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Investigating Abnormal Disclosure Tone in Corporate Narratives: Evidence from an Emerging Market

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Abstract:
This study aims to investigate abnormal disclosure tone levels (i.e., extent of management's tone manipulation) in narrative disclosures of earnings press releases of Egyptian firms. Net disclosure tone is measured by applying manual textual analysis using the financial-domain wordlist of Henry (2008). Then, abnormal disclosure tone is estimated using the model proposed by Huang et al. (2014). Results show that net disclosure tone in the narratives of earnings press releases of firms in all industry sectors tend to be positive and optimistic. In addition, while estimating abnormal disclosure tone levels, using Huang et al (2014) model, it is found that firms that are more profitable, larger, with less growth opportunities and more business segments tend to provide more positive and optimistic tone in their narrative disclosures. Moreover, results provide evidence for the existence of levels of abnormal tone in the narrative disclosures of earnings press releases (both upward and downward tone management), indicating the existence of some levels of tone manipulation by management in the Egyptian firms' disclosures. Firms in the materials and the real estate sectors are found to have higher levels of abnormal disclosure tone in their earnings press releases. This study contributes to the existing literature, by providing insights regarding management's use of abnormal tone (i.e., Tone management) in the narrative disclosures of Egyptian firms, which is an unexplored area yet in the Egyptian market or any other emerging market.

Keywords: *Abnormal disclosure tone, tone management, narrative disclosures, textual analysis*

1. Introduction

Firms usually communicate their information to external interested parties and different stakeholders through a variety of channels, such as annual reports, corporate social responsibility (CSR) or sustainability reports, investors' presentations, conference calls, press releases, websites etc. (Brennan and Merkl-Davies, 2018). For years, corporate reports were mainly composed of large amounts of numerical or quantitative information, with small portions of explanations and descriptions (except for footnotes with the financial statements). Since quantitative information provide users with an incomplete picture of the company's economic performance (Huang et al., 2014), there is a need to be accompanied by unstructured textual information. Nowadays, narrative or qualitative disclosures have become a very important form of disclosures, representing a major part of firms' reports (Lo et al., 2017; Masztalerz, 2016).

As a result, researchers' attention was directed towards examining different characteristics and dimensions of narrative disclosures, such as length (e.g. Davis et al., 2012; Dyer et al., 2017; Loughran and McDonald, 2014), readability/ understandability/ textual complexity (e.g. Ajina et al., 2016; Dyer et al., 2017; Fisher et al., 2020; Hsieh et al., 2016; Lo et al., 2017), tone (e.g. Aly et al., 2018; Arslan-Ayaydin et al., 2016; Caserio et al., 2019; Clatworthy and Jones, 2003; Davis and Tama-Sweet, 2012; D' August and De Angelis, 2020; Davis et al., 2012; Henry, 2008; Huang et al., 2014; Li, 2010; Loughran and Mcdonald, 2011; Luo and Zho, 2017; Price et al., 2012; Rahman, 2019; Smith and Taffler, 2000; Wu et al., 2020) and redundancy (e.g. Dyer et al., 2017). Many prior studies show that management's use of narrative disclosures and its attributes, like readability, tone, length, etc. is to provide users with additional information, helping them in assessing firm's future performance and prospects (e.g., Aly et al., 2018; Boudt et al., 2018; Davis et al., 2012; Del Gaudi et al., 2020; Gonzalez et al., 2019; Henry, 2008; Hsieh et al.,2016; Li et al., 2019; Rahman, 2019; Miller, 2010; Smith and Taffler, 2000; Wu et al., 2020, Yekini, 2016). However, it is claimed that there are no direct rules to govern the disclosure of narrative information and they are not audited as well (except footnotes of financial statements). Thus, managers can have an opportunity to use these discretionary narrative disclosures opportunistically to bias and distort users' perception towards the firm, which affects share prices and increase managers' compensation. In this case, this biased reporting behavior is known as 'Impression Management' (Merkl-Davies and Brennan, 2007).

'Impression Management' term has appeared in social psychology (Goffman, 1956), but can be applied on corporations as well. In the corporate context, managers can use impression management strategies in narrative disclosures of corporate reports to create a favorable image about the firm's performance, in an attempt to bias users' perceptions, and consequently their decisions. According to Merkl-Davies and Brennan (2007), impression management has seven strategies; 1-Reading ease manipulation, 2- Rhetorical manipulation, 3- Thematic manipulation (new content/ton), 4- Visual and structural manipulation (Emphasis), 5- Performance comparisons, 6- Choice of earnings numbers (Selectivity), 7- Attribution of performance.

Disclosure tone is one of the characteristics of narrative disclosures. It can be defined as a function of both content and word choice (Henry, 2008). Disclosure tone can be described as positive, negative, neutral (Henry, 2008), uncertain or litigious. (Loughran and McDonald, 2011). It can also be described in terms of blame, satisfaction, denial, etc. (Loughran and McDonald, 2011, 2016). The tone of narrative disclosures should be consistent with the accompanied numerical information in the corporate reports to be useful in providing incremental information to users and in formulation of investors' judgments. However, it can be used opportunistically by management to bias users' judgements and in that way can be considered one of the above-mentioned impression management tools (i.e., Thematic manipulation strategy) (Merkl-Davies and Brennan, 2007). This occurs when the narrative disclosure tone is overly pessimistic or overly optimistic relative to the accompanied disclosed quantitative performance, this is known as 'Abnormal Disclosure Tone'. Management's use of abnormal disclosure tone levels is known as 'Tone Management', which is defined by Huang et al. (2014) as 'the choice of the tone level in qualitative text that is incommensurate with the concurrent quantitative information' (p.1083).

