South African companies displaying similar characteristics. This indicates that companies use Twitter as a defensive impression management tool by not posting negative related information to avoid public exposure. Given the above findings, consideration could be given to how a regulatory framework may provide guidance to companies to ensure that all relevant and applicable information is provided when using social media as a communication medium.

3.4 Self-presentational patterns across tone

Figure 4 displays the self-presentational pattern used based on the tone of tweets. The use of self-presentational patterns differs across all categories. Narrative information was found to be the most widely used for positive tweets (92.6%). Neutral tweets contained more visual information (55.7%), whilst negative tweets used quantitative information mainly. Negative tweets also use visuals extensively (83.3%). It appears that both positive and negative tweets employ assertive impression management strategies, however, the type of strategy used differs. Positive information may contain more narratives as narratives allow a company to use words that can invoke an optimistic sentiment relating to a company and thereby creating a positive image of the company. A possible reason for negative tweets avoiding narrative information could be linked to Leung et al.'s (2015) study, which found that negative information is often concealed. Additionally, given the short character limit on Twitter, companies are not able to complicate the language when there is negative news, as can be done with the information in annual reports. Negative tweets containing visuals could also be used as a means to distract users from the underlying information (Simpson, 2000). A Kruskal-Wallis test was used to identify if self-presentational patterns differ across the tone of tweets. The difference was found to be significant at the 5% level ($p = 0.000$). The Kruskal-Wallis test supports the descriptive statistics that the self-presentational patterns differ amongst positive, negative, and neutral earnings tweets.

