
UNIVERSIDADE CATÓLICA PORTUGUESA

# Financial Disclosure Attributes and the Cost of Equity Capital

## A study on the UK FTSE-350 firms

by

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Católica Porto Business School, Universidade Católica Portuguesa
April, 2023


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Final Work in Academic Context presented to
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by

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# Resumo

Esta dissertação investiga a relação entre as divulgações qualitativas de informação financeira (vulgarmente designadas de narrativas financeiras) e o custo do capital próprio das empresas, com o objetivo de identificar atributos que possam contribuir para melhorar os modelos de avaliação.

Com base na revisão da literatura, a dissertação é dividida em três partes, cada uma relacionada a um atributo da divulgação qualitativa de informação que pode explicar a sua relação com o custo de capital próprio. Esses atributos incluem a complexidade da linguagem utilizada , o tom e o nível de informação prospetiva. Inclui, ainda, uma quarta parte, na qual as empresas são categorizadas com base no seu desempenho, medido pelo retorno sobre os ativos. Essa divisão permitiu investigar possíveis diferenças no impacto desses três atributos entre empresas com níveis de desempenho alto versus baixo.

Diversos estudos empíricos são apresentados para apoiar essas expectativas, usando uma amostra de partes de relatórios anuais de empresas do FTSE-350 do Reino Unido, de 2015 a 2018. O estudo constata que a complexidade da linguagem não tem um impacto significativo no custo de capital. Os resultados para o tom e divulgações prospetivas foram ambíguos. No entanto, os resultados mostram que estes têm um impacto no custo de capital.

A dissertação conclui que há uma relação entre a divulgação voluntária e o custo do capital próprio. Os resultados destacam a importância da divulgação qualitativa e sugerem que as empresas devem considerar cuidadosamente a complexidade da linguagem, o tom e o nível de divulgação de informações prospetivas na construção dos seus relatórios financeiros, de forma a minimizar o custo do capital próprio.

Esta dissertação contribui para a área, fornecendo evidências empíricas do impacto das divulgações qualitativas sobre o custo do capital próprio e identificando atributos chave dessas divulgações que, se bem utilizados, podem ajudar as empresas a comunicarem melhor com investidores e gerir os seus custos de capital.

**Palavras-chave:** Divulgação qualitativa, complexidade de linguagem, tom, informação prospetiva, custo do capital próprio

# Abstract

This dissertation investigates the relationship between the qualitative disclosure of financial reports (commonly referred to as financial narratives) and the cost of equity capital of firms, with the aim of identifying attributes that may contribute to improving evaluation models.

Based on the literature review, the dissertation is divided into three parts, each related to an attribute of qualitative disclosure that may explain this relationship. These attributes include the complexity of language, the tone, and the level of forward-looking disclosure. It also includes a fourth part, where firms are categorized based on their performance, measured through the return on assets. This division allowed for an investigation into potential differences in the impact of these three disclosure attributes between firms with high versus low-performance levels.

Empirical studies are presented to support these expectations, using a sample of annual report disclosures of UK FTSE-350 firms, from 2015 to 2018. The dissertation finds that the complexity of language is statistically insignificant in explaining the cost of capital. The results for the tone and forward-looking disclosures were ambiguous. Nonetheless, it appears that they have an impact on the cost of capital.

The dissertation concludes that there is a relationship between qualitative disclosure and the cost of equity capital. The findings highlight the importance of qualitative disclosure and suggest that firms should carefully consider the complexity of language, tone, and level of forward-looking disclosure in their financial reporting process to minimize the cost of equity capital.

This dissertation adds to the existing body of literature by presenting empirical findings on how qualitative disclosures can affect a company's cost of

equity capital. Moreover, it identifies crucial attributes of such disclosures that, if effectively utilized, can aid firms in improving their communication with investors and in better managing their capital costs.

**Keywords:** Qualitative disclosure, complexity of language, tone, forward-looking information, cost of equity capital

"In a financial world driven largely by mathematical formulas and computers trading thousands of times a second, a young investor is searching for investments in the most old-fashioned way possible: by reading" – Jason Zweig. The Wall Street Journal (April 1st, 2016)

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# List of abbreviations

ASL – Average sentence Length

FASB – Financial Accounting Standards Board

FKI – Flesch-Kincaid Index

FLD – Forward-looking Disclosure

IM – Impression Management

LTG – Long-term Growth

LSE – London Stock Exchange

MR – Management Reports

MVCE – Market Value of Common Equity

PB – Price-to-book

OFR – Operating and Financial Review

ROA – Return on Assets

SEC – Securities and Exchange Commission

# Chapter 1: Introduction

In a broad sense, financial reporting refers to the process of disclosing pertinent information about a firm. It is an essential tool for evaluating a firm's performance and financial position, both in the past and present, as well as its potential for future growth.

Information can be either quantitative (e.g., a significant proportion of the financial statements) or qualitative (e.g., the management report). Most of the quantitative information is widely available in commercial standardised financial databases and, therefore, has been extensively researched. Conversely, qualitative information is unstructured data, which means it imposes significant barriers to its collection, analysis and understanding. Only in the last decade, research has started to focus on this type of information and on how it can improve our understanding of firms' performance. Quantitative reporting may not satisfy the market's need for information, which is why investors and other stakeholders encourage qualitative disclosure of the firm's performance and strategies.

Thus, it becomes relevant to understand to what extent qualitative information can inform investment and economic decisions, by filling the gap between the required financial statements and the actual performance of a firm (Feldman et al., 2010). Essentially, qualitative disclosures help investors assess a firm's current and future financial performance and predict future earnings (Hussainey et al., 2003). This is particularly important for investors as it helps them make informed decisions regarding their investments.

In other words, the disclosure of information increases the quality and transparency of transactions by reducing information asymmetries and positively impacting investment decisions. Consequently, firms have incentives to provide relevant information, even if the information is negative, to give the public a broad understanding of the firm's actual situation. The transparency of information also assists investors in perceiving the level of risk involved, which directly affects the required risk premium.

According to Financial Accounting Standards Board (FASB, 2001), a firm's cost of capital includes a risk premium resulting from investors' uncertainty about the adequacy of the information available about the firm. The FASB further states that this uncertainty premium can be reduced by increasing transparency.