It is worth mentioning that there is some regulatory attention in developed countries, such as US and UK, towards the stylistic attributes of narrative disclosures. Nevertheless, in Egypt there is a lack of such attention to the attributes of narrative disclosures, as the main concern is the context of the report and the compliance to the regulatory requirements. As an emerging market, there are weak levels of investors' protection and financial reporting enforcement (Khlif et al., 2015). In addition, disclosure-related litigation, which can act as a constraint for management's discretion and regulate disclosure tone (Arslan-Ayaydin et al., 2016; Bonsall IV et al., 2013; Liu, 2015; Rogers et al., 2011), is less common in Egypt (if compared to developed markets). In the light of this, with the presence of motives for management to present firms in a better image, one would expect that managers have more flexibility and can be more inclined to use narratives' tone in an opportunistic way to bias users' perceptions. Nevertheless, most of prior studies explore management's manipulation of disclosure tone in firms' reports in developed capital markets, with a paucity of studies in emerging markets. Prior studies in emerging markets address the disclosure tone only (i.e., net optimism, pessimism, etc.), without exploring the possible existence of abnormal disclosure tone levels which is indicative for management's manipulation or management of narrative disclosures. This motivates the current study to fill this gap by investigating the abnormal disclosure tone levels (as an impression management strategy) in the firms' earnings press release, which is to the best of the authors' knowledge, an unexplored area yet in the Egyptian market or any other emerging market.

2. Literature Review

Managements' use of abnormal disclosure tone in corporate narratives can be interpreted using two opposing perspectives (i.e., Incremental/Informative perspective versus Opportunistic perspective). Both perspectives can be interpreted through different theories; however, the most important of them is the signaling theory and the agency theory, which has been adopted by prior studies addressing the information content of disclosure tone.

Management's use of abnormal disclosure tone under the 'Informative/Incremental perspective', can be interpreted by using the signaling theory developed by Spence (1973) and Ross (1977). Based on this theory, managers usually have private information regarding firm's future performance that users do not have access to, and this information is not reflected in the current earnings reported. Therefore, managers will try to signal this private information to stakeholders, using impression management strategies, such as tone management (i.e., the use of abnormal levels of disclosure tone), in an attempt to reduce information asymmetry. Several prior studies agree with this interpretation. For example, Davis et al. (2012), using quarterly earnings announcements, show that net optimistic tone is positively associated with firm's future return on assets (ROA). Boudt et al. (2018) show that positive tone in quarterly earnings press releases helps in predicting ROA. Rahman (2019) indicates that abnormal tone in the UK interim management statements (IMSs) of the third quarter and not the first quarter is positively associated with the annual earnings. Along the same way, Gonzalez et al. (2019) provide evidence of (negative) positive association between (uncertain) positive tone and firm valuation and accounting financial performance. In addition, Wu et al. (2020) illustrate that disclosure tone in MD&As are informative to users about management's expectations about the firm's future value. Aly et al. (2018), using annual reports of Egyptian companies show that Egyptian firms tend to provide more positive versus negative disclosures. In addition, they show that firm's performance is positively associated with net disclosure tone. Moreover, they find that this relation could be in the opposite direction, supporting the idea that firms with better disclosure practices tend to have higher performance. Li (2010), using the Naïve Bayesian method for measuring forward-looking statements in MD&As, provides evidence showing that net tone of forward-looking statements is associated with future performance (i.e., informative). Using prediction models, Smith and Taffler (2000) show an association between discretionary narrative disclosures in chairman's statements and firm's failure. They assume and find that unaudited disclosures contain value relevant information for users. Other prior studies provide evidence that the informativeness of disclosure tone to users extends beyond firm's future performance and prospects. For example, Li et al. (2019) indicates that disclosure tone in MD&As is positively associated with firm's future earnings and can predict future cashflows, analysts' revisions, institutional investors' shareholdings and future sales growth. Del Gaudi et al. (2020) provide that the negative tone of mandatory narrative disclosures in banks' annual reports can reveal information about banks' instability (i.e., bank risk insolvency).

Another stream of research assesses the information content of textual disclosure tone by examining how investors react to the qualitative disclosure tone (e.g., Boudt et al., 2018; Davis and Tama-Sweet, 2012; Davis et al., 2012; Henry, 2008; Li et al, 2019; Luo and Zho, 2017; Price et al., 2012; Rahman, 2019; Tetlock et al., 2008; Tetlock, 2007; Yan et al. 2019; Yekini, et al., 2016). They collectively show a positive association between positive/optimistic or negative/pessimistic narrative disclosures and abnormal stock returns.

Overall, these above-discussed prior studies agree with the 'Signaling theory' and the 'Incremental perspective' in which disclosure tone is informative for users about the firm's future performance, and the market responds to these signals. They provide consistent results, although they are applied in different disclosure mediums, such as earnings releases, MD&As, conference calls, full annual report or chairman's statements. In addition, their results are consistent, whether they are using positive (optimistic), negative (pessimistic), net disclosure tone, or abnormal disclosure tone levels. However, it is worth mentioning that in these group of prior studies, only few studies have used abnormal disclosure tone levels (e.g., Luo and Zho, 2017 and Rahman, 2019).

