The Role of Annual Reports Narrative Disclosure Tone in Predicting Long Term Financial Performance: Evidence from Egypt

Dr. Elsayed Mohamed Abdelaal Abdalla
Lecturer of Accounting
Faculty of Business
Alexandria University
elsayed.abdelall@alexu.edu.eg

Abstract

Purpose – This study aims to examine the narrative disclosure tone prediction power over long term performance in the Egyptian context.

Design/methodology/approach – The study conducts a manual content analysis to measure the tone of Egyptian annual reports narratives. Return on assets for the subsequent fiscal period used as a proxy to future performance. The sample consists of 79 firms listed in the Egyptian Exchange (EGX) over the period from 2010 to 2018. Descriptive analysis, independent sample t–test, correlation matrix and ordinary least squares regression were used to analyze the data.

Findings – The results show a significantly positive correlation between disclose tone and financial performance not only after one year but also after two years.

Originality/value – This study provides novel evidence about the effect of narrative disclosure tone and its prediction power on long term performance in one of the biggest developing economies specifically Egypt. Moreover, the study has practical implications upon accounting disclosure practice. especially, for financial analysts and external users about the importance of tone in anticipating the future performance.

Keywords: Narrative disclosure tone, long term financial performance, Egypt.

دور نغمة الإفصاح السردي في القوائم والتقارير المالية السنوية في التنبؤ بالأداء المالي طويل الأجل: بالتطبيق على البيئة المصرية

ملخص البحث

الغرض: تهدف هذه الدراسة إلى دراسة القوة التنبؤية لنغمة الإفصاح السردي في التنبؤ بالأداء على الأجل الطويل بالتطبيق على الشركات المقيدة في سوق الأوراق المالية المصري.

التصميم/المنهجية: اعتمدت الدراسة على إجراء تحليلاً يدويًا للمحتوى لقياس نغمة الإفصاح السردي في التقارير والقوائم المالية السنوية، وقد تم استخدام العائد على الأصول للفترة التالية كمقياس للأداء المالي المستقبلي. وتكونت عينة الدراسة من 79 شركة مدرجة في البورصة المصرية (EGX) خلال الفترة من عام 2010 إلى عام 2018. كما اعتمدت الدراسة على استخدام التحليل الوصفي، واختبار (t) لعينة مستقلة، ومصفوفة الارتباط، وتحليل الانحدار بالمربعات الصغرى العادية لتحليل البيانات.

النتائج: تُظهر النتائج وجود علاقة إيجابية كبيرة بين نغمة الإفصاح والأداء المالي ليس فقط بعد عام واحد، ولكن أيضًا بعد عامين.

القيمة: تقدم هذه الدراسة أدلة جديدة حول تأثير نغمة الإفصاح السردي وقدرته على التنبؤ بالأداء على المدى الطويل في واحدة من أكبر الاقتصاديات النامية وتحديدًا جمهورية مصر العربية. علاوة على ذلك، فإن للدراسة آثار عملية على ممارسات الإفصاح المحاسبي خاصة بالنسبة للمحللين والمستخدم الخارجي حول أهمية نغمة الإفصاح السردي في توقع الأداء المستقبلي.

الكلمات المفتاحية: الإفصاح المحاسبي السردي، الأداء ا لمالي في الاجل الطويل، جمهورية مصر العربية.

1. Introduction

Historically the financial disclosure was manly consisting of quantitative data about the previous year's performance of the corporation. However, providing simple financial data alone does not have the ability to convey the true and complete image about the corporations or reflect the management explanations and expectations about the current or the future performance of the firms (El–Sayed et al., 2021). Narrative disclosure has gained a lot of attention around the world, especially in most developed economies like USA and UK as the basic way to bond the financial figures of firms' financial statements and its underling business fundamentals, thus, to bridge the gap between them. (Merkley, 2014). Recently the importance of narrative has move forward to emphasize not just on the complementary information but also the Narrative disclosure tone which emphasize on the presentation and choice of words by firms' management in preparing the financial disclosure and its effect on market and firms' value. This study aims to add to that literature and explore Narrative Disclosure Tone (NDT) power on predicting the future performance in Egypt.

Narrative disclosure tone has gained a lot of attention by accounting researchers (e.g.,Henry, 2008; Henry & Leone, 2016; Loughran& McDonald, 2011) especially the in formativeness of tone, its consequences, and effects to various external users. The first main notice about this extended research is the time horizon effect as much of those studies were concerning more on short term reaction especially the market reaction in short window around the disclosure, thus, there is relatively scarce on studies about the long–term consequences of NDT (e.g., Henry, 2008; Davis et al., 2012; Huang et al., 2014). The second vital notice is that the majority of previous studies were restricted to developed countries. Specifically, the USA and UK with relatively less attention to developing counties like Middle East/North Africa (MINA) countries. The third observation about prior literature is less studies that concentrate on the annual reports' narrative tone as a united and comprehensive unit of information rather than other media of financial

disclosure or subcategories of annual report. Those notices were the motivation for this study to explore annual reports Narrative Tone (NT) and its consequences on long term performance in a developing country context. specifically, Egypt.

In general, studies that investigate (NDT) in Egypt are limited and more evidence about (NDT) in the Egyptian context is needed. In particular, Aly et al. (2008) aim to investigate the relationship between narrative disclosure tone and financial performance found a bidirectional positive association between the two variables. However, the current study is different in several ways as follows. First, unlike Aly et al. (2008) in this paper the researcher follows the signaling theory perspective as the managers use financial disclosure to send signals to the outside users that signals will affect their assessment of the firm performance and will be reflected in their expectation about the future. Thus, this study does not consider the reverse effect of financial performance over tone. Second, this study extends Aly et al. (2018) work by exploring the long–term effect of tone not the short term. Finally, the study period is nine years starting from 2010 to 2018. This examination period starts before Egyptian revolution in 2011 as part of the Arab spiring and continue for 7 years after it. The researcher argues that this examination period allows to mitigate the effects and consequences of the revolution on the Egyptian firm's performance and disclosure practices.