Botosan (2006) provides a concise explanation for the cost of equity capital (r), as the minimum rate of return equity investors require for providing capital to the firm.

The cost of equity capital impacts several areas, including the discount rate of investment projects, the composition of the capital structure, and the profitability of the firm (Easley and O'Hara, 2004).

Some studies investigate the impact of disclosure on a firm's overall value, which in turn affects its cost of equity capital. The value of a firm is inversely related to its cost of equity capital - the higher the firm value, the lower the firm's cost of capital, as investors are more willing to invest in a firm they consider to have high value. This increased investment leads to higher expected cash flows from investors, which can facilitate the firm's growth and expansion, ultimately increasing its value, and once again, reducing the cost of capital. FASB (2006) states numerous advantages of financial reporting. These include improved investment, credit, and other resource allocation decisions, resulting in a more effective operation of capital markets and reduced costs of capital for the overall economy.

This dissertation seeks to identify the elements of financial reporting disclosures, which can significantly impact the cost of equity capital, by focusing on the financial narratives. Through an examination of the impacts of the complexity of language, sentiment manipulation (tone) and forward-looking information of qualitative disclosures, I aim to assess the influence of these attributes on the cost of equity capital for a firm. This dissertation has implications for both managers and investors. Besides the prime objective of this dissertation, another goal is to gain insight into the viewpoints of managers regarding strategies for disclosing pertinent information about the firm to enhance its value to investors while simultaneously reducing the cost of equity capital. Conclusions show that managers must balance the complexity of language, the tone and the presentation of forward-looking information when determining their firm's corporate reporting strategy.

The dissertation is divided into three parts, each one related to one of the aforementioned attributes.

The first area of analysis seeks to investigate the influence of language complexity. Some managers use obfuscation techniques, such as long sentences and big words, to make bad news more difficult to understand. This can affect readers' perception of a firm's performance (Riley and Luippold, 2015).

The second area of analysis is sentiment manipulation. The study argues that sentiment manipulation affects a firm's cost of equity capital. The theme of a narrative influences how the message is interpreted, and the tone (positive or negative) can be influenced by the number of positive words used in the narrative.

The third area of analysis aims to assess the impact of forward-looking disclosure on a firm's cost of equity capital. Providing forward-looking information can help investors better comprehend a firm's past and current financial performance and enable them to make predictions about future

earnings. Such disclosures can have a significant influence on how investors perceive the firm's financial report.

To enhance the depth of analysis, an additional variable was introduced by categorizing firms based on their performance, measured through the return on assets (ROA). This stratification allowed for an investigation into potential differences in the influence of the three disclosure attributes between firms with high versus low-performance levels.

My sample covers a large panel of FTSE-350 firms that are listed on the London Stock Exchange (LSE) over the 2015-2018 period. I find that complexity of language is statistically insignificant in explaining cost of equity capital, even after controlling for other factors identified in prior studies as systematically affecting the cost of equity capital. The results for the tone and forward-looking disclosure were ambiguous. However, there is clearly a relationship between these two attributes and the cost of equity capital.

The rest of this dissertation is structured as follows: Section 2 provides a review of the literature and presents the research hypotheses; Section 3 outlines the research design; Section 4 reports the results of the study; and Section 5 presents the conclusion.

# Chapter 2: Literature Review and Hypotheses Development

As posited by Botosan (1997), the theoretical investigations that underpin the association between the level of financial reporting and the cost of equity capital can be divided into two interrelated streams.

The first argues that the cost of equity capital is greater for securities with larger bid-ask spreads because investors require compensation for additional transaction costs (Amihud and Mendelson, 1986). In addition, Amihud and Mendelson (1988) establish a connection between disclosure and reducing bid-ask spreads and the cost of equity capital. They suggest that managers should disclose their private information to alleviate the adverse selection component of bid-ask spreads through transparent disclosure, which could ultimately lower the cost of equity capital. This recommendation, along with its underlying rationale, is also supported by King et al. (1990), who contend that disclosure reduces investors' incentives to obtain costly private information. In this context, Diamond and Verrecchia (1991) propose that greater levels of information disclosure can decrease the amount of information that is revealed by a large trade. As a result, disclosure can help to alleviate the adverse price impact that is typically associated with such trades. Consequently, investors are now inclined towards taking larger positions in the company's securities than before, leading to an increase in demand and the price of the securities and in consequence, increasing the value of the firm, while simultaneously reducing the cost of equity capital (Botosan, 1997).

Several research studies (e.g., Lam and Du, 2004; Zhang and Ding, 2006). explore the correlation between disclosure and a firm's cost of equity capital, which consequently influences its overall valuation. The value of a firm is inversely proportional to its cost of equity capital; thus, a decrease in the cost of equity capital results in a higher valuation, as investors are more inclined to invest in a firm with lower costs. This surge in investment leads to an anticipation of increased cash flows from investors, which can support the firm's growth and expansion, ultimately leading to a rise in its valuation. These studies have found a negative correlation between disclosure and the cost of equity capital, meaning that increased disclosure is associated with lower costs of capital. Conversely, there is a positive correlation between disclosure and firm value.

The second stream suggests that higher levels of financial reporting can decrease the cost of equity capital by mitigating non-diversifiable risk (Botosan, 1997). According to the author, investors should estimate the parameters that constitute the security's return, or the payoff distribution based on the historical returns of the securities or other relevant information about the firm. The argument further states that uncertainty regarding the actual parameters of return and payoff distribution is greater when less information about the firm is available. As non-diversifiable risk is given, investors should demand additional compensation for this risk factor.

Theoretically, if the disclosure is imperfect, investors will demand an incremental return to compensate for the information risk they bear. Additionally, firms with high levels of disclosure, and hence low information risk, are likely to have a lower cost of equity capital than firms with low disclosure levels and high information risk (Healy and Palepu, 2001).

This section reviews three strands of literature that are relevant to the research objectives and develops hypotheses based on them. The first strand investigates the relationship between the complexity of language used in managers'

discretionary disclosures and the cost of equity capital. The second strand examines how sentiment manipulation in financial narratives affects the cost of equity capital. The third strand focuses on how forward-looking disclosure in such narratives influences the cost of equity capital. There is also a final strand, that aims to include firm's performance as a relevant part of the research.