On the other side, managers can engage in tone management and use abnormal disclosure tone opportunistically, and hence is considered as an 'Impression management strategy', where they can overestimate or underestimate the disclosure tone levels in comparison to the accompanied current earnings numbers (Huang et al., 2014) to bias users' perceptions towards the firm's image. This can be explained under the 'Opportunistic perspective' using the agency theory. The agency theory (Jensen & Meckling, 1976) provides the base for interpreting the self-serving behavior of management. According to the agency theory, management will act in a way that maximizes their own benefit at the expense of shareholders. They can engage in different opportunistic behavior, such as earnings management and can also use impression management strategies. Some evidence show that managers can deliberately and opportunistically use qualitative disclosure tone to mislead investors and bias their perceptions and judgements. For example, Clatworthy and Jones (2003), using narratives in chairman's statements, find that whatever the firm performance; improving or declining, management disclose the positive aspects of performance (i.e., good news). In addition, they attribute good news to themselves, while bad news to external factors. Overall, management behave in a self-serving manner, whatever the firm performance, providing evidence of existence of impression management in chairman's statements narratives. Davis &Tama-Sweet (2012) show that managers can strategically and opportunistically choose between narratives tone inside quarterly earnings releases and MD&As to provide narrative information about firm performance. In the same way, Schleicher and Walker (2010) using manual content analysis of forward-looking narratives in chairman's statements, show that firms with forthcoming declines in earnings will have a tendency towards altering tone upwards through using positive sentences significantly more than negative sentences.

In addition, Haung et al. (2014), using abnormal disclosure tone in annual earnings press releases, show a negative association between abnormal positive tone and firm's future earnings and cashflows for 1-3 years, supporting the opportunistic perspective. Caserio et al. (2019) provide evidence that disclosure tone in MD&As of healthy financial firms is informative about firms' current and future performance. However, for unhealthy firms, they find that disclosure tone is used to hide the financial firms' true performance. Specifically, they find that unhealthy firms use more positive and more future-oriented words, although they have negative performance, supporting the opportunistic perspective of the use of disclosure tone. Additionally, some prior studies, such as Allee &Deangelis (2015); Arslan-Ayaydin et al. (2016); Huang et al. (2014); Tama-Sweet (2014) show that motives that encourage management to manage earnings (e.g., CEO option exercises, merger and acquisition, issuance of new equity) can motivate management to manipulate disclosure tone as well, to maximize their benefits. They show that management can strategically use abnormal disclosure tone to mislead investors about firm fundamentals.

The above-discussed prior studies that adopt the opportunistic perspective, collectively show that management use disclosure tone in an opportunistic way to bias users' perceptions. They provide consistent results, whether measuring tone using optimistic, pessimistic, net tone, or abnormal disclosure tone (i.e., tone management). Net disclosure tone is the difference between positive and negative words, while abnormal disclosure tone is one of the impression management strategies indicating management's manipulation of tone.

It is worth noting that only few prior studies have used abnormal disclosure tone levels whether examining the information content of disclosure tone under the informative or opportunistic perspective (e.g., Baginski et al., 2018; Huang et al., 2014; Luo and Zho, 2017; Rahman, 2019) or examining its relation with other factors, such as CEO narcissism (Buchholz et al., 2018) or conservatism (D' Augusta and DeAngelis, 2020).

3. Research Objectives

The empirical review has identified that most prior studies exploring abnormal disclosure tone levels (i.e., management's manipulation of disclosure tone) have been carried out in developed countries, such as US (e.g., Baginski et al., 2018; Buchholz et al., 2018; D' Augusta and DeAngelis; Huang et al., 2014; Luo and Zho, 2017) or UK (e.g., Rahman, 2019) with a paucity of studies in emerging markets. This motivates the current study to fill this gap by investigating the abnormal disclosure tone levels (as an impression management strategy) in the firms' earnings press release, which is to the best of the authors' knowledge, an unexplored area yet in the Egyptian market or any other emerging market. Accordingly, this study aims at achieving the following objectives;

- RO1: To investigate the extent of abnormal disclosure tone levels in earnings press releases of Egyptian Firms.
- RO2: To help in assessing the appropriateness of the model proposed by Huang et al. (2014) for capturing disclosure tone manipulation, by providing evidence from an emerging market.

4. Research Method

4.1. Sample Selection and Data Collection

The final sample consists of 25 firms listed in Egyptian stock exchange index (EGX 100), for a five-year period (2014-2018), making a total of 83 firm-year observations. The choice of the firms is based on its listing in EGX 100 and the availability of annual earnings press releases, excluding banks, insurance and financial firms, firms that entered into merger and acquisition during the sample period and firms with no earnings press releases. We do not extend the sample earlier than 2014 to avoid the effect of the period of economic and political instability in Egypt (2011-2013).

To measure disclosure tone, the study uses annual earnings press releases, which are downloaded from the firms' internet websites, Mubasher and EGX websites. Variables (earnings, stock returns, earnings and stock returns volatility, firm size, firm age, market to book ratio, number of business and geographical segments) used in Huang et al. (2014) model for estimation of abnormal disclosure tone, are measured using data from firm's financial statements, annual reports and board of directors' (BOD) reports which are purchased from Egyptian for Information Dissemination Company (EGID) and downloaded from firms' websites and Mubasher website.

4.2. Measuring Abnormal Disclosure Tone

This study applies manual textual analysis and uses the financial-domain wordlist of Henry (2008). The textual analysis is done through counting the frequency of occurrence of positive and negative words in the annual earnings press releases based on the positive and negative list of words in Henry (2008) dictionary. In addition, equal weights will be given to each of the occurrence of positive and negative words. To check the reliability of manual content analysis, another researcher manually counted the number of positive and negative words in the sample firms' earnings releases, using the same Henry (2008) wordlist.

*Step 1:*Net tone scores (Net optimism scores) are calculated as the difference between number of positive words and number of negative words, divided by the sum of positive and negative words number, using the following equation:

$$TONE_{i,t} = \frac{PW_{i,t} - NW_{i,t}}{PW_{i,t} + NW_{i,t}} \quad (1)$$

$TONE_{i,t}$ = Net tone score in the earnings press release of firm (i) in year (t). $PW_{i,t}$= Number of positive words in the earnings press release of firm (i) in year (t). $NW_{i,t}$ = Number of negative words in the earnings press release of firm (i) in year (t).