Worth mentioning that the financial researchers and analysts considered a variety of sources of qualitative information (e.g., earnings announcements, press releases, Management Discussion and Analyses sections, letters to shareholders, etc.) to reveal their usefulness in anticipating the expected future performance. Although there are a variety of information sources regarding corporate performance, the corporate annual report is the main coherent formal disclosure vehicle (Hassan et al. 2006). Accordingly, this study focuses on analyzing the narrative tone of published annual reports rather than other different media of financial disclosure. The primary reason for that is the ability of annual reports to illustrate a united and consistent narrative tone that

represents the company style for narrative disclosure (Bassyouny et al., 2020; Loughran and Mcdonald, 2016). In addition, analyzing annual reports rather than subcategories enables to compare between the tone of different companies as the sections of annual reports are not unified across the Egyptian companies. As the first and formal language in Egypt is Arabic. The study uses manual content analysis to measure narrative disclosure tone in the Egyptian annual reports. The study sample ended with 709 observations from 2010 to 2018.

The results show that annual reports' narrative tone has positive and significant association with future long-term performance. Thus, consistent with developed context tone can predict future performance in developing countries. However, the significance of the relationship is not expected depending on market performance for future performance which can be related to the level of market efficiency and maturity of investors in such a context.

This study adds to the wealth of existing literature as it provides evidence on tone prediction power over long term future performance not only the short term. In addition, this study contributes to filling a unique gap in financial disclosure reporting literature as it sheds light on a different context than USA and UK where most of the prior studies conducted. Moreover, to the best of my knowledge this is the first study to investigate the prediction power of tone on long term performance in Egyptian context. the researcher argues that investigate narrative tone within the Egyptian context is of a special interest than most of prior tone studies for two reasons. First, Egypt, one of the largest Arabian, Middle Eastern, and African economies. These characteristics give this study a special importance, since the results could be applicable to a wide range of countries (Hassan et al., 2006). Second, the unique Egyptian regulatory setting framework is different from the UK and US context, where most of the NDT studies have been conducted.

The rest of the paper is structured as follows: Section 2 Literature review and hypotheses development; Section 3 presents the research methodology

and design; Section 4 presents the empirical results and discussion; and Section 5 conclusion.

2. Literature Review and Hypotheses Development

Financial disclosure is the avenue for management to reflect the exact image and real firm economic circumstances to the various stakeholders. Thus, mitigate the information asymmetry between the management and the external varies users as possible by providing the users with the needed information to evaluate corporate performance. The quantitative perspective of financial statements limited its ability which draws special attention to the narrative disclosure as an extra complementary source to the financial statements (Merkley, 2014). Although the realization of narratives importance is not a recent phenomenon as in 1973, the American Institute of Certified Public Accountants (AICPA: 13) stated: "Financial statements should not be limited solely to quantified information. Amplification, in narrative form, of data included in statements may be required". The value of narrative disclosure is well established in accounting and financing studies (Yekini et al., 2016; Loughran and McDonald, 2016; El-Sayed et al., 2021). For instance, Breton and Taffler (2001) reported that despite the value of financial accounting information as a source for analyzing firm performance, the analysts pay attention to the informativeness of narrative in preparing their reports and recommendations concerning the current and the future of the firm. Also, Huang et al. (2014b) highlights the predictive power of textual components over the quantitative measures for predicting the future performance over a long horizon. Specifically, he finds that the predictive power of text in the analyst's report is economically greater for anticipating the earnings growth in the subsequent five years. Recently, Michelon et al., (2021) documented that investors usually use narrative as a source for estimating the expected value of the investment. Notwithstanding the new trend in accounting is not only the information content in the narrative disclosure but also, how this information is presented to external users (Henry and Leone, 2016).

Narrative Disclosure Tone (NDT) refers to the positiveness (negativeness) language used by companies' management to disclose material information in narrative reporting regarding the company's performance, strategies, and future (Henry, 2008). At the most basic level, optimistic and pessimistic language has an essential influence on how information is both perceived and understood (Katz, 2001). The relationship between disclosure tone and expected performance has been realized and attracted the attention of a lot of financial and accounting scholars. For instance, li (2010) documented the positive relation between the average tone of the Forward–Looking Statements (FLS) and future earnings. Using a Naïve Bayesian machine learning algorithm to analyze the relation between the average tone of the FLS and the future performing. He finds a positive association with future earnings and liquidity even after controlling for other determinants of future performance. Also, he argues that the disclosure tone has incremental power in anticipating the expected performance over the other financial. Similarly, Davis et al. (2012) examines the full texts of approximately 23,000 quarterly earnings press releases. They find a positive correlation between the net optimistic language in quarterly earnings press releases and future Return on Assets (ROA). Also, Baginski et al., (2018) finds that the tone in earnings press releases has a positive association with corporate future earnings. With another avenue Balakrishnan et al., (2010) seeks to assess the value–relevant of narrative disclosures in 10–K and 10K–405 and shows a positive association between narrative disclosures and market performance. A vital importance notices in the large body of studies about narrative in general and tone in specific is that even though there is a growing body of studies concerning the narrative disclosure tone and its relationship with performance the most majority of these studies is predominantly restricted to short sub–sections of the annual report. Despite the advances made in this area of research the narrative of the annual report relatively had not received adequate attention compared to other varieties of corporate narrative outputs. Thus, it has been underestimating (Yekini et al., 2016). As a result– In contrast with much of the existing literature– this study tries to fill this gap by focus on examine the

narrative disclosure tone of companies' annual reports as a whole to maintain the consist effect of narrative tone on the expected future performance.