## 2.1 Complexity of Language

This dissertation proposes that specific linguistic characteristics present in annual reports can impact a firm's cost of equity capital through two channels. Firstly, firms that produce more complex annual reports, defined as those containing extended and challenging-to-read language, may experience significant information asymmetry issues. This is because managers of such firms may purposefully structure their annual reports to obscure weak performance or conceal unfavourable news from investors (Abrahamson and Park, 1994). Secondly, more complex disclosures can affect users' perception of future firm performance and introduce bias into their judgments, leading to higher uncertainty surrounding the firm's stock return distribution parameters and increased disagreement among investors regarding how to interpret public signals (Merkl-Davies and Brennan, 2007).

The decision of an investor to acquire a firm's financial securities, in theory, is influenced by their expectations of the firm's future cash flows or returns based on the available information, as noted by Miller (2010). Investors may use qualitative disclosures to formulate their expectations.

According to Henry's (2008) research, there is a correlation between the readability of a firm's annual report qualitative disclosure and its earnings. The study suggests that some firms may intentionally use complex language to

conceal unfavourable information from investors. Nevertheless, Li (2008) found that such complexity does not appear to have a significant impact on future market prices in subsequent years. It is expected that more complex disclosures will result in less pronounced reactions from investors to the financial results being reported.

Although in quantitative disclosures the word choice is standardized by industry, qualitative disclosure depends on the discretion of management. This means that managers can attempt to steer readers' attention towards aspects that paint the firm's performance in a more favourable light. For instance, they may intentionally use excessively lengthy sentences or complex vocabulary to obscure negative developments. Such obfuscation reduces investors' ability to fully comprehend unfavourable news (Riley and Luippold, 2015).

In response to obfuscation tactics that can harm the investing public, the Securities and Exchange Commission (SEC) established the Plain English Rule in 1998. This protocol requires issuers to follow specific linguistic and formatting guidelines in their communications, aimed at improving readability for investors. Linguistic suggestions include using everyday language, short sentences, and active voice while formatting suggestions focus on legibility through features such as bullet points, tables, and line spacing (SEC, 1998).

Rjiba et al. (2021) conducted a study to explore the association between annual report readability and the cost of equity capital. They hypothesized that complex textual reporting would hinder investors' ability to process and interpret annual reports, resulting in greater information risk and, in turn, a higher cost of equity financing. Consistent with their prediction, they found that greater textual complexity was indeed associated with a higher cost of equity capital.

Analytically, Bloomfield and Fischer (2011) showed that opinion divergence reduces the accuracy of investor beliefs about future stock returns, leading to higher costs of equity capital.

Rennekamp (2012) provided experimental evidence that less readable disclosures diminish investor confidence in the reliability of the information presented, affecting their subsequent judgments and decisions. In his study, the author emphasizes the SEC's mission to promote the use of plain English to make disclosures more informative and accessible to investors. Rennekamp (2012) also found that disclosures with greater readability resulted in stronger reactions from small investors to both positive (more positive valuation judgments) and negative news (more negative valuation judgments), indicating that the Plain English Rule has been successful in enhancing investors' understanding of a firm's true financial performance.

To achieve this, the SEC recommends avoiding legal jargon, highly technical terms, and double negatives in disclosures. The use of plain English and clear formatting increases investors' processing fluency and enhances their trust in the disclosure, ultimately leading to more accurate valuation judgments (Rennekamp, 2012)

Similarly, Elliott et al. (2015) found that using concrete language, as recommended by the SEC's plain English rule, enhances investor confidence in their ability to assess an investment.

After reviewing relevant theories and literature, it appears that the complexity of language may impact the value of a firm for investors, and in consequence, the firm's cost of equity capital. More specifically, I predict that an increase in the complexity of the disclosures will have a positive impact in the cost of equity capital. More complex disclosures will be harder to interpret by investors, raising uncertainty among them, and deteriorating their willingness to invest in the firm. So, I expect this will increase the cost of equity capital. As a result, this dissertation proposes the following hypothesis:

**H1: The complexity of language has a positive effect on the cost of equity capital.**

## 2.2 Sentiment Manipulation (Tone)

The concept of impression management (IM) was first introduced in social psychology, by Goffman's (1959) dramaturgical work "The Presentation of Self in Everyday Life." Goffman utilized theatrical language to investigate human behaviour in society and how it is favourably perceived by others. In accounting research, IM is predominantly conceptualized through an economic lens and is applied in the context of business reporting through biased discretionary narrative disclosures (Merkl-Davies and Brennan 2011).

IM is used as a symbolic representation of substantial actions taken by organizations, such as investments, goals, and processes. These actions are often subject to uncertainty and their outcomes may benefit society more than the firm. Therefore, representations are managed to influence stakeholders by controlling how and what should be disclosed. IM tactics serve as incentives for managers, who can achieve the same benefits as changing investment strategies through the use of these tactics (Roman et al. 2019).

Managers, exploiting information asymmetry, consciously adopt IM strategies to deceive investors by highlighting positive outcomes and overshadowing negative outcomes in their business reports (Merkl-Davies et al. 2011). Therefore, these strategies are not accidental; they are intentional and timely acts designed to manipulate stakeholder opinions and to create the desired identity for the organization in reports (Martínez-Ferrero et al. 2019). IM strategies are also used to hide negative news and emphasize positive news (Diouf and Boiral 2017).

Merkl-Davies and Brennan (2007) and Brennan et al. (2009) address some IM strategies in corporate reports, namely: (1) manipulation of the reading facility. This strategy is used to overshadow business performance, especially when

outcomes are negative, using language that is more difficult to read; and (2) sentiment manipulation. They are oriented to form, analyzing words and phrases to extract inferences. It also emphasizes financial performance. Strategy 1 main goal is to obfuscate bad news, while number 2 aims to emphasize good news (Merkl-Davies and Brennan 2007). The obfuscation technique obscures the intended message, masking adverse organizational outcomes, and evidencing positive organizational performance (Martínez-Ferrero et al. 2019).