Step 2: Total net tone measured contains both; the normal tone component that reflects the firm's current performance and fundamentals, and the abnormal tone component which reflects management strategic choice to manipulate tone upwards or downwards (i.e., Tone Management). Huang et al. (2014) proposed a model to disaggregate normal tone from abnormal tone. The idea of Huang et al. (2014) is similar to earnings management models which are based on the separation of discretionary (Abnormal) accruals from the non-discretionary (Normal) accruals. The predicted values from running regression of total tone scores on its determinants; proxies of firm's current market and financial performance, growth opportunities, operating risk and complexity represent the normal part, while the residual is the abnormal tone. To estimate the coefficients of the Huang et al. (2014) model to get the estimated parameters, ordinary least square regression is run to the following model:

$$TONE_{i,t} = \alpha + b_0 EARN_{i,t} + b_1 RET_{i,t} + b_2 SIZE_{i,t} + b_3 BTM_{i,t} + b_4 STD\_RET_{i,t} + b_5 STD\_EARN_{i,t} + b_6 AGE_{i,t} + b_7 BUS\_SEG_{i,t} + b_8 GEO\_SEG_{i,t} + e_{i,t} \quad (2)$$

$TONE_{i,t}$=Net tone score in the earnings press release of firm (i) in year (t). $EARN_{i,t}$=Net income before extraordinary items scaled by beginning total assets. $RET_{i,t}$= Stock returns for 12 months' period ending 3 month after the fiscal year. $SIZE_{i,t}$=Log (1+ market value of equity at fiscal year-end). $BTM_{i,t}$= Book-to-market ratio at fiscal year-end. $STD\_RET_{i,t}$ = (Returns volatility) Standard deviation of monthly stock returns over the fiscal year (for 12 months period ending 3-month after the fiscal year-end). $STD\_EARN_{i,t}$= (Earnings volatility) Standard deviation of *ROA* calculated over the last 3 years. $AGE_{i,t}$= Log (1+ age from the first year the firm listed in EGX). $BUS\_SEG_{i,t}$=Log (1+ number of business segments). $GEO\_SEG_{i,t}$= Log (1 + number of geographic segments). α, b_0 to b_8 = Parameters to be estimated. $e_{i,t}$= Residual (Abnormal Tone).

5. Results and Discussion

5.1. Net Disclosure Tone

Table (1) presents descriptive analysis for net disclosure tone in earnings press releases of the sample firms, classified by industry type. Net disclosure tone scores represent the level of optimism (the difference between number of positive words and number of negative words, divided by the sum of positive and negative word as in equation 1). It ranges from +1 (pure positive) to -1 (pure negative), with 0 indicating neutral disclosure tone.

Industry Type	n	%	Net Disclosure Tone (TONEi,t)			
			Mean	Minimum	Maximum	Standard Deviation
Materials	10	12%	0.2856	-0.226	0.783	0.3284
Industrial	6	7.20%	0.6568	0.326	0.98	0.2128
Consumer Discretionary	11	13.30%	0.6451	0.2	1	0.283
Consumer Staples	18	21.70%	0.5929	-0.114	1	0.2945
Health care	3	3.60%	0.8477	0.714	1	0.1439
Communication services	11	13.30%	0.5866	0.281	0.937	0.1947
Real estate	24	28.90%	0.822	0.364	1	0.1693
Total	83	100%				

Table 1: Net Disclosure Tone for Each Industry

Table (1) shows that the mean of net disclosure tone scores $TONE_{i,t}$ of the sample firms in each of the industries is positive, indicating that management of the Egyptian firms tends to use optimistic tone in narrative disclosures of earnings press releases. These results are consistent with the mean numbers of disclosure tone found in sample firms of prior studies (e.g., Arslan-Ayaydin et al., 2016; Davis and Tama-Sweet, 2012; Henery and Leon, 2009; Huang et al., 2014; Luo and Zho, 2017), where their results show more optimistic and less pessimistic tone in earnings press releases, if compared to management and discussion sections (MD&As). Similar to earnings press releases, Rahman (2019) find a positive mean of tone in interim management statements. In contrast, disclosure tone measured in full annual reports and management forecasts in prior studies, tends to be negative and pessimistic (e.g., Baginski et al., 2018; Buchholz et al., 2018; Loughran and McDonald, 2011). The rationale is that annual reports are subject to auditing and more regulations, and thus are more probable to be subject to litigation. In contrast, earnings releases' narratives are not subject to auditing, giving more flexibility to management to be intentionally more optimistic about the firm's future performance and prospects.

It seems that firms in real estate and health care sectors have the highest levels of optimistic tone in their earnings press releases with a mean of (0.822) and (0.847) respectively. While firms in materials sector have the lowest levels of optimistic tone in their earnings press releases with a mean of (0.2856).

Net disclosure tone shows the overall optimism in the narratives of corporate earnings press releases, without capturing the overestimation or the underestimation of this tone relative to the firm's current fundamentals (i.e., without capturing the part of the disclosure tone manipulated by managers). Thus, the next section shows the estimation of the levels of abnormal disclosure tone of the sample firms.