Some argue that impression management strategies are the fundamental base to most of (NDT). AS management uses the narrative disclosure tone as a tool to give planned signals. And dealing with the content presentation style in a bias way that can affect the users of the firm financial disclosures. Signaling theory can explain the management tendency to disclose particular words to deliver a certain tone to alter the user's behavior in circumstances of imperfect information (li, 2010). Going along with the signaling theory the management is the sender of information who signals the company financial performance to eliminate asymmetric information between insiders how interpret the disclosed information and outsider how perceived it (Suhadak et al., 2019). Management can use the good tone to promote their current performance and emphasize their achievements or use the optimistic tone as an excuse for declining performance to avoid specific liabilities (Aly et al., 2018; Mousa et al., 2021). Signaling theory provides an explanation of managers' tendency to influence the decisions of stakeholders via spreading positive disclosure tone signals as a component of managerial impression methods. As Clatworthy and Jones (2003) stated that "management seeks to attribute good news to themselves and bad news to the environment". Although managers seek to avoid responsibility for undesirable performance as the principal reporting strategy on the other hand, signaling theory emphasized the current performance is vital in choosing the disclosure position that maximizes firms value and supports its performance (Hussein and Nounou, 2021). Thus, the signals impeded in firms' disclosure can distinguish between good and bad performing companies (Hussein and Nounou, 2021). Along similar lines of studies, who suggested that good performance firms will use relatively more positive tone compared to firms with less performance to signal their advantages and emphasize their superiority to external users (Clatworthy and Jones, 2003). The users who receive and interpret the signals of financial disclosure will use the current performance to reveal competitive

advantages and distinguish between good and bad companies and give good indicators for future performance.

There are relatively scarce studies about the long–term consequences of (NDT) as the vast majority of tone studies were concerning more on short term reaction especially the market reaction in short window around the disclosure (e.g., Henry, 2008; Davis et al., 2012; Huang et al., 2014). For example, Demers and Vega (2011) document a positive respond and post earnings announcement drift to the optimism and pessimism in the tone of earnings. Similarly, Davis et al. (2012) shows an immediate and significant impact of tone on stock market reactions and short–term performance by documented the positive association between the tone and the abnormal return on a three–day window around earnings press releases disclosure. They argue that the tone has an immediate effect on investors' perceptions of the company's future operational performance. In a different way, Huang et al., (2014) seek to distinguish between short– and long–term effect of tone in press release and find that in contrast to the immediate positive effect of abnormal positive tone on stock return after publishing the press release. In the long term, after one and two quarters the investors react negatively. Similarly, Schleicher and Walker (2010) found a negative association between the company performance and the tone bias, as the management tends to signal a good impression to cover for the performance decline.

According to the previous discussion, the difference in response to tone shows that the reaction may be misled by the biasness in short term more than the long term, as the investors take time to overcome the impression part of the disclosure tone and adjust their perception of the informative part to anticipate future performance. Arguably the immediate and significant impact of tone on stock market reactions and short–term performance is more affected by market efficiency and the maturity of the investors. Thus, if narrative disclosure tone to be more than impression management it should be related to the future performance of the firm. Especially in less efficient markets like developing countries where managers can influence the market

reaction throughout the tone of narrative disclosure. Wisniewski and Yekini, (2015) stated" Given sufficient time, reporting biases will be recognized, and investors will, on average, adjust their expectations". They documented that the linguistic characteristics of narratives is positively and significantly associated with future returns. Similarly, Bassyouny and Abdelfattah, (2021) find significant relationship between the tone in annual reports narratives and the future one-year (ROA) of UK listed companies. In that manner concentration on long term influence of tone performance instead of short term can be more informative about the predictive power of narrative disclosure as a conduct for new material information and may partly mitigate the impression management part of narrative. Consequently, narratives should not be perceived as mere impression management tools, but also to be considered as a complementary channel of vital information to the stakeholders that convey company performance and can reflect the future expected performance. According to the previous discussion, the current study expects narrative tone to predict future performance.

The effect of disclosure tone on market and firms' value has been examined heavily by accounting researchers recently in two different contexts. The first is the US context which follows the rules-based standards with a higher litigation (e.g., Li, 2010; Loughran and McDonald, 2011) and the second is the UK context which follows the principles-based standards with less common litigation (e.g., Schleicher and Walker, 2010; Wisniewski and Yekini, 2015; Bassyouny et al., 2020). However, studies about the less developed countries particularly in Egypt are limited (Aly et al., 2010). This study is an attempt to fill that gap by examining the disclosure tone effect in an emerging capital market (Egypt). Also, it aims to add to the literature of narrative as many prior studies proven the effect of tone on short term performance and market value of the corporations. However, there is a lack of empirical evidence with respect to the relationship between tone and long-term performance, especially in emerging markets. Moreover, I believe this study has a special importance since the results of this could be applicable widely due to the varies characteristics of Egypt which an Arabian, Middle

Eastern, and African country (Hassan et al., 2006). In addition, Egypt is an interesting environment to be explored as it represented a mixed heritage in regard of the content of legal rules regarding investor rights and the legal principles of corporate finance—and commerce. As it was ruled by the French occupation then the British Occupation, thus was affected by both common and civil law which present in general the origan of commercial law. (For illustration the common-law which is English in origin is formed by judges who have to resolve specific disputes. Precedents from judicial decisions, as opposed to contributions by scholars, shape common law. The Civil law family includes the French law gives investors weaker legal rights than common laws do, independent of the level of per capita income. (Rafael et al., 1998).

   Finally, the most common attribute about the Egyptian disclosure practice is the high level of information asymmetry which shed the light on the importance of disclosure tone in such environment. As shown by stream of studies that the incremental value of information is positively associated with the degree of information asymmetry (Veronesi, 1999; Boudta et al., 2018; Jung, 2007). For instance, Veronesi (1999) finds that working in an uncertain environment with higher information asymmetry increases the value of new information and increases the investors' reaction to the earning announcement. In addition, Boudta et.al 2018 highlight benefits of tone when a higher information asymmetry is on play and find a significant explanatory power of tone in predicting future firm performance. low disclosure level is a common attribute of disclosure practices in Egypt as documented by the majority if not all studies about disclosure in Egypt (Hassan et al., 2006; Dahawy and Conover, 2007; Hassan et al., 2009) As Dahawy et al., (2002) argue that secrecy preference well impeded in the Egyptian accounting subculture. Also, Ismail and Shehata (2012) suggest that the main reason for the low disclosure level in the Egyptian context is the secretive culture which influence the accounting disclosure practice. Although Ahmad and Hussainey (2017) show that the Egyptian companies are engaging in less-conservative accounting policies following the 2011 uprising.