Effective communication is essential in accounting, as it enables stakeholders to understand financial information accurately and efficiently. Tone, a stylistic element used in written communication, is used to convey a desired connotation or textual feeling (Gatzert and Heidinger, 2020). Proper use of tone can enhance the clarity and credibility of financial reports, making them more understandable and accessible to users. Therefore, understanding how to use tone effectively is critical for accountants in delivering their messages and ensuring effective communication with stakeholders.

Corporate reports utilize various forms of communication to present material financial and non-financial information to a diverse range of audiences. Consequently, the tone employed in corporate texts published in the capital market has become a rapidly expanding area of research within the accounting field. In this regard, numerous narrative types address the stylistic element of "tone" as a tool for identifying the reliability of the message conveyed by managers.

Tone is viewed as a composition of words that, when combined, begin to establish standardized expectations, conveying to the audience something significant about the author's perspective (Fisher et al., 2020). In other words, tone refers to the attitude of the text, while readability concerns the ease with which the reader can comprehend the message of the text (Mittelbach-Hoermanseder et al., 2021).

In this context, the tone is a lexical element that employs words to create social expressions, attributing a certain connotation to the narrative, often referred to as textual feeling (Gatzert and Heidinger, 2020). This feeling has a fundamental element of measurement: the categorization of words as positive, negative, or neutral (Boudt and Thewissen, 2019). Generally, the tone of discussion will appear more positive as the number of positive words in the narrative increases.

Research has shown that managers have a tendency to use positive language when describing their firms' performance and prospects (Henry, 2008). This is because they believe that describing identical quantitative performance with positive language can lead to systematically more favourable impressions than using neutral language.

Henry (2008) defines tone as the effect or feeling of a communication, which is a function of both content and word choice. In his study, the author states that while the SEC regulates the way in which firms communicate certain financial measures, the content of earnings press releases is largely discretionary: firms can achieve a more positive outcome by focusing on positive outcomes and/or by describing outcomes in a positive way. However, firms differ in their ability to "manufacture" a positive tone depending on how their actual earnings compare to key benchmarks. My expectations for written disclosures are the same that Henry defined in that study: I believe that written disclosures depend, in part, on the discretion of managers, so firms can achieve a more positive reaction from investors if they strategically use a more positive tone in their disclosures.

It is expected that a more positive tone in disclosures will have a positive impact on investors' reactions to earnings announcements. However, it is important to note that using a positive tone may not be appropriate in all situations, especially when a firm is experiencing financial difficulties. It is important for firms to strike a balance between presenting an accurate picture of

their financial performance and using language that will resonate positively with investors.

Based on the aforementioned arguments, it is reasonable to hypothesize that the tone employed by a firm can significantly influence the perception of its value among investors. This, in turn, can affect the cost of equity capital for the firm. Specifically, I predict that a positive tone may lower the cost of equity. A positive tone leads to more positive reactions from investors, who, in turn, will be more willing to invest in the firm. Consequently, there will be a decrease in the cost of equity capital. Hence, I propose the following hypothesis:

**H2: There is an inverse relationship between tone and the cost of equity capital.**

## 2.3 Forward-Looking Disclosure

Investors rely on narratives to bridge the gap between a firm's financial statements and its economic reality. For narratives to be effective, they should include a forward-looking orientation to help investors understand a firm's past and current financial performance and to predict future earnings. The disclosure of forward-looking information in the UK provides investors with significant and relevant insights into forecasting and predicting future earnings (Hussainey et al., 2003). However, due to the delay in publishing annual reports, this information may not be practical for real-time decision-making. Moreover, Wang and Hussainey (2013) assert that research examining the impact of UK narrative statements on investors' reactions is insufficient. Therefore, the usefulness of forward-looking disclosure, also known as FLD, in UK narratives remains an open empirical question that requires further investigation, as conducted in this dissertation.

Informative disclosures can enhance investors' perceptions of a firm, which is reflected in the firm's value (Healy et al., 1999). Investors' decision to acquire a firm's financial securities depends on their expectations regarding the firm's future cash flows and returns, based on the available information (Miller, 2010). Forward-looking disclosures can enable investors to build expectations about a firm's future returns.

The disclosure of forward-looking information can be an additional source of information for investors. By reducing information asymmetry between management and investors, FLD can lower liquidity costs, which in turn can increase stock liquidity and decrease the required rate of return by investors. This can ultimately impact the value of a firm, as indicated by current studies, and in consequence, the cost of equity capital (Hassanein et al. 2019)

This finding is consistent with agency theory, which suggests that disclosures and the resulting increase in information can reduce the principal-agent problem between management and investors. As noted by Jensen (1986), reduced information asymmetry can help align the interests of managers with those of investors, potentially leading to improved firm performance and greater investor confidence.

Based on this strand of literature, I expect that when the disclosure of forward-looking information increases, there will be more information available for investors, reducing information asymmetry and uncertainty. This will lead to a decrease in the cost of equity capital. So, it is feasible to develop the following hypothesis:

**H3: Forward-looking disclosures have a negative effect on the cost of equity capital.**

# 2.4 High and Low-Performing Firms

Some studies also compare the effects of FLD on the values of high-performing and low-performing firms. Hassanein et al. (2019) consider that the frequency and quality of FLD for high-performing and low-performing UK firms can have an impact on their respective values, and in consequence on their cost of equity capital. Earnings are a key performance measure that investors rely on due to its influence on a firm's growth potential (Rasiah et al., 2014). As noted earlier, FLD is critical to investors' decision-making processes and can have an immediate pricing effect on stocks (Miller, 2010). The reporting earnings performance influences the investors' demand for different types of disclosures (Merkley, 2014). As so, investors evaluate a firm's worth based on the disclosed information, which is why changes in a firm's earnings performance can potentially affect the frequency of its disclosures.

When a firm's earnings performance decreases, its earnings signal becomes less reliable, and the reported disclosures become less predictive of future value. As a result, investors may demand more information to better assess the uncertainty of future cash flows, while managers may try to compensate for this by increasing their discussions and analyses on activities that could have a positive impact on the firm's performance (Hayn, 1995). Some managers may even use their discretion in preparing disclosures to strategically obscure the financial results.

In this sense, firms with poor performance, such as those experiencing losses, may provide more informative disclosures to explain their losses to investors and signal their ability to eliminate such losses in the future. According to Merkley (2014), firms react to bad earnings performance by increasing discussion and activities that could potentially lead to better future performance.