5.2. Abnormal Disclosure Tone

5.2.1. Estimation of Abnormal Disclosure Tone

The predicted value of equation (2) (Huang et al., 2014 model) from running the regression of net disclosure tone on its determinants (i.e., proxies of firms' current market and financial performance, growth opportunity, operating risk and complexity) represent the part of disclosure tone that is normal and in relation to the firm's current fundamentals (Normal tone). The residual from the regression represents the abnormal part of disclosure tone not related to the firm's performance, growth opportunities, risk and complexity. The coefficients resulted from the regression are reported in table (2). Throughout literature, the determinants of normal tone (i.e., the explanatory variables of the model) are found to have different associations with the dependent variable $TONE_{i,t}$. Thus, the estimated coefficients resulted from running the regression of Huang et al. (2014) in this study, are compared with those in prior studies.

Results in table (2) show a positive and significant association between disclosure tone $TONE_{i,t}$ in earnings press releases and firms' current earnings $EARN_{i,t}$, indicating that more profitable firms tend to provide more positive disclosure tone in the narratives of earnings press releases, to support and highlight this positive performance. This is consistent with Baginski et al. (2018); D'Augusta and DeAngelis (2020); Huang et al. (2014); Li (2010), Luo and Zho (2017). However, the coefficient between $TONE_{i,t}$ and firms' stock returns $RET_{i,t}$ is positive but insignificant, this positive coefficient is consistent with prior studies, such as Arslan-Ayaydin et al. (2016); Baginski et al. (2018); D'Augusta and DeAngelis (2020); Li (2010); Rahman (2019), but inconsistent with Huang et al. (2014).

Consistent with Arslan-Ayaydin et al. (2016); Buchholz et al. (2018); D'Augusta and DeAngelis (2020); Rahman (2019), results show that larger firms provide more positive disclosure tone, as there is a positive and significant association between $TONE_{i,t}$ and firms' size $SIZE_{i,t}$. This result implies that when firms are small, they are more cautious in their tone in narratives, comparing with larger firms who tend to provide more positive tone. However, this result is inconsistent with Huang et al. (2014); Li (2010); Luo and Zhou (2017).

Dependent Variable: $TONE_{i,t}$		
Variable	**Coeff**	**(t)**
(Constant)	-2.177**	(-2.110)
$EARN_{i,t}$	0.950**	(2.311)
$RET_{i,t}$	0.034	(0.586)
$SIZE_{i,t}$	0.109***	(2.891)
$BTM_{i,t}$	0.088**	(2.431)
$STD\_RET_{i,t}$	0.343	(0.436)
$STD\_EARN_{i,t}$	-1.510	(-0.868)
$AGE_{i,t}$	0.037	(0.470)
$BUS\_SEG_{i,t}$	0.219**	(2.318)
$GEO\_SEG_{i,t}$	-0.117**	(-2.522)
Adjusted R^2	13.2%	
No. of observations	83	

Notes: This table presents regression results related to equation (2) to estimate abnormal disclosure tone,

$$TONE_{i,t} = \alpha + b_0 EARN_{i,t} + b_1 RET_{i,t} + b_2 SIZE_{i,t} + b_3 BTM_{i,t} + b_4 STD\_RET_{i,t} + b_5 STD\_EARN_{i,t} + b_6 AGE_{i,t} + b_7 BUS\_SEG_{i,t} + b_8 GEO\_SEG_{i,t} + e_{i,t} \quad (2)$$

All variables are defined below equation (2) in section (4.2). t- Statistics are in parentheses. *, **, *** are significance at 10, 5 and 1 percent levels.

Table 2: Regression Results to Estimate Abnormal Disclosure Tone from Equation (2)

The coefficient of the relation between $TONE_{i,t}$ and firms' book to market ratio $BTM_{i,t}$ is positive and significant, indicating that firms with less growth opportunities (higher $BTM_{i,t}$) tend to provide more positive tone. This implies that growing firms that are facing more uncertain information environment and uncertain economic conditions tend to be more cautious in their disclosure tone; providing less positive tone in narratives (Li, 2010). This result is consistent with prior studies, such as Li (2010) and Rahman (2019), but inconsistent with Arslan-Ayaydin et al. (2016); Buchholz et al. (2018); D'Augusta and DeAngelis (2020); Huang et al. (2014).

The coefficient between $TONE_{i,t}$ and $STD\_EARN_{i,t}$ is negative, but insignificant. The negative sign indicates that the more volatile the firm's earnings, the less the positive tone will be in the narratives of earnings releases. This implies that firms with more volatile business environment will tend to be cautious in their disclosures and tone, due to information uncertainties, political and legal concerns (Li, 2010). However, we cannot confirm that because the result is insignificant. Although the positive coefficient between $TONE_{i,t}$ and firms' stock returns volatility $STD\_RET_{i,t}$ is inconsistent with the above-mentioned interpretation related to more volatile business environment, it is consistent with Buchholz et al. (2018) and Huang et al. (2014).

There is positive but insignificant coefficient between $TONE_{i,t}$ and firms' age $AGE_{i,t}$. The positive sign shows that the more mature and older firms, they will tend to provide more positive tones in the narratives of earnings press releases. This can be due to that older firms have better reputation; therefore, their disclosure tone is more persuasive which can increase the benefit from manipulation (D'Augusta and DeAngelis, 2020). In addition, younger firms face many uncertainties, so their disclosures tend to be more cautious and of less positive tone (Li, 2010). This positive sign is consistent with Li (2010), but inconsistent with prior studies, such as D'Augusta and DeAngelis (2020); Huang et al. (2014); Rahman (2019).

The positive and significant association found between $TONE_{i,t}$ in earnings press releases and firm's number of business segments $BUS\_SEG_{i,t}$ means that firms with more business segments, i.e., more complex structure, tend to provide more positive disclosure tone in their narratives. This is consistent with Li (2010) but inconsistent with Buchholz et al. (2018); D'Augusta and DeAngelis (2020); Huang et al. (2014); Rahman (2019). However, it is found that firms with more geographical segments tend to have less positive tone, because the coefficient of the relation between $TONE_{i,t}$ and $GEO\_SEG_{i,t}$ is negative and significant. These results can reveal that firms with more complex structures and operations, tend to have more complex disclosures (Li, 2010). This result is consistent with D'Augusta and DeAngelis (2020); Huang et al. (2014); Li (2010); Rahman (2019).