However, Ayadi et al. (2021) provide recent evidence for the preference of uncertainty avoidance and confidentiality among the Egyptian accountants. In that sense the tone could be the way to fill the gap of disclosure in such secretive environment and can be used to evaluate the future expected performance of the Egyptians companies. Therefore, based on the above discussion, the researcher formulates the following hypothesis:

H1: There is a significant association between annual reports narratives tone and future performance of companies listed in Egyptian stock Exchange.

3. Methodology

3.1 The Research Context

Egypt is a market that applies Egypt applies the Egyptian Accounting Standards which are formed in convergence with International Financial Reporting Standards (IFRS) with limited penalties for non-compliance, with less restrictions in narrative reporting style. Historically it is a mixed heritage between The UK which follows a principle-based approach with more flexibility in narrative reporting and the US, which follows a rule-based approach with more restrictions in narrative reporting style (Bassyouny et al., 2020; Yekini et al., 2016).

Egypt is a developing nation that follow market economy with existence of a lot of governmental companies and it is one of the largest economies in the Middle East and Africa. It is known to be the top direct investment destination in Africa due to a lot of streaming investment procedures (Ismail and Shehata, 2012). The Central Bank of Egypt controls and regulates the financial market and There is a State regulatory authority for the Egyptian Stock Exchange (ESE). All listed companies are obligated to publish mandatory financial reports annually and semiannually according to capital market low (Hassan et al., 2009). Consequently, this study explores narratives tone of annual reports published by Egyptian companies, defined here as the content of annual reports excluding financial statements and notes to accounts.

3.2 Research Variables and Model

This study investigation employs manual content analysis to measure narrative reporting tone in the context of corporate annual report narratives to measure narrative reporting tone. Despite the fact that, some may argue computerized textual analysis using the bag-of-words approach is more comprehensive compared with manual content analysis approach (Lougheran and Macdonald, 2011). As at it is less time consuming and less complex (Chakraborty and Bhattacharjee, 2020). Arguably the manual content analysis is more convenient to be used in this study. As the first and formal language in Egypt is Arabic most of the annual reports is in Arabic also the English versions of reports is mostly affected by the choice of words in English which may be slightly different than it is in English native speaking countries such as UK and US. The measurement accuracy measurement probably could be affected with such characteristics if using computerized textual analysis method. Accordingly, Tone is measured by counting the sentences of positive tone and negative tone manually and then presented as dummy variable. One means there is a positive tone in the financial reporting tone as positive sentences outrage number of negative ones and zero for otherwise.

Following (Bassyouny et al., 2020; Davis et al., 2015) the main analyses focus on accounting-based performance by using (ROA_{t+1}) as the dependable variable to explore the association between tone and future performance. Then, to support the analysis the study also includes the effect after two years (ROA_{t+2}). Moreover, to avoid endogeneity problems, the researcher conducts a robustness test that takes into account CG mechanisms as additional controls alongside the firm characteristics included in the main analysis. In addition, this study takes into account not only the accounting-based performance but also market-based performance by using Tobin's Q ratio instead of ROA to express future performance. Finally, the study's main model included other financial characteristics that affect future performance to capture the influence of narrative tone over expected performance separately than the effect of firm accounting numbers, control variables are defined in Table1. According to

what has been mentioned this study explore financial reporting narrative tone long term predictive power in the Egyptian context by applying the following regression.

$$ROA_{t+1} = \alpha + \beta_1 Tone_{it} + \beta_2 Size_{it} + \beta_3 Leverage_{it} + \beta_4 MTB_{it} + \beta_5 ROE_{it} + \beta_6 EPS_{it} + \varepsilon_{it}$$

ROA_{t+1} is a proxy for future performance measured as ROA for the subsequent fiscal year (Davis et al., 2015). Whereas Net Tone is equal (positive–negative) words divided by the total number of words in order to control for the length of the annual reports (e.g., Bassyouny et al., 2020; Arslan–Ayaydin et al., 2016; Yekini et al., 2016). This model controls for firm characteristics that might affect firms' outcomes as Previous studies suggest controlling for Firm Size (Rogers et al., 2011), leverage ratio (Yekini et al., 2016), Return on Equity (ROE) as an indicator for current performance, Market to Book price per share (MTB) For market risk (Bassyouny et al., 2020).

Table 1: Variables Definition

Variable	Definition
Net Tone	Number of (positive words–negative words) if positive 1 if negative zero
ROA_{t+1}	Proxy of future performance, using future return on assets for the subsequent year
ROA_{t+2}	Proxy of future performance, using future return on assets for the second year
Size	The total assets at the end of fiscal year
Leverage	Total liabilities over total assets
ROE	Return On Equity for the current year
MTB	Market price per share to book value ratio at the end of the fiscal year
EPS	Earnings per share
B_IND	The Percentage of independent directors in the board
AC_IND	The Percentage of independent members in the audit committee

3.4 Data

This research comprises a dataset consisting of 95 companies listed on the Egyptian stock market. The data collection period spans from 2010 to 2018, chosen to mitigate potential data disturbances associated with financial reporting crises. Consequently, the finalized dataset encompasses a total of 709 observations representing various firms over multiple years. To obtain the necessary data, annual reports were procured from the Egyptian stock market. These reports were primarily in the Arabic language, necessitating a manual analysis of positive and negative tone sentences. To enhance the reliability and consistency of this manual analysis, a subset of the annual reports was assigned to an Egyptian colleague. Their task involved reading and tallying the occurrences of positive and negative sentimental sentences, thus ensuring the accuracy of the findings.