My objective here is to differentiate between high-performing firms with stable or increasing earnings and low-performing firms with decreasing earnings, to determine whether the relationship between FLD and cost of equity capital differs between the two groups. I anticipate that for low-performing firms, there will be a stronger (negative) effect on the cost of equity capital due to the increase in FLD.

Previous studies have not explored the hypotheses that language complexity and tone may also have different impacts on the cost of equity capital of high versus low-performing firms. I expect that firms will react to bad earnings performance by strategically using a more positive tone to conceal bad news. I also predict that managers may use more complex language to disguise the bad news. To summarize, I anticipate that for low-performing firms, there will be a stronger effect on the cost of equity capital.

Therefore, I propose a fourth hypothesis, which considers these differences:

**H4: Language complexity, tone, and FLD have different impacts on the cost of equity capital of high versus low-performing firms.**

# Chapter 3: Research Design

This section delineates the data sources and the methodology employed for constructing the variables utilized in the empirical analysis.

## 3.1 Sample Selection and Data Collection

This research focuses on FTSE-350 firms that are listed on the London Stock Exchange (LSE). The FTSE-350 index includes the most prominent listed firms in terms of market capitalization that are exclusively listed on the LSE. It comprises of two sub-indices, namely the FTSE-100 index, which consists of the top 100 firms, and the FTSE-250 index, representing the subsequent 250 firms. As such, I believe that the FTSE-350 index is the most fitting benchmark for listed firms in this region due to its substantial sample size, which adequately addresses the study's objectives.

To conduct my analysis, I examined annual reports spanning the fiscal years 2015 to 2018. Due to a lack of information for the years prior to and following this period, I had to work within these time restrictions. I include Management Reports featuring analysis and discussion, Chairman Letters, CEO letters, and Operating and Financial Reviews. For each attribute, I excluded observations with missing annual reports and financial data.

This dissertation utilized three distinct sources of data, namely Refinitiv DataStream, Refinitiv Eikon, and data from annual reports (El-Haj et al. 2015).

The DataStream platform was used to download the list of firms included in the FTSE-350 index from January 1st, 2015, to December 31st, 2018, as well as financial data such as Long-Term Growth (LTG), Price-to-book ratio (PB), Beta (BETA), Market Value of Common Equity (MVCE), and Return on Assets (ROA) for the same period.

Additionally, the Refinitiv database was utilized to collect the Weighted Average Cost of Equity Capital (r). Finally, El-Haj et al. (2015) was used to extract attribute information such as the number of words, FOG and FLESCH indices for CEO letters (CEO), Chairman letters (CHAIR), Management Reports (MR), and Operating and Financial Reviews (OFR) in order to study language complexity. The same process was repeated for tone and FLD variables.

After the data extraction process was completed, the information downloaded from DataStream was matched with the data obtained from Refinitiv and El-Haj et al (2015). This process resulted in a final sample size of 404 observations across the period of 2015-2018.

Panel A of Table 1 shows the final sample sorted by year. However, Panel B shows the distribution of the 404 firm-year observations over 10 main industries as follows: Basic Materials 35 (8.7%), Consumer Discretion 99 (24.5%), Consumer Staples 54 (13.4%), Energy 15 (3.7%), Health Care 23 (5.7%), Industrials 138 (34.2%), Real Estate 4 (1.0%), Technology 13 (3.2%), Telecommunications 12 (3.0%), and Utilities 11 (2.7%).

*Table 1: Sample selection and allocation over years and industries*

| Years | Frequency | Percent. |
|---|---|---|
| *Panel A: sample distribution over years* | | |
| 2015 | 95 | 23.5% |
| 2016 | 16 | 26.2% |
| 2017 | 105 | 26.0% |
| 2018 | 98 | 24.3% |
| **Total** | **404** | **100.0%** |
| Industries | Frequency | Percent. |
| *Panel B: sample distribution over industries* | | |
| Basic Materials | 35 | 8.7% |
| Consumer Discretion | 99 | 24.5% |
| Consumer Staples | 54 | 13.4% |
| Energy | 15 | 3.7% |
| Health Care | 23 | 5.7% |
| Industrials | 138 | 34.2% |
| Real Estate | 4 | 1.0% |
| Technology | 13 | 3.2% |
| Telecommunications | 12 | 3.0% |
| Utilities | 11 | 2.7% |
| **Total** | **404** | **100.0%** |

# 3.2 Variable measurement

## 3.2.1 Complexity of language

I implemented two readability indices to measure the complexity of narratives: the Flesch-Kincaid Test and the Fog Index.

The Flesch-Kincaid Index is obtained by taking two elements into account: average sentence length (ASL) and average syllable count per word in a piece of text.

The Flesch-Kincaid Index assigns a numerical value to each reading level. A score of 8, for example, indicates that the text is written at an eighth-grade

reading level. A higher score implies a more complicated text, whilst a lower number indicates a simpler text (Li, 2008).

The Fog Index, on the other hand, is a readability formula that calculates the readability of a written text based on the ASL and the fraction of complicated terms (Li, 2008).

A Fog Index of 8 implies that the reader would need 8 years of formal study to understand the text. A higher score implies a more complicated text, whilst a lower number indicates a simpler text.

The Fog Index and Flesch-Kincaid are two popular readability formulas used to analyze a text's linguistic complexity. However, both formulas have limits and are heavily criticized for a variety of reasons:

First, they only consider particular features of a text, such as sentence length and syllable count. They fail to consider other key aspects such as context, language, and writing style, all of which can affect readability.

These formulas have the potential to oversimplify a text's complexity by reducing it to a single score or grade level. However, a single number cannot fully convey the content and complexity of a text, and utilizing these formulas alone may not provide a thorough picture of a text's readability.

Finally, while readability indices are useful tools for evaluating the complexity of general texts, they may not be suitable for assessing the complexity of technical texts. Technical texts often contain specialized terminology, jargon, and complex concepts that may not be accurately measured by traditional readability formulas.

Therefore, while the Fog Index and the Flesch-Kincaid Test are useful tools for analyzing text readability, it is crucial to bear their limitations in mind and use them in conjunction with other methods of analysis to acquire a more thorough knowledge of a text's complexity.