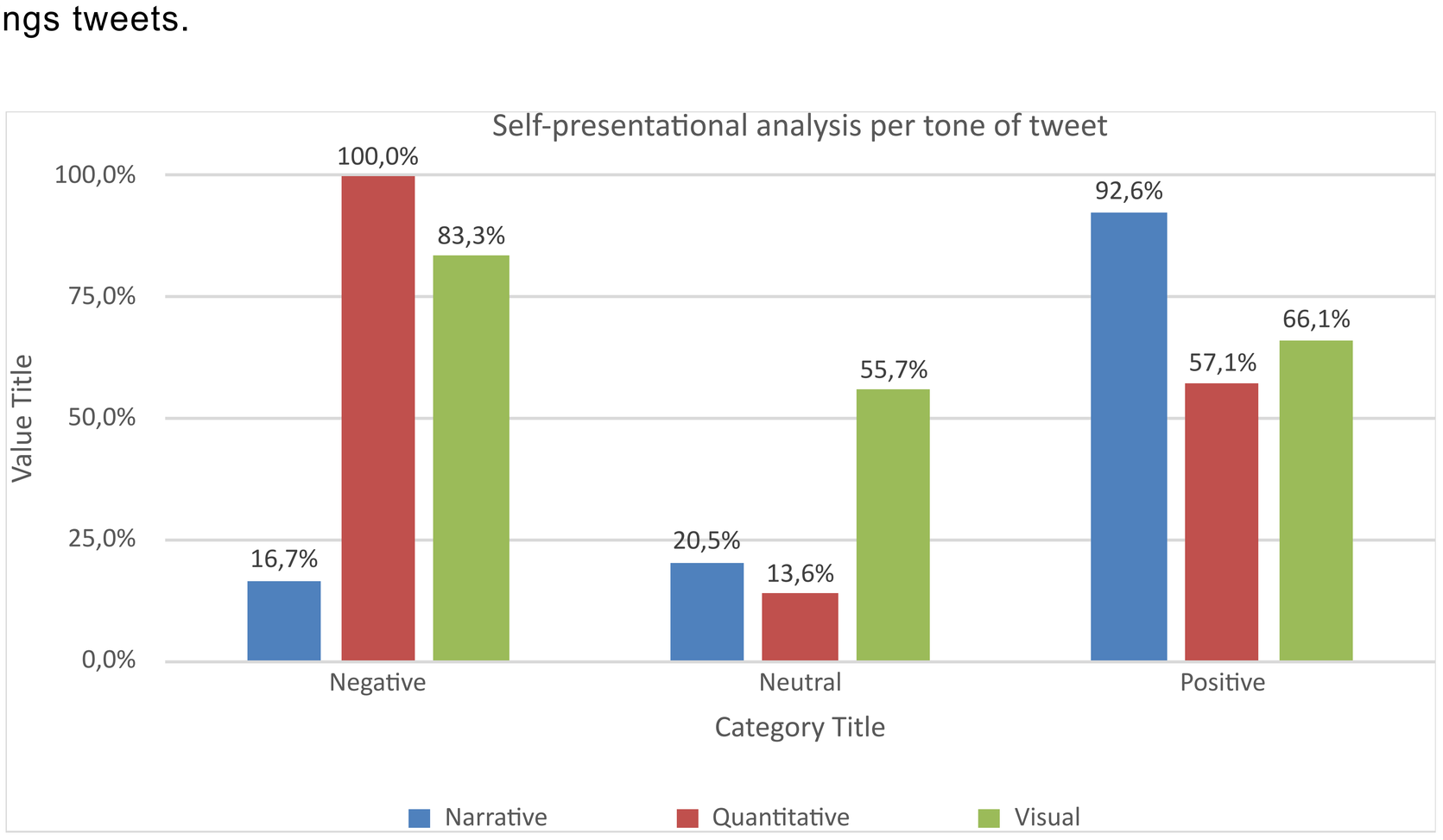

Figure 4: Self-presentational patterns across tone of tweet
Source: Researchers' own data (2020)

In addition, Figure 5, below, supported by the Jonckheere–Terpstra score ($p = 0.000$) indicates

that as tone moves from negative to positive, there is an increase in self-presentational patterns. Positive tweets seem to employ more self-presentational patterns, as most tweets contain two elements (42.3%), followed by three elements (37%). Only one positive tweet contained no self-presentational patterns. All negative tweets contained two elements. As discussed above, negative tweets use quantitative data and narratives simultaneously. It does appear that companies tend to employ self-presentational techniques depending on the tone, as companies reinforce their positive image by using more self-presentational techniques for positive news. Neutral tweets generally contain one element (48.9%), followed by tweets that do not contain any self-presentational elements (33%). The fact that a significant portion of neutral tweets contains no self-presentational elements may indicate that for neutral reporting there is no need to alter the perception that is created and therefore self-presentational patterns are not used. Based on the above, it can be concluded that for **RQ2** the tone of a tweet impacts the self-presentational patterns used.