5.2.2. Extent and Levels of Abnormal Disclosure Tone

The predicted value after running the regression of equation (2) of Huang et al. (2014) model, discussed in the above section, represent the part of disclosure tone that is normal and in relation to the firm's current fundamentals *(Normal tone)*. The residual from the regression represents the abnormal part of disclosure tone not related to the firm's performance, growth opportunities, risk and complexity *(i.e., Abnormal disclosure tone = TONE– Normaltone)*. The abnormal disclosure tone is the part of the net disclosure tone that is manipulated upwards or downwards by management (i.e., Tone Management). Positive residual from Huang et al. (2014) regression model measures the upward tone management, while negative residual measures downward tone management (Czerney et al., 2017). After running the regression of equation (2) as discussed in section (5.2.1), the descriptive analysis of the abnormal disclosure tone levels in earnings press releases of the sample firms, classified by industry type are presented in table (3).

Industry Type	n	%	Abnormal Disclosure Tone Levels			
			Mean	Minimum	Maximum	Standard Deviation
Materials	10	12%	-0.2230	-0.6268	0.2619	0.2894
Industrial	6	7.2%	-0.1336	-0.5114	0.0450	0.2091
Consumer Discretionary	11	13.3%	0.0139	-0.4359	0.3298	0.2461
Consumer Staples	18	21.7%	-0.0110	-0.4570	0.5389	0.2450
Health care	3	3.6%	0.0497	-0.1439	0.3750	0.2834
Communication services	11	13.3%	-0.0094	-0.4199	0.2811	0.1958
Real estate	24	28.9%	0.1263	-0.3069	0.4321	0.1812
Total	83	100%				

Table 3: Abnormal Disclosure Tone Levels for Each Industry

The difference between the minimum and maximum values and the value of standard deviation of abnormal disclosure tone levels in firms in each of the industries indicate a wide variation in the levels of disclosure tone manipulation in earnings press releases among the sample-Egyptian firms. This variation and numbers are consistent with the levels of abnormal disclosure tone found in prior studies addressing developed markets (e.g., Baginski et al., 2018; D'Augusta and DeAngelis, 2020; Huang et al., 2014; Rahman, 2019). As discussed above negative levels of abnormal tone indicates downward tone management, while positive levels indicate upward tone management. From table (3), it seems that the mean of abnormal disclosure tone of firms in materials, industrial, consumer staples and communication services industry have negative value. Firms in the communication industry have a negative mean close to zero (-0.0094), indicating very low downward tone management or no existence of tone manipulation in narratives of firms in the communication industry. Firms in consumer staples show low level of abnormal disclosure tone with negative values mean (-0.0110), indicating low levels of downward tone management in narrative disclosures of these firms' earnings press releases. Firms in the material sector have the highest mean of abnormal disclosure tone with negative sign (-0.2143) indicating higher levels of downward tone management in narrative disclosures of theses firms' earnings press releases.

On the other hand, there is a positive mean of abnormal disclosure tone levels in firms in the consumer discretionary (0.0139), health care (0.0497) and real estate sector (0.1263), indicating upward tone management. Firms in the consumer discretionary and health care sectors have low levels of upward tone management in narrative disclosures of their earnings press releases. While firms in the real estate sector have the highest mean of abnormal disclosure tone (0.1263), indicating the existence of moderate level of upward tone management in the narrative disclosures of these firms.

Overall findings provide evidence for the existence of some levels of abnormal disclosure tone (both upward and downward tone management) in the narrative disclosures of earnings press releases of Egyptian firms, similar to that found in prior studies examining abnormal disclosure tone levels in developed markets.

6. Conclusion, Implications and Suggestions for Future Research

6.1. Conclusion

This study aims to investigate abnormal tone levels (i.e., extent of manipulation of tone) in narrative disclosures of Egyptian firms' earnings press releases. Results show that net disclosure tone in the narratives of earnings press releases of firms in all industry sectors tend to be positive and optimistic. This is consistent with prior studies that examined disclosure tone using earnings press releases or interim management statements, which supports the notion that management tend to be more optimistic in earnings press releases, which is not subject to auditing and less subject to litigation than in annual reports and 10-K filings. In addition, while estimating abnormal disclosure tone levels using Huang et al (2014) model, it is found that firms which are more profitable, larger, with less growth opportunities and more business segments tend to provide more positive and optimistic tone in their narrative disclosures. Moreover, results provide evidence for the existence of levels of abnormal tone in the narrative disclosures of earnings press releases (both upward and downward tone management), indicating the existence of levels of tone manipulation by management in the Egyptian firms' disclosures. It is found that firms in the materials and the real estate sectors have higher levels of abnormal disclosure tone in their earnings press releases, in comparison with other industries. Furthermore, results provide evidence from an emerging market about the appropriateness of Huang et al. (2014) model for capturing abnormal disclosure tone in corporate narratives.

6.2. Implications

The study provides an insight about the extent of management's use of abnormal disclosure tone (i.e., Tone manipulation) in narrative disclosures of Egyptian firms' earnings press releases. Thus, it attempts to notify users, especially non-professional investors, regarding the possible biases that could emerge in the corporate narratives due to management's use of abnormal disclosure tone to bias their perceptions and judgments. Results also could be of importance to regulators and policy makers as the findings highlight and confirm the need of guidelines and regulations to guide the disclosure of corporate narrative information.