### 3.2.2 Tone

Henry (2006) proposed a simple method to measure the tone of qualitative disclosure in financial narratives. In his study, he suggested calculating the difference between the number of positive words and the number of negative words in the text, scaled by the total count of both positive and negative words.

The score belongs to a scale that ranges from -1 to 1. A score of -1 indicates an extremely negative sentiment, a score of 0 indicates a neutral sentiment and a score of 1 indicates an extremely positive sentiment. This means that a higher score indicates a more positive sentiment in the financial narrative, while a lower score indicates a more negative sentiment.

It's important to note that this method has some limitations. For example, it doesn't take into account the context in which the words are used, and some words may have multiple meanings that can vary in sentiment depending on the context. Additionally, this method may not be as accurate as more sophisticated methods that use machine learning algorithms or human annotation.

### 3.2.3 Forward-Looking Disclosure

One aspect of my research focuses on forward-looking information, which has gained significant attention in recent years due to its utility for decision-makers in capital markets. My hypothesis is that the disclosure of more forward-looking information will effectively reduce the cost of equity capital.

Past evidence suggests that the information contained in annual reports is positively correlated with information from other sources (Lang and Lundholm, 1993). Combined, they reduce information asymmetries among investors. Within

the annual reports, I analyze forward-looking information on the CEO letters, Chairman letters, MR, and OFR, which are segments likely to contain FLD.

El-Haj et al. (2020) introduced a single method for measuring the forward-looking score on disclosures. The forward-looking score is calculated by taking the number of forward-looking words in a sentence and dividing it by the total number of words in the sentence, and then multiplying the result by 100. Sentences with a forward-looking score greater than a certain threshold were classified as forward-looking statements. In their study, the authors used a threshold of 0.03, meaning that a sentence was considered forward-looking if over 3% of the words in the sentence were forward-looking words.

### 3.2.4 Cost of Equity Capital

Li et al. (2013) discovered that the implied cost of equity method outperforms conventional valuation metrics, such as payout yield, earnings-to-price ratio, dividend-to-price ratio, book-to-market ratio, in projecting future market returns. Recently, Lee et al. (2021) revealed that factor-based estimates are less precise than implied cost of equity estimates when it comes to measuring cross-sectional and time-series measurement-error variance. Therefore, to examine the impacts of attributes on the cost of equity capital, I compute it by multiplying the stock's beta with the equity risk premium of the market and an inflation-adjusted risk-free rate. Equity risk premium represents the expected market return minus the inflation-adjusted risk-free rate.

### 3.2.5 Control Variables

To isolate the impact of individual attributes on equity pricing, I use a set of control variables that are known to have a systematic effect on the cost of equity capital. These variables include Long-term growth (LTG), price-to-book ratio (PB), market beta (BETA), and the market value of common equity (MVCE).

Gebhardt et al. (2001) contend that companies experiencing sustained growth over a long period of time are subject to greater downward pressure on their equity risk premium. This assertion is grounded in La Porta's (1996) discovery that companies with higher long-term growth prospects receive more optimistic forecasts from analysts, causing their stock prices to rise. Conversely, Mohanram (2003) argues that firms with high-growth potential are viewed as riskier, as misjudgments in growth estimates can have a significant impact on stock prices. To estimate long-term growth (LTG), I use the average of all growth estimates made by analysts expressed as a percentage.

To adjust for differences in growth opportunities between companies, I incorporate the price-to-book ratio (PB) as suggested by Hail and Leuz (2006). Companies with promising growth prospects typically have higher stock prices and generate more significant long-term growth in cash flows, which reduces their cost of equity capital. To approximate growth opportunities, I utilize the ratio of the market value of equity to the book value of equity.

Beta is included in the regression to control for a firm's systematic risk. I derive the beta factor by performing a least squares regression between the adjusted stock prices and the corresponding Datastream market index. To predict the likely future behaviour of the stock price, I adjust the historical beta using

Bayesian techniques [1] that consider any past extreme behaviour that is likely to average out in the future.

Hermawan et al. (2020), describe the market value of common equity (MVCE) as a reflection of the overall stock price owned by the firm. This is, as the name suggests, the total value of a firm's equity. It was computed as the share price multiplied by the number of ordinary shares in issue.

### 3.2.6 Dummy Variables

I have included a dummy variable to distinguish between high-performing and low-performing firms in the sample. The purpose of this is to examine whether the effects of each attribute on the cost of equity capital differ between these two subgroups.

The dummy is based on the direction of change in the ROA ratio. To ensure the inclusion of observations from the year 2015, when calculating the change in the ROA ratio from the previous year, the current dissertation also includes the year 2014.

To define the dummy, I divided ROA variations into quartiles. Firm-year observations with ROA variations below the first quartile were classified as low-performing and attributed a value of 0. Observations falling between the quartiles were considered to indicate middle performance and assigned a value of 1. Finally, observations above the third quartile were classified as high-performing and assigned a value of 2.

[1] Bayesian techniques are statistical methods that involve updating probabilities based on prior knowledge or information. The basic idea behind Bayesian techniques is to start with a prior probability distribution that represents your initial beliefs or assumptions about the data, and then update that distribution based on new data or evidence.

# 3.3 Empirical Model

In order to test my hypotheses, I estimate the following regression equations:

$$r_{it} = \alpha_0 + \gamma_1 LTG_{it} + \gamma_2 PB_{it} + \gamma_3 BETA_{it} + \gamma_4 MVCE_{it} + \gamma_5 D_{it} + \gamma_6 X_{it} + \varepsilon_{it}$$

where $r_{it}$ represents the weighted average cost of equity capital for firm *i* in year *t*, $LTG_{it}$ is the expected long-term growth in earnings for firm *i* in year *t*, $PB_{it}$ is the price-to-book for firm *i* in year *t*, $BETA_{it}$ is the market model beta for firm *i* in year *t*, $MVCE_{it}$ is the market value of common equity for firm *i* in year *t*, , and $X_{it}$ is attribute x for firm *i* in year *t*. The variable D takes the definition ΔROA and extreme quartiles (see section above) to classify firm *i* in year *t* as low-performing firm (0), middle-performing firm (1) or high-performing firm (2). I have included LTG, PB, BETA, and MVCE in both models to control for risk factors that could complicate my analysis and to validate my proxy for the cost of equity capital. I use the logarithmic version of MVCE to normalize distribution effects. Beaver et al. (1970) asserted that earnings streams resulting from growth opportunities are riskier because they are susceptible to greater competitive erosion. Besides that, if a firm wants to invest in long-term growth, it will typically need to raise additional capital to fund those investments. This suggests that there is a positive correlation between anticipated long-term growth and the cost of equity capital.