4. Empirical Results

4.1 Descriptive Statistics and Correlations

Table 2: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Tone	709	0.781382	0.4136	0	1
Size	709	9689.165	34123.83	38.032	305690
Leverage	709	20.65865	21.09983	0	165.5771
Growth (MTB)	709	3.572201	32.51896	–351.151	725.7123
EPS	664	0.415398	1.228852	–7.2912	18.363
Profitability (ROE)	709	27.62698	80.62303	–131.963	682.6531
ROA_{t+1}	663	6.155141	8.378986	–33.3536	64.8324
ROA_{t+2}	664	6.158734	8.423955	–33.3536	64.8324
Tobin's Q	664	1.891194	1.144346	0.6173	10.9487
B–IND	709	59.914	13.46385	11.764	92.857
AC–IND	709	96.91924	9.745817	42.857	100

Table 2 shows the descriptive statistics. The main independent variable which is the tone has a mean value equal 0.781, which indicate that there is obvious difference between positive and negative words in the Egyptian annual report's narratives. Moreover, it indicates that narrative tone in Egypt tends to be more positive. Also, descriptive shows that the profitability ratio varies between firms, with a minimum level of – 131.96 and a maximum level of 682.65 with an average 27.62 which shows the variance in current profitability across the sample. Furthermore, the average of the sample firm size is 9689.16, The mean value of (EPS) is 0.41, the average of Leverage is 20.65 and the average of (MTB) is 3.57. Descriptive shows that future_ ROA has an average of 6.15 with a minimum level of – 33.35 and a maximum level of 64.83. Also, the mean value of the profitability (ROE) as an indicator of current performance is 27.62.

Table 3: Pearson Correlations Matrix

Variables	Tone	ROA_{t+1}	ROA_{t+2}	Tobin's Q	ROE	Size	Lever.	MTB	EPS
Tone	1								
ROA_{t+1}	0.1182	1							
ROA_{t+2}	0.1	0.4446	1						
Tobin's Q	0.0528	0.424	0.5299	1					
ROE	0.0493	0.2305	0.146	0.183	1				
Size	0.0179	0.0027	–0.0652	–0.1188	–0.0321	1			
Leverage ratio	–0.0267	–0.1176	0.0436	0.1439	0.0643	0.043	1		
MTB	0.0834	0.0623	0.0061	0.0487	0.1917	–0.0284	–0.1139	1	
EPS	–0.0713	0.2351	0.2054	0.0862	0.0708	0.107	–0.1296	0.0532	1

Pearson correlation coefficients are reported in Table 3. The most important observation is that all of the correlation coefficients are below 23.5 per cent. Which is comparatively low alleviating any concerns regarding multicollinearity problems in the model.

4.2 Results and Discussion

Since the main purpose of this study is to explore the effect of narrative tone over the long-term performance. The main finding is presented in table 4. In consistency to the majority of studies about tone predictive power (e.g., Bassyouny et al., 2020; Wisniewski and Yekini, 2015) the results show a positive and significant correlation between narrative reporting tone and the dependent variable ($ROAt$+1) as an indicator for future performance. The coefficient is 2.5700 and T value is 3.37 which confirm the prediction power of tone over future performance in Egyptian annual reports. **Thus**, **supporting the research hypothesis**.

Moreover, and perhaps most importantly, in consistence with previous studies in developed countries such USA (li, 2010) and UK (Bassyouny and Abdelfattah, 2021; Wisniewski and Yekini, 2015; Huang et al., 2014) the results documented the predictive power of tone in less developing countries such as Egypt. The significant relation between tone and future performance also highlights the incremental value of narrative disclosure to stakeholders regardless of the difference content of legal rules and legal principles of corporate finance—and commerce and litigation level. In addition, the results expended the findings of Aly et al. (2018) concerning the value add of narrative disclosure tone as a vital complementary variable for performance not only on the short term but also on the long term in the Egyptian context.

Worth mentioning that the results also show the alignment of tone effect either on accounting base or market base which support the signaling theory conceptual point of view about disclosure tone. As the higher future performance confirms that enhancement in disclosure practice is reflected by expected performance. Also, in contrast to (Huang et al., 2014) this study finds that managers use narrative to seek to reduce informational asymmetries rather than engage in impression management. The stability of long-term effect also emphasizes the narrative disclosure tone in annual reports is used as a vehicle for valuable information and not solely restricted to fulfill an impression management role. Moreover, the opportunistic managerial

disclosure choices are less likely to drive the narrative disclosure tone of annual reports in the Egyptian environment as the tone is relatively related to the current financial performance. Finally, the statistical relation between tone and future performance reveals that managers use narrative tone to signal their sentiments of the expected future performance and should be used by market participants to revise and adjust their assessment of expected outcomes.

Table 4: **Regressions linking Tone of Annual Report Narrative and Future Performance**

Variables	Coefficients	T statistics	P value
Tone	2.570063	3.37	0.0011
Size	–3.94006	–0.45	0.653
Leverage	–0.0330787	–2.15	0.032
Growth (MTB)	–0.0358682	–2.12	0.034
EPS	1.492077	5.66	0.000
Profitability (ROE)	0.0215738	5.42	0.000
_cons	3.636491	4.70	0.000
Model summary			
R2	12.14%		
Adj– R2	11.27%		
F–value	0.0000		

4.3 Robustness Tests (**Alternative Measures for Future Performance**)

Using the same research model, I replaced the dependable variable (future performance) with (ROA_{t+2}) to express future performance after two years, supporting the main results. As shown in table 5 the relationship between narrative disclosure tone and (ROA) after two years has a coefficient of 2.5700 and t value of 3.37 which support my analysis the relation is still significant after the second fiscal year not only the first one.