6.3. Limitations and Suggestions for Future Research

First, the sample chosen for this study is restricted to Egyptian non-financial firms listed in the Egyptian stock exchange index (EGX 100) with the exclusion of banks, financial and insurance firms, due to their specific disclosure requirements. Second, the study focused on one impression management strategy (Abnormal disclosure tone) from the seven impression management strategies and used only one channel of corporate disclosures, which is the earnings press releases. This provides several avenues for future researchers. Future research can explore the extent of other impression management strategies (e.g., Rhetorical manipulation, visual and structural manipulation, performance comparisons or choice of earnings numbers) in corporate disclosures and can extend to use other corporate reports, such as annual reports, management discussion and analysis sections (MD&As), sustainability reports, etc. Future research can also extend beyond the scope of this study to explore if investors are biased or misled by the management's intentional use of abnormal disclosure tone in firms' narrative disclosures. This can be examined by applying experimental studies or surveys to understand in-depth the effect of such manipulation strategies on different users.

7. References

i. Ajina, A., Laouiti, M., & Msolli, B. (2016). Guiding Through the Fog: Does Annual Report Readability Reveal Earnings Management? Research in International Business and Finance, 38, 509-516.
ii. Allee, K. D., & Deangelis, M. D. (2015). The Structure of Voluntary Disclosure Narratives: Evidence from Tone Dispersion. Journal of Accounting Research, 53(2), 241-274.
iii. Aly, D., El-Halaby, S., & Hussainey, K. (2018). Tone disclosure and financial performance: evidence from Egypt. Accounting Research Journal, 31(1), 63-74.
iv. Arslan-Ayaydin, Ö., Boudt, K., & Thewissen, J. (2016). Managers Set the Tone: Equity Incentives and the Tone of Earnings Press Releases. Journal of Banking & Finance, 72, S132-S147.
v. Baginski, S. P., Demers, E., Kausar, A., & Yu, Y. J. (2018). Linguistic tone and the small trader. Accounting, Organizations and Society, 68-69, 21-37.
vi. Bonsall IV, S. B., Bozanic, Z., & Merkley, K. (2013). The Informativeness of Forward-Looking News in Earnings Announcements. Unpublished manuscript. Retrieved April 3, 2018, from http://www.tuck.dartmouth.edu/uploads/content/BBM_July_2013.pdf
vii. Boudt, K., Thewissen, J., & Torsin, W. (2018). When does the tone of earnings press releases matter? International Review of Financial Analysis, 57, 231–245.
viii. Brennan, N. M., & Merkl-Davies, D. M. (2018). Do firms effectively communicate with financial stakeholders? A conceptual model of corporate communication in a capital market context. Accounting and Business Research, 48(5), 553-577.
ix. Buchholz, F., Jaeschke, R., Lopatta, K., & Maas, K. (2018). The use of optimistic tone by narcissistic CEOs. Accounting, Auditing & Accountability Journal, 31(2), 531-562.
x. Caserio, C., Panaro, D., & Trucco, S. (2019). Management discussion and analysis: a tone analysis on US financial listed companies. Management Decision, 58(3), 510-525.
xi. Cazier, R., & Pfeiffer, R. (2017). 10-K Disclosure Repetition and Managerial Reporting Incentives. Journal of Financial Reporting, 2(1), 107-131.
xii. Clatworthy, M., & Jones, M. J. (2003). Financial Reporting of Good News and Bad News: Evidence from Accounting Narratives. Accounting and Business Research, 33(3), 171-185.
xiii. D'Augusta, C., & DeAngelis, M. D. (2020a). Does Accounting Conservatism Discipline Qualitative Disclosure? Evidence from Tone Management in the MD&A. Contemporary Accounting Research, Forthcoming.
xiv. Davis, A. K., & Tama-Sweet, I. (2012). Managers' Use of Language Across Alternative Disclosure Outlets: Earnings Press Releases versus MD&A. Contemporary Accounting Research, 29(3), 804–837.
xv. Davis, A. K., Piger, J. M., & Sedor, L. M. (2012). Beyond the Numbers: Measuring the Information Content of Earnings Press Release Language. Contemporary Accounting Research, 29(3), 845–868.
xvi. Del Gaudi, B. L., Megaravalli, A. V., Sampagnaro, G., & Verdoliva, V. (2020). Mandatory disclosure tone and bank risk-taking: Evidence from Europe. Economics Letters, 186, 108531.
xvii. Dyer, T., Lang, M., & Stice-Lawrence, L. (2017). The Evolution of 10-K Textual Disclosure: Evidence from Latent Dirichlet Allocation. Journal of Accounting and Economics, 64(2-3), 221-245.
xviii. El Rod, G. B. (2009). Is There Predictive Value In The Words Managers Use? A Key Word Analysis Of The Annual Report's Management Discussion And Analysis. (Doctoral Dissertation). Arlington, USA: The University of Texas at Arlington. Retrieved from ProQuest and Theses Dissertations Golobal (UMI No.: 3409572)
xix. Fisher, R., van Staden, C., & Richards, G. (2020). Watch that tone: An investigation of the use and stylistic consequences of tone in corporate accountability disclosures. Accounting, Auditing & Accountability Journal, 33(1), 77-105.