I predict a negative correlation between price-to-book and the cost of equity capital. A PB ratio greater than 1 indicates that the market values the firm higher than the value of its tangible assets (book value). In other words, investors are willing to pay more for each dollar of book value that the firm owns because they believe the firm is worth more than just its tangible assets. This results in a decrease in the cost of equity capital.

Following the capital asset pricing model, which states that the cost of equity capital increases with the market beta, I anticipate a positive coefficient on BETA.

According to Berk (1995), there is generally an inverse relationship between market value and risk. One explanation for this relationship is that a higher MVCE may signal greater confidence in the firm's future prospects, which can lower the perceived risk of the stock. As a result, investors may be willing to accept a lower expected return, which can lead to a lower cost of equity capital. Therefore, it is expected that there will be a negative coefficient on the MVCE.

This equation presents the fixed effect model used to analyze changes in cost of equity capital over a 4-year period due to changes in complexity of language, tone and FLD. This model also controls for any potential biases in cost of equity capital that may arise from industry-specific factors.

# Chapter 4: Results

## 4.1 Descriptive Statistics

Panel A of Table 2 presents descriptive statistics for the continuous variables. It is revealed that UK firms have a cost of equity capital ranging from a maximum of 37.35 to a minimum of -2.10, indicating significant variation in their cost of equity capital. The average cost of equity capital for the sample firms is 7.23. Upon examining the mean and median values of LTG among UK firms, it appears that the majority of these companies do not invest significantly in their long-term growth. The price-to-book ratio, which represents the market value of a firm compared to its book value, is negative on average. This suggests that the average market value of UK firms is lower than their book value. This could result in a high cost of equity capital, as investors may be reluctant to invest in firms that they perceive as having a lower value than what is listed in the books. The average beta of 0.92 means that, on average, the firms in question are slightly less volatile than the overall market. By looking at the mean and median value of MVCE, it is possible to assume that, in general, UK firms present a relative low market value of common equity.

The Flesch Index has an average value of approximately 41 across all four types of disclosure, indicating that the disclosures are very difficult to comprehend. Additionally, the Fog Index shows an average value of approximately 21 across all four types of disclosure, indicating a high level of language complexity in the disclosures. This suggests that, on average, a reader

would need 21 years of formal education to understand the content of a disclosure.

Regarding the Tone of the disclosures, it is possible to see, that, excepting the tone on management reports, on average, firms adopt a positive tone on their disclosures. Specifically, Chairman and CEO's letters have the most positive tone.

Finally, FLD score is, on average, 1.4% of total narrative sentences, indicating that, in general, UK firms decide not to disclose a lot of forward-looking information. Chairman and CEO's letters disclosure more forward-looking information than other disclosures.

Panel B displays the frequency distribution of the dummy variable. The table indicates that 22.3% of firms are low-performing, 21.3% are high-performing, and the remaining firms fall within the middle level of performance.

*Table 2: Descriptive Statistics*

| Variable | N | Mean | SD | Min. | Median | Max. |
|---|---|---|---|---|---|---|
| *Panel A: Descriptive—continuous variables* | | | | | | |
| r | 404 | 7.228 | 3.082 | -2.102 | 6.946 | 37.351 |
| LTG | 404 | 6.554 | 12.659 | -41.860 | 6.255 | 100.180 |
| PB | 404 | -81.052 | 1373.313 | -26651.490 | 2.230 | 531.160 |
| BETA | 404 | 0.922 | 0.484 | -1.090 | 0.890 | 3.620 |
| MVCE | 404 | 5018.668 | 13097.248 | 4.730 | 1353.735 | 103577.400 |
| FLESCH_MR | 404 | 31.486 | 27.328 | -449.318 | 34.859 | 53.127 |
| FLESCH_CHAIR | 404 | 47.092 | 8.646 | 24.300 | 46.696 | 72.717 |
| FLESCH_CEO | 404 | 43.933 | 10.771 | 0.631 | 43.760 | 88.905 |
| FLESCH_OFR | 404 | 40.296 | 13.077 | -124.844 | 40.432 | 88.905 |
| FOG_MR | 404 | 23.601 | 11.095 | 18.226 | 22.084 | 224.985 |
| FOG_CHAIR | 404 | 19.687 | 2.177 | 12.296 | 19.698 | 27.275 |
| FOG_CEO | 404 | 19.592 | 2.414 | 11.467 | 19.571 | 30.407 |
| FOG_OFR | 404 | 20.624 | 4.812 | 11.467 | 20.224 | 101.178 |
| TONE_MR | 404 | 0.364 | 0.110 | -0.040 | 0.370 | 0.645 |
| TONE_CHAIR | 404 | 0.719 | 0.192 | 0.000 | 0.759 | 1.000 |
| TONE_CEO | 404 | 0.734 | 0.187 | -0.340 | 0.777 | 1.000 |
| TONE_OFR | 404 | 0.599 | 0.198 | -0.192 | 0.626 | 0.964 |
| FLD_MR | 404 | 0.013 | 0.002 | 0.007 | 0.013 | 0.022 |
| FLD_CHAIR | 404 | 0.016 | 0.006 | 0.000 | 0.016 | 0.041 |
| FLD_CEO | 404 | 0.015 | 0.006 | 0.000 | 0.015 | 0.040 |
| FLD_OFR | 404 | 0.011 | 0.004 | 0.000 | 0.011 | 0.030 |
| WORDS_MR | 404 | 52404.139 | 14881.690 | 15985.000 | 50341.500 | 157929.000 |
| WORDS_CHAIR | 404 | 1201.500 | 572.600 | 42.000 | 1125.000 | 4183.000 |
| WORDS_CEO | 404 | 2370.089 | 1664.979 | 13.000 | 1929.500 | 12308.000 |
| WORDS_OFR | 404 | 7020.480 | 3891.756 | 13.000 | 6287.500 | 29139.000 |

| Variable | Dummy | Freq. | Percent. |
|---|---|---|---|
| | *Panel B: Frequencies—dummy variable* | | |
| | 0 | 90 | 0.223 |
| | 1 | 228 | 0.564 |
| | 2 | 86 | 0.213 |
| | **Total** | **404** | **1.000** |

## 4.2 Regression Results

Table 3 presents the impact of controls on the cost of equity capital. Long-term growth (LTG) is statistically significant at the 1% level and, as expected, it has a positive effect on the cost of equity capital. This is because firms investing in long-term growth typically need to raise additional capital, which can increase the cost of equity capital. Additionally, the objective of growth may lead to an uncertain environment, partly due to competitive erosion.