Table 5: Robustness Analysis: Alternative Measure (ROA_{t+2}) for Future Performance

Variables	Coefficients	t statistics	P value
Tone	2.503676	3.27	0.001
Size	–0.0000214	–2.14	0.016
Leverage	0.0267221	1.66	0.098
Growth (MTB)	–0.0227123	–0.71	0.479
EPS	1.455813	5.57	0.000
Profitability (ROE)	0. 0129442	3.01	0.003
_cons	2. 670664	3.44	0.001
Model summary			
R2	8.30%		
Adj– R2	7.40%		
F–value	0.0000		

Moreover, as a robustness test, I use additional control variables to represent CG characteristics that have an important role in determining (NDT) and has an effect on future performance. specifically, the additional analyses included audit committee independence due to its role in monitoring financial reporting process and board independence due to its part as an effective determinate of (NDT) (Bassyouny and Abdelfattah 2021; Li 2010B; Wang and Hussainey 2013). Using these additional analyses can mitigate the measurement errors. thus, to avoid endogeneity problems. The results of robustness test are presented in table 6. These results support the main analysis finding and confirm the positively significant influence of narrative tone over future performance.

Table 6: Robustness Analysis: Controlling for Omitted Variables Bias

Variables	Coefficients	t statistics	P value
Tone	2.447826	3.15	0.002
Size	–1.680006	–0.18	0.855
Leverage	–0.0341976	–2.22	0.027
Growth (MTB)	–0.0347522	–2.06	0.040
EPS	1.461687	5.53	0.000
Profitability (ROE)	2.447826	3.15	0.002
B_IND	–0.0286387	–1.03	0.302

Variables	Coefficients	t statistics	P value
AC_IND	0.0518473	1.44	0.151
_cons	0.891	0.891	0.891
Model summary			
R2	12.46%		
Adj– R2	11.31%		
F–value	0.000		

Finally, the main analysis depends on accounting–based performance by using ROA as a proxy of expected performance. In addition, Tobin's Q ratio had been used to reveal tone prediction power of market performance. Table 7 shows that there is a positive association between tone and future market performance, however the relation is not significant. These results are consistent with Bassyouny and Abdelfattah (2021) how found net optimistic tone is positively and not significantly associated with future market performance. Also, it is in line with prior studies on another context who found the relation to be positive but not significant either with future stock returns as Wisniewski and Yekini (2015) or with stock market reaction as Huang et al. (2014). The current study results show no difference between the Egyptian context and the developed context concerning the prediction power of tone using accounting and market performance.

Table 7: **Robustness Analysis**: **Alternative Measure** (**Tobin's Q**) **for Future Performance**

Variables	Coefficients	T statistics	P value
Tone	0.1244788	1.13	0.258
Size	–4.07006	–3.12	0.002
Leverage	.0086136	3.80	0.000
Growth (MTB)	–.0045735	1.04	0300
EPS	1.0824538	2.25	0.025
Profitability (ROE)	.0020597	3.47	0.001
_cons	1.684436	22.90	0.000
Model summary			
R2	7.55%		
Adj– R2	6.57%		
F–value	0.0000		

5. **Conclusions**, **Limitations and Future Research**

5.1 Conclusion

This research aims to explore and test the relationship between narrative disclosure tone and future performance in the Egyptian context, most specifically the study used manual content analyses to measure the optimistic (pessimistic) language of narratives published in the annual reports of Egyptian listed companies and Its ability to predict future performance measured as ROA after one and two years. The results emphasize the important role of narrative tone in reflecting managers' expectations about the future performance of the firm. Thus, these results support the argument that tone is more than an impression management tole and it should be considered as a complementary information source for expected future performance.

The findings could be of interest to a variety of stockholders, for instance analysts and investors should pay closer attention to the narrative part of annual reports when assessing future performance and consider the tone as an input for decision making. Also, it provides evidence for regulators about the usefulness of narrative and emphasize the need for narratives guidance to be issued by the Egyptian regulators as this part of financial disclosure is still unregulated.

5.2 Limitations

This study suffers from some limitations. First, this study relies on a manual content analysis approach to measure narrative reporting tone, which restricts the sample size. And has subjective point of view in determining the degree of net optimistic tone in the sample financial statements. Second, although several control variables were used, the study has limitations regarding including CEO characteristics as additional controls which might moderate the relationship between net tone and future performance. Third, this study used Egypt as a context of analysis which can represent just developing countries point of view on this relationship.

5.3 Future Research

Finally, the main scope of this study is focusing on one channel of disclosure which is annual reports narratives. Further studies might consider other disclosure documents to explore which document narrative has the strongest relation with firm's future outcomes as different information sources may lead to different influences. Moreover, this research is about the consequences of tone in the Egyptian context so further research may explore the characteristics of firms and managers that determinate the tone of narrative disclosure in Egypt. Furthermore, the findings of this study are based on the Egyptian context, which limits the generalizability of the results beyond Egypt. Future research could extend this work by examining other countries in the Middle East and North Africa (MENA) region to assess the explanatory power of narrative tone in different contexts. Additionally, Future studies may adopt computerized textual analysis methods, such as the bag-of-words model or a Naïve Bayes machine learning algorithm, to enable the analysis of larger datasets.

References

Ahmed, H. Ahmed, and Hussainey, K. (2017), "Is Egyptian corporate financial reporting becoming more conservative?", *Journal of Financial Reporting and Accounting*, Vol. 15 No. 3, 2017 pp. 333–346, *DOI 10.1108/JFRA–06–2016–0049.*

Arslan–Ayaydin Ö, Boudt, K. and Thewissen, J. (2016), "Managers set the tone: equity incentives and the tone of earnings press releases", *Journal of Banking & Finance*, 72, pp.S132–S147, *https://doi.org/ 10.1016/j.jbankfn.2015.10.007.*

Ataullah, A., Vivian, A. and Xu, B. (2018), "Optimistic disclosure tone and conservative debt policy", *Abacus*, 54(4), pp.445–484, *https://doi. org/10.1111/abac.12140.*

Ayadi, j. Eljammi, Damak, Salma, and Hussainey, k. (2021), "The impact of conservatism and secrecy on the IFRS interpretation: the case of Tunisia and Egypt", *Journal of Financial Reporting and Accounting*, Vol. 19 No. 2, pp. 234–271, DOI 10.1108/JFRA–01–2020–0016.