xx. Goffman, E. (1956). The presentation of self in everyday life (Monograph no. 2). Edinburgh, UK: University of Edinburgh Social Sciences Research Center.
xxi. González, M., Guzmán, A., Téllez, D. F., & Trujillo, M. A. (2019). What you say and how you say it: Information disclosure in Latin American firms. Journal of Business Research, Article in press.
xxii. Henry, E. (2008). Are Investors Influenced by How Earnings Press Releases are Written? Journal of Business Communication, 45(4), 363-407.
xxiii. Henry, E., & Leone, A. J. (2009). Measuring Qualitative Information in Capital Markets Research. Working Paper. Retrieved 1 2019, from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1470807
xxiv. Hsieh, C.-C., Hui, K. W., & Zhang, Y. (2016). Analyst Report Readability and Stock Returns. Journal of Business Finance and Accounting, 43(1-2), 98-130.
xxv. Huang, X., Teoh, S., & Zhang, Y. (2014). Tone management. The Accounting Review, 89(3), 1083-1113.
xxvi. Jensen, M., & Meckling, W. (1976). Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. Journal of Financial Economics, 3(4), 305-360.
xxvii. Khlif, H., Samaha, K., & Azzam, I. (2015). Disclosure, ownership structure, earnings announcement lag and cost of equity capital in emerging markets: The case of the Egyptian stock exchange. Journal of Applied Accounting Research, 16(1), 28-57.
xxviii. Li, F. (2010). The Information Content of Forward-Looking Statements in Corporate Filings—A Naïve Bayesian Machine Learning Approach. Journal of Accounting Research, 48(5), 1049–1102.
xxix. Li, M., Wu, H., Xiao, M., & You, J. (2019). Beyond cheap talk: management's informative tone in corporate disclosures. Accounting & Finance, 59(5), 2905-2959.
xxx. Liu, Z. (2015). MD&A Disclosure Tone and Audit Pricing. (Doctoral Thesis). Philadelphia, USA: Drexel University. Retrieved from ProQuest Dissertations & Theses Global (UMI No.: 3687099)
xxxi. Lo, K., Ramos, F., & Rogo, R. (2017). Earnings Management and Annual Report Readability. Journal of Accounting and Economics, 63(1), 1-25.
xxxii. Loughran, T., & Mcdonald, B. (2011). When Is a Liability Not a Liability? Textual Analysis, Dictionaries, and 10-Ks. The Journal of Finance, 66(1), 35–65.
xxxiii. Loughran, T., & Mcdonald, B. (2014). Measuring Readability in Financial Disclosures. The Journal of Finance, 1643–1671.
xxxiv. Loughran, T., & Mcdonald, B. (2016). Textual Analysis in Accounting and Finance: A Survey. Journal of Accounting Reseach, 54(4), 1187-1230.
xxxv. Luo, Y., & Zho, L. (2017). Managerial Ability, Tone of Earnings Announcements, and Market Reaction. Asian Review of Accounting, 25(4), 454-471.
xxxvi. Masztalerz, M. (2016). Why Narratives in Accounting? / Skąd narracje w rachunkowości? (Working Paper). Wroclaw, Poland: Wroclaw University of Economics. Retrieved from https://www.ceeol.com/search/article-detail?id=455587
xxxvii. Merkl-Davies, D., & Brennan, N. (2007). Discretionary Disclosure Strategies in Corporate Narratives: Incremental Information or Impression Management? Journal of Accounting Literature, 26, 116-196.
xxxviii. Miller, B. P. (2010). The Effects of Reporting Complexity on Small and Large Investor Trading. The Accounting Review, 85(6), 2107-2143.
xxxix. Price, S. M., Doran, J. S., Peterson, D. R., & Bliss, B. A. (2012). Earnings conference Calls and Stock Returns: The Incremental Informativeness of Textual Tone. Journal of Banking & Finance, 36(4), 992-1011.
xl. Rahman, S. (2019). Discretionary tone, annual earnings and market returns: Evidence from UK Interim Management Statements. International Review of Financial Analysis, 65, 101384.
xli. Rogers, J., Buskirk, A., & Zechman, S. (2011). Tone and Shareholder Litigation. The Accounting Review, 86(6), 2155-2183.
xlii. Ross, S. A. (1977). The Determination of Financial Structure: The Incentive-Signalling Approach. The Bell Journal of Economics, 8(1), 23-40.
xliii. Schleicher, T., & Walker, M. (2010). Bias in the Tone of Forward-Looking Narratives. Accounting and Business Research, 40(4), 371-390.
xliv. Smith, M., & Taffler, R. (2000). The Chairman's Statement - A Content Analysis of Discretionary Narrative Disclosures. Accounting, Auditing & Accountability Journal, 13(5), 624-647.
xlv. Spence, M. (1973). Job-Market Signalling. The Quarterly Journal of Economics, 87(3), 355-374.
xlvi. Tama-Sweet, I. (2014). Changes in Earnings Announcement Tone and Insider Sales. Advances in Accounting, 30(2), 276-282.
xlvii. Tetlock, P. C. (2007). Giving Content to Investor Sentiment: The Role of Media in the Stock Market. The Journal of Finance, 62(3), 1139-1168.
xlviii. Tetlock, P. C., Saar-Tsechansky, M., & Macskassy, S. (2008). More Than Words: Quantifying Language to Measure Firms' Fundamentals. The Journal of Finance, 68(3), 1437–1467.
xlix. Wu, D. X., Yao, X., & Guo, J. L. (2020). Is Textual Tone Informative or Inflated for Firm's Future Value? Evidence from Chinese Listed Firms. Economic Modelling, Article in press.
l. Yan, Y., Xiong, X., Meng, J. G., & Zou, G. (2019). Uncertainty and IPO initial returns: Evidence from the Tone Analysis of China's IPO Prospectuses. Pacific-Basin Finance Journal, 57, 101075.
li. Yekini, L. S., Wisniewski, T. P., & Millo, Y. (2016). Market Reaction to the Positiveness of Annual Report Narratives. The British Accounting Review, 48(4), 415-430.