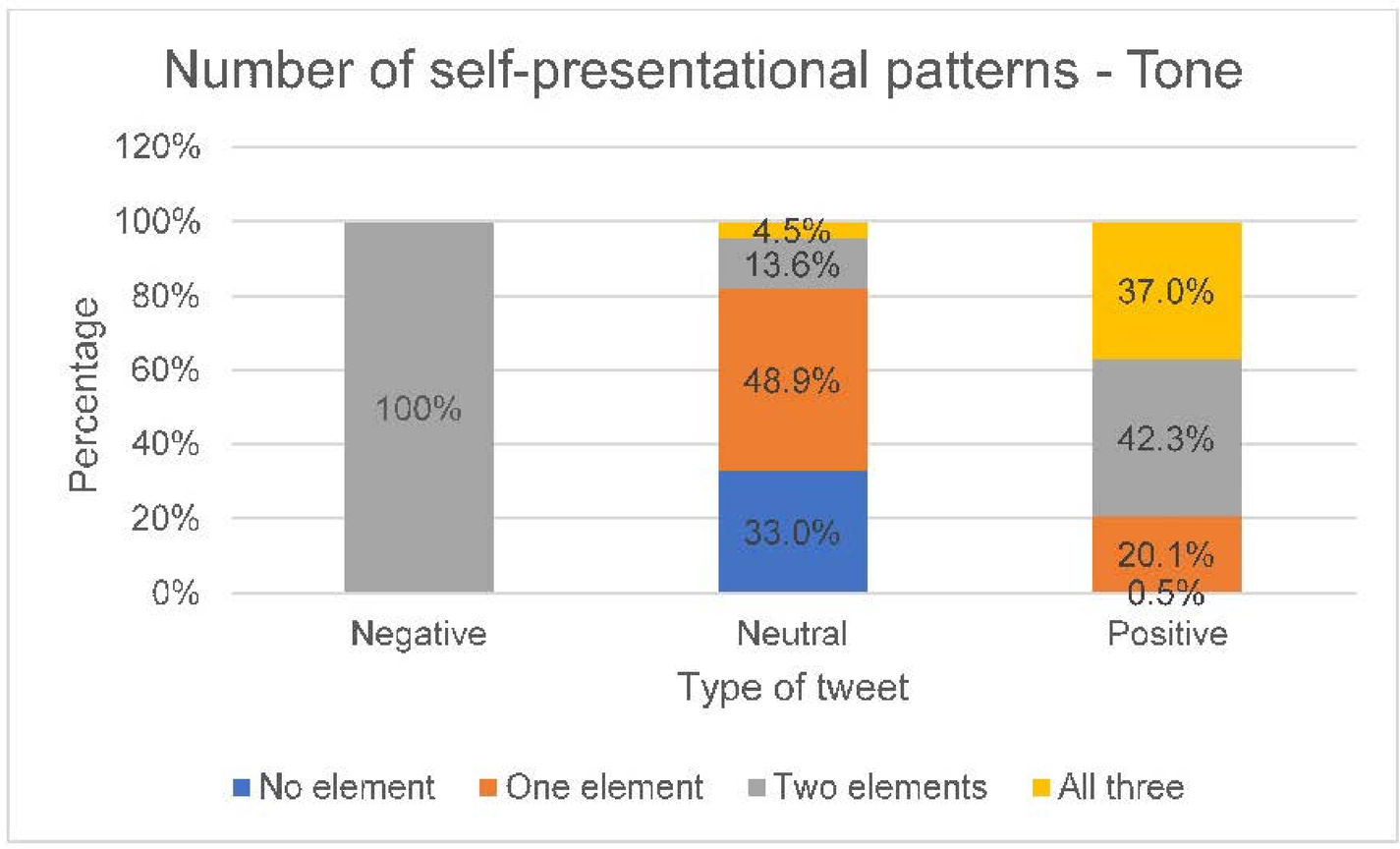

Figure 5: Number of self-presentational patterns across tone of tweet
Source: Researchers' own data (2020)

3.5 Dissemination patterns across tone

Figure 6, below, indicates the dissemination patterns used, depending on the tone of tweets. Negative tweets only use hyperlinks and no other dissemination elements. The minimal use of dissemination patterns for negative tweets could indicate that companies do not want to distribute negative information about a company. This is in line with assertive impression management strategies as companies attempt to hide the information from users as was found by Leung et al. (2015). However, the use of hyperlinks could indicate that companies

are attempting to explain the negative news by providing further information and reducing information asymmetry. The pattern for positive and neutral tweets is similar as both use hashtags, hyperlinks, and cashtags. Hashtags were most commonly used for both positive (67.7%) and neutral tweets (62.5%). Hyperlinks were also incorporated in neutral tweets (60.2%), however, for positive tweets hyperlinks were used to a lesser degree (39.7%) when compared to neutral and negative tweets. Hashtags allow information to be more easily searchable. Therefore, by incorporating a positive tweet and a hashtag it allows for the positive information to be easily searchable. Similar to self-presentational patterns, both negative and positive tweets employ assertive impression management strategies - the difference lies in the type of strategy selected. A Kruskal-Wallis test was used to identify if the dissemination patterns differ across the tone of tweets. The difference was found to be significant at the 5% level ($p = 0.031$), indicating that dissemination patterns are not the same across the tone of tweets.