Baginski, S.P., Demers, E., Kausar, A. and Yu, Y.J. (2018), "Linguistic tone and the small trader", *Accounting, Organizations and Society* ,68, pp.21–37, *https://doi.org/10.1016/j.aos.2018.03.005.*

Balakrishnan, R., Qiu, X.Y. and Srinivasan, P. (2010). "On the predictive ability of narrative disclosures in annual reports", European Journal of Operational Research, 202(3), pp.789–801.

Barakat, A., Ashby, S., Fenn, P. and Bryce, C. (2019). "Operational risk and reputation in financial institutions: Does media tone make a difference?", *Journal of Banking & Finance*, 98, pp.1–24, *https://doi.org/10.1016/j.jbankfn.2018.10.007.*

Bartov, E., Faurel, L. and Mohanram, P.S. (2018). "Can twitter help predict firm–level earnings and stock returns?", The Accounting Review, 93(3), pp.25–57, *https://doi.org/10.2308/accr–51865.*

Bassyouny, H., Abdelfattah, T. and Tao, L. (2020). "Beyond narrative disclosure tone: The upper echelons theory perspective", *International Review of Financial Analysis*, Vol. 70, 101499, *https://doi.org/10.1016/j.irfa.2020.*

Bassyouny, H. and Abdelfattah, T. (2022). "Executives vs. governance: Who has the predictive power? Evidence from narrative tone", *Review of Quantitative Finance and Accounting*, Vol. 58, pp.361–382, *https://doi.org/10.1007/s11156–021–00997–y.*

Boudt, K., Thewissen, J. and Torsin, W. (2018). "When does the tone of earnings press releases matter?", *International Review of Financial Analysis*, 57, pp.231–245, *https://doi.org/10.1016/j.irfa.2018.02.002.*

Breton, G. and Taffler, R. J. (2001). "Accounting information and analyst stock recommendation decisions: a content analysis approach", *Accounting and Business Research*, 31(2), pp.91–101, *https://doi.org/10.1080/00014788.2001.9729604.*

Chakraborty, Bijitaswa, and Bhattacharjee, Titas, (2020). "A review on textual analysis of corporate disclosure according to the evolution of different automated methods", *Journal of Financial Reporting and Accounting*, Vol. 18 No. 4, pp. 757–777, *DOI 10.1108/JFRA–02–2020–0047.*

Clatworthy, M. and Jones, M.J. (2003). "Financial reporting of good news and bad news: evidence from accounting narratives", *Accounting and Business Research*, 33(3), pp.171–185, *https://doi.org/10.1080/00014788.2003.9729645.*

Clatworthy, M. and Jones, M.J. (2006). "Differential patterns of textual characteristics and company performance in the chairman's statement", *Accounting Auditing and Accountability Journal*, Vol. 19(4), pp. 493–511*, https://doi.org/10.1108/09513 570610679100.*

Dahawy, K. and Conover, T. (2007), "Accounting disclosure in companies listed on the Egyptian stock exchange", *Middle Eastern Finance and Economics*, Vol. 1, No. 1, pp.5–20.

Dahawy, K., Merino, B. D., and Conover, T. L. (2002), "The conflict between IAS disclosure requirements and the secretive culture in Egypt" *Advances in international Accounting,* Vol. 15, pp.203–228, *https://doi.org/10.1016/S0897–3660(02)15024–0.*

Dahawy, K., Shehata, N.F. and Ransopher, T.D. (2011), "The state of accounting in Egypt: a case", *Journal of Business Cases and Applications,* July, Vol. 3, pp.68–79.

Davis, A.K., Ge, W., Matsumoto, D. and Zhang, J.L. (2015), "The effect of manager–specific optimism on the tone of earnings conference calls", *Review of Accounting Studies,* Vol. 20(2), pp.639–673, *https://doi.org/10.1007/s11142–014–9309–4.*

Davis, A.K., Piger, J.M. and Sedor, L.M. (2012), "Beyond the numbers: measuring the information content of earnings press release language", *Contemporary Accounting Research*, Vol. 29(3), pp.804–837, *https://doi.org/10.1111/j.1911–3846. 2011.01130.x.*

Davis, A.K. and Tama–Sweet I. (2012), "Managers' use of language across alternative disclosure outlets: earnings press releases versus MD&A", *Contemporary Accounting Research*, Vol. 29(3), pp.804–837, *https://doi.org/10.1111/j.1911– 3846.2011.01125.x.*

Demers, E., and Vega, C. (2011), "Linguistic tone in earnings announcements: News or noise", FRB International Finance Discussion Paper, 951.

Doaa, Aly, Sherif, El–Halaby, and Khaled, Hussainey, (2018), "Tone disclosure and financial performance: evidence from Egypt", *Accounting Research Journal*, Vol. 31(1), pp.63–74, *https://doi.org/10.1108/ARJ–09–2016–0123.*

El–Deeb, M.S., Halim, Y.T. and Elbayoumi, A.F. (2022), "Disclosure tone, corporate governance and firm value: evidence from Egypt", *Asia–Pacific Journal of Accounting & Economics*, Vol. 29(3), pp.793–814, *https://doi.org/10.1080/16081625.2021.193470.*

El–Sayed, D.H., Adel, E., Elmougy, O., Fawzy, N., Hatem, N. and Elhakey, F. (2021), "The influence of narrative disclosure readability, information ordering and graphical representations on non–professional investors' judgment: evidence from an emerging market", *Journal of Applied Accounting Research*, Vol. 22(1), pp. 138–167, *https://doi.org/10.1108/JAAR–06–2020–0115.*

Giovanna, Michelon, Grzegorz, Trojanowski, and Ruth, Sealy (2022). "Narrative Reporting: State of the Art and Future Challenges", *Accounting in Europe*, Vol. 19(1), pp.7–47, *https://doi.org/10.1080/ 17449480.2021.190058.*

Hassan, O. A., Giorgioni, G., and Romilly, P. (2006). "The extent of financial disclosure and its determinants in an emerging capital market: the case of Egypt", *International Journal of Accounting, Auditing and Performance Evaluation*, 3(1), pp.41–67, *https://doi.org/10.1504/ IJAAPE.2006.010102.*

Hassan, O., Romilly, P., Giorgioni, G. and Power, D. (2009), "The value relevance of disclosure: evidence from the emerging Capital market of Egypt", *The International Journal of Accounting*, Vol. 44(1), pp. 79–102, *https://doi.org/10.1016/j.intacc.2008.12.005.*

Hassanein, A., Zalata, A. and Hussainey, K. (2019), "Do forward–looking narratives affect investors' valuation of UK FTSE all–shares firms?", *Review of Quantitative Finance and Accounting,* Vol. 52(2), pp.493–519, *https://doi.org/10.1007/ s11156–018–0717–6.*

Henry, E. (2008), "Are investors influenced by how earnings press releases are written?", *The Journal of Business Communication*, Vol. 45(4), pp.363–407, *https://doi.org/10.1177/0021943608319388.*

Henry, E. and Leone, A.J. (2016), "Measuring qualitative information in capital markets research: comparison of alternative methodologies to measure disclosure tone", *The Account Review*, Vol. 91(1), pp.153–178, *https://doi.org/10. 2308/accr–51161.*

Huang, X., Teoh, SH. and Zhang, Y. (2014)."Tone management", *The Account Review*, Vol. 89(3), pp.1083–1113, *https://doi.org/10. 2308/accr–50684.*

Huang, A. H., Zang, A. Y., & Zheng, R. (2014). "Evidence on the information content of text in analyst reports", **The Accounting Review**, Vol. 89(6), pp.2151–2180, *https://doi.org/10.2308/accr–50833.*

Hussein, A. and Nounou, G. (2021), "The impact of internet financial reporting on Egyptian company's performance", Journal of Financial Reporting and Accounting, Vol. ahead–of–print No. ahead–of–print, *https://doi.org/10.1108/JFRA–10–2020–0293.*

Ismail, Tariq H. and Shehata, Nermeen, F. (2011), "Disclosure Practices in Egypt: What are Factors Beyond the Low Level? "*International Journal of Economics and Accounting*, Vol. 3(3/4), pp. 264–275, 2012.

Jung, B. C. (2007), "Information asymmetry, dividend increases, risk and expected future earnings changes", University of Colorado at Boulder.

Kamal Hassan, M. (2008), "The development of accounting regulations in Egypt: Legitimating the International Accounting Standards", *Managerial Auditing Journal,* Vol. 23(5), pp. 467–484, *https://doi. org/10.1108/02686900810875299.*

Katz, S.B. (2001). "Language and persuasion in biotechnology communication with the public: How not to say what you're not going to say and not say it", AgBioForum, Vol. 4(2), pp. 93–97.

Li, F. (2010), "The information content of forward–looking statements in corporate flings—a naïve Bayesian machine learning approach", *Journal of Account Research,* Vol. 48(5), pp.1049–1102, *https://doi. org/10.1111/j.1475–679X. 2010.00382.x.*

Loughran, T., McDonald, B. (2011), "When is a liability not a liability? textual analysis, dictionaries, and 10–Ks", *The Journal of finance* , Vol. 66(1), pp.35–65, *https://doi.org/10.1111/j.1540–6261.2010. 01625.x.*

Loughran, T., McDonald, B. (2016). "Textual analysis in accounting and finance: a survey", *Journal of Accounting Research*, Vol. 54(4), pp.1187–1230, *https://doi.org/10.1111/1475–679X.12123.*

Merkley, K. J. (2014), "Narrative disclosure and earnings performance: Evidence from R&D disclosures", *The Accounting Review*, Vol. 89(2), pp.725–757, *https://doi.org/10.2308/accr–50649.*

Mousa, G. A., Elamir, E. A., and Hussainey, K. (2021), "Using machine learning methods to predict financial performance: Does disclosure tone matter?", *International Journal of Disclosure and Governance*, Vol. 19(1), pp.93–112.

Rafael, La Porta. Florencio, Lopez-de-Silanes. Andrei Shleifer. and robert, w. vishny, (1998), "Law and Finance", *Journal of Political Economy*, Vol. 106(6), pp. 1113–1155.

Rahman, S. (2019), "Discretionary tone, annual earnings and market returns: evidence from UK interim management statements", *International Review of Financial Analysis*, Vol. 65, p.101384, *https://doi.org/ 10.1016/j.irfa.2019.101384.*

Rogers J.L., Van Buskirk, A. and Zechman, S.L. (2011), "Disclosure tone and shareholder litigation", *The Accounting Review,* Vol. 86(6), pp.2155-2183, *https://doi.org/10.2308/accr–10137.*

Schleicher, T. and Walker, M. (2010), "Bias in the tone of forward–looking narratives", *Accounting and business research,* Vol. 40(4), pp.371–390, *https://doi.org/10.1080/00014788.2010.9995318.*

Suhadak, K., Handayani, S.R. and Rahayu, S.M. (2019). "Stock return and financial performance as moderation variable in influence of good corporate governance towards corporate value" *Asian Journal of Accounting Research,* Vol. 4(1), pp. 18–34, doi: 10.1108/ajar–07–2018–0021.

Veronesi, P. (1999). "Stock market overreactions to bad news in good times: a rational expectations equilibrium model", The Review of Financial Studies, Vol. 12(5), pp.975–1007.

Wang, M., Hussainey, K. (2013), "Voluntary forward–looking statements driven by corporate governance and their value relevance", *Journal of accounting and public policy*, Vol. 32(3), pp.26–49, *https://doi.org/ 10.1016/j.jaccpubpol.2013. 02.009.*

Wisniewski, T.P.and Yekini, L.S. (2015), "Stock market returns and the content of annual report narratives", *Accounting Forum*, Vol. 39(4), pp.281–294*, https://doi.org/10.1016/j.accfor.2015.09.001*.

Yekini L.S., Wisniewski, T.P. and Millo, Y. (2016), "Market reaction to the positiveness of annual report narratives", *The British Accounting Review*, Vol. 48(4), pp.415–430, *https://doi.org/10.1016/j.bar.2015. 12.001.*