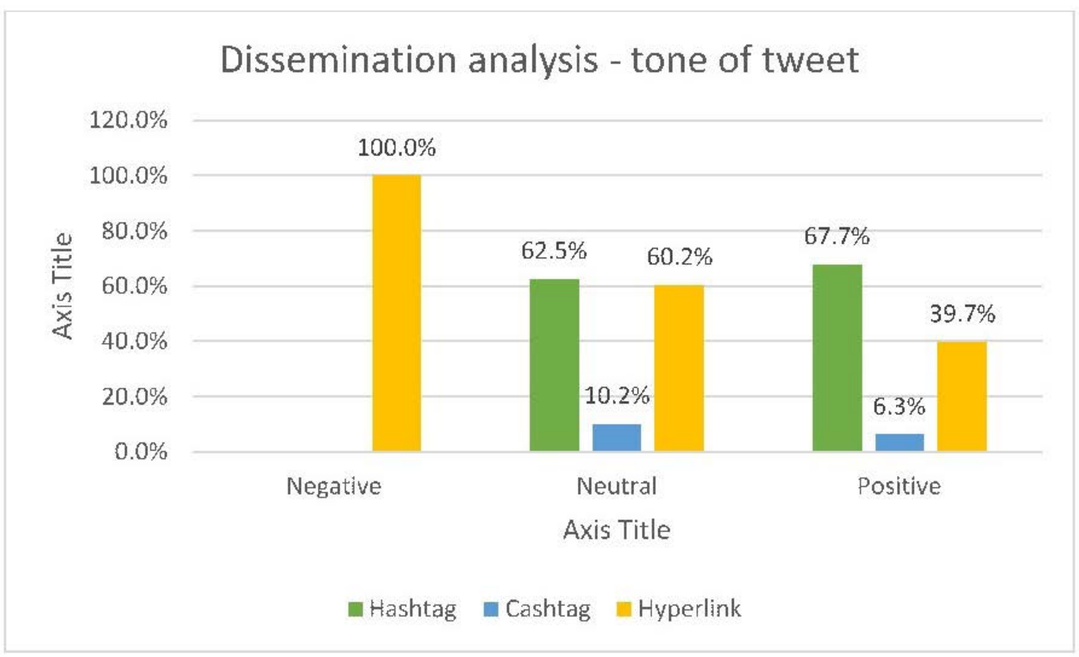

Figure 6: Dissemination analysis – Tone of tweet
Source: Researchers' own data (2020)

According to Figure 7, below, the use of one element for dissemination was found to be the most common across all categories of tweets, with negative tweets only using one element. Two elements are also used for both positive and neutral tweets. As mentioned above, hyperlinks and hashtags are used more commonly, with cashtags used the least. This explains why a small percentage of positive tweets contain three elements. It does seem that positive tweets are disseminated to a higher degree than negative tweets. Companies appear to be disseminating positive tweets to create a positive image of a company and therefore enhance the company's image in the public domain. Based on this, it can be concluded that regarding **RQ3**, a difference in dissemination patterns exists depending on the tone of tweets. Given this finding, it may be required to govern how companies post on social media to ensure that all information, whether positive or negative, is easily searchable and available to users.

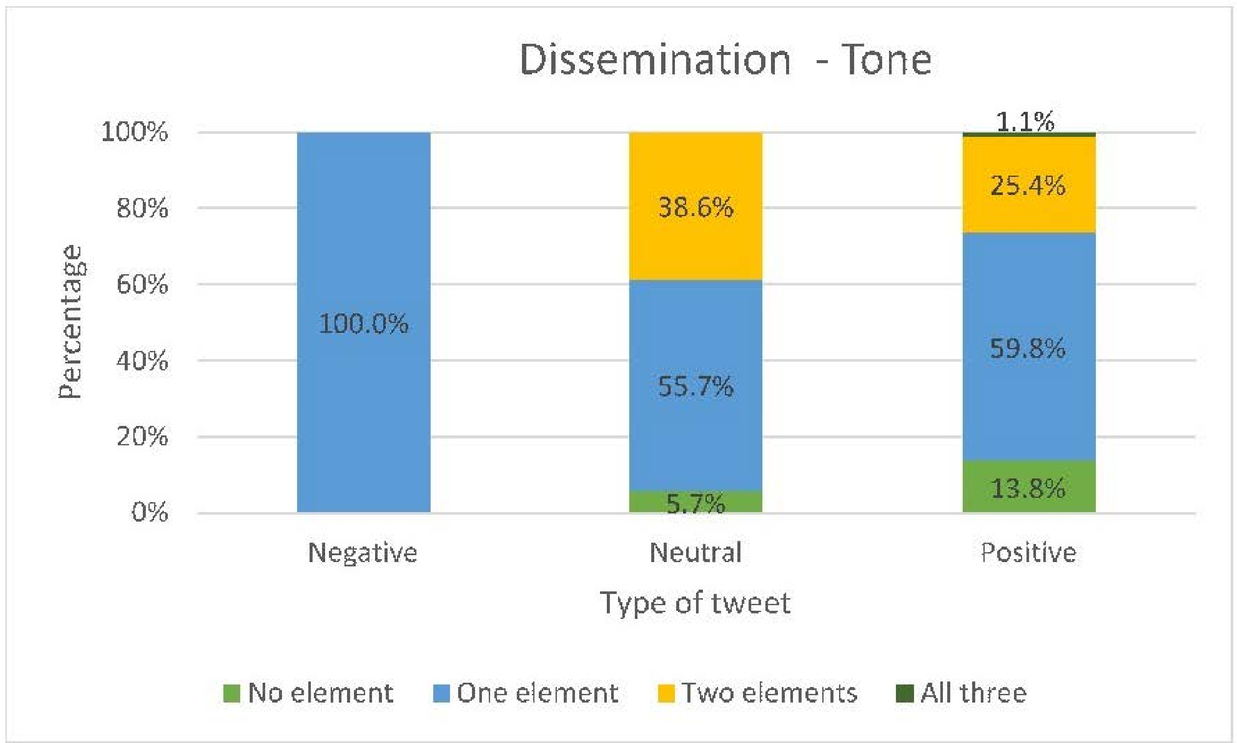

Figure 7: Dissemination of tweets by tone
Source: Researchers' own data (2020)

4. CONCLUSION

The use of Twitter does not seem to be common amongst South African listed entities as only 63 out of 314 companies used Twitter to report earnings. Collectively, these companies tweeted 283 tweets on their respective earnings day. Given the unique features of Twitter, such as instant and rapid communication, it is interesting to note that most South African companies prefer not to use Twitter when communicating financial results.

Where South African companies do use Twitter for earnings communications, it was found that the majority of tweets reflect a positive tone (66.8%). This is aligned with prior research, where it was found that companies tend to distribute and emphasise positive information, with negative information being concealed as a defensive strategy. The research findings also suggest that companies engage in both assertive and defensive impression management strategies when communicating on Twitter.

Narrative and visual information were most prevalent in tweets compared to quantitative information. Most tweets contained two self-presentational elements. It was found that the self-presentational patterns used differ, depending on the tone of the tweet. Regarding neutral tweets, it is interesting to note that the majority of tweets contained only one pattern, followed by tweets with no self-presentational patterns. This may indicate that neutral information is not required to be enhanced or concealed, and therefore to a large extent, self-presentational patterns are not used. All negative tweets contained two self-presentational patterns. Negative tweets generally do not use narratives, and this is aligned with prior research where negative

information is concealed. The majority of positive tweets contained three elements, indicating that positive news is emphasised to establish a positive image.

In terms of dissemination, hashtags are the most popular feature found. Cashtags are used minimally by companies. It was also found that the dissemination patterns are not the same across the tone of tweets. Hyperlinks were the only dissemination pattern used for negative tweets, which may indicate that companies try to explain the negative information by including additional information. Hashtags were not used for negative tweets, indicating once again that defensive impression management tactics are used by companies to conceal information, as the tweet will not appear as easily had a hashtag been used. Positive and neutral tweets both used hashtags extensively, followed by hyperlinks. Both types of tweets used one dissemination pattern to a large degree. The research supports the findings that for negative and neutral tweets, companies are less concerned with it being disseminated. However, positive tweets are disseminated as they create a favourable image of the company. As impression management elements were found in both positive and negative tweets, consideration should be given to whether regulatory frameworks need to be issued to govern the use of social media by companies when using non-traditional platforms such as Twitter.

Future research should be conducted to identify the reasons why most South African listed companies do not use Twitter as a communication medium, given the advantages associated with its use (See section 1.1). Further research can also be conducted on the minimal use of cashtags by companies, although they are meant for company-related information, and the reasons for this. It would also be interesting to note how the use of Twitter differs amongst sectors, improving and declining performers, and the different market capitalisation across companies. Lastly, research could be conducted regarding the impact that the development of a regulatory framework will have on how companies use social media.

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