Price-to-book ratio is significant at the 5% level; however, the positive relationship was not what I expected. This could be due to several reasons. If the PB ratio of a firm is high, it could mean that the firm is overvalued, which may occur due to market speculation or irrational exuberance. Investors may consider the stock to be riskier due to the high valuation, leading to a greater cost of equity capital. Alternatively, a high PB ratio could indicate that the stock is trendy or fashionable among investors. Nonetheless, this popularity may be fleeting, and if market sentiment changes, the stock price could drop, resulting in greater perceived risk and a greater cost of equity capital.

Beta is statistically significant to explain the cost of equity capital at the 1% level. As I expected, beta affects positively the cost of equity capital. Beta helps investors to understand the level of risk associated with an investment, and a higher beta means a higher risk, which in turn, results in a higher cost of equity capital.

On the other hand, MVCE is not statistically significant in explaining the cost of equity capital.

The dummy variable is significant at the 10% level, and its coefficient is negative. This indicates that the impact of the controls on the cost of capital of low-performing firms is more accentuated than in high-performing firms.

*Table 3: Controls impact on the cost of equity capital*

| | Expected Signal | (0) | |
|---|---|---|---|
| Intercept | | 3.9825 | *** |
| | | (0.0000) | |
| LTG | + | 0.0379 | *** |
| | | (0.0001) | |
| PB | - | 0.0002 | ** |
| | | (0.0306) | |
| BETA | + | 3.8882 | *** |
| | | (0.0000) | |
| LOG_MVCE | - | -0.0749 | |
| | | (0.6775) | |
| Dummy | - | -0.3404 | * |
| | | (0.0657) | |
| Industry fixed effects | | Yes | |
| Year fixed effects | | Yes | |
| Observations | | 404 | |
| R Squared | | 0.3894 | |

Table 4 displays the effects of the Flesch Index, the Fog Index and the number of words of each disclosure type – Management Reports, Chairman Letters, CEO letters, and Operating and Financial Reviews - on the cost of equity capital. I expected that these three measures of complexity of language would have a positive impact on the cost of equity capital: more complex disclosures would increase the uncertainty among investors, who in turn would demand a higher rate of return. Consequently, the cost of equity capital would increase.

So, although I expected to find a positive relationship between the Flesch Index and the cost of equity capital, the results indicate that this Index is not statistically significant in explaining the cost of equity capital

The results also indicate that the Fog index does not have a statistically significant influence on the relationship between language complexity and the cost of equity capital.

However, the positive significant coefficient for the log of the number of words of different types of disclosures suggests that as the length of the disclosure increases, the cost of equity capital also increases. This relationship could be due to a number of factors, such as increased disclosure being less transparent or more confusing, which may make investors less comfortable or more uncertain about the firm, leading them to require a higher rate of return. Alternatively, it could be that longer disclosures are a signal of lower quality or less sophisticated management, which could also lead to a higher cost of equity capital.

As it appears that only the number of words of disclosures has an explanatory power on the cost of equity capital, I will not consider the Flesch and the Fog index in the following tables.

*Table 4: Complexity of language impacts on the cost of equity capital*

| | Expected Signal | (1) | |
|---|---|---|---|
| Intercept | | -14.2988 | ** |
| | | (0.0360) | |
| LTG | + | 0.0382 | *** |
| | | (0.0000) | |
| PB | - | 0.0002 | ** |
| | | (0.0500) | |
| BETA | + | 3.7142 | *** |
| | | (0.0000) | |
| Log_MVCE | - | -0.0816 | |
| | | (0.6570) | |
| LOG_Words_MR | + | 2.3370 | ** |
| | | (0.0450) | |
| FLESCH_MR | + | -0.0126 | |
| | | (0.7630) | |
| FOG_MR | + | -0.0180 | |
| | | (0.8690) | |
| LOG_Words_CHAIR | + | 1.0751 | * |
| | | (0.0770) | |
| FLESCH_CHAIR | + | -0.0200 | |
| | | (0.4750) | |
| FOG_CHAIR | + | -0.0485 | |
| | | (0.6450) | |
| LOG_Words_CEO | + | -0.4349 | |
| | | (0.3430) | |
| FLESCH_CEO | + | 0.0533 | |
| | | (0.1610) | |
| FOG_CEO | + | 0.1777 | |
| | | (0.1680) | |
| LOG_Words_OFR | + | 1.1486 | ** |
| | | (0.0200) | |
| FLESCH_OFR | + | -0.0122 | |
| | | (0.7820) | |
| FOG_OFR | + | -0.0662 | |
| | | (0.6110) | |
| Dummy | - | -0.2841 | |
| | | (0.1270) | |
| Industry Fixed Effects | | Yes | |
| Year Fixed Effects | | Yes | |
| Observations | | 404 | |
| R Squared | | 0.4051 | |

Table 5 presents the impact of the tone of disclosures on the cost of equity capital (2). The first four models (2.1, 2.2, 2.3, and 2.4) demonstrate the individual effects of the tone of each type of disclosure - Management Reports, Chairman Letters, CEO letters, and Operating and Financial Reviews, respectively - on the cost of equity capital. Model 2.5 represents the combined impact of the tone across all four disclosure types on the cost of equity capital.

The results are not statistically significant, meaning that there is no evidence that the tone of disclosures alone has an impact on the cost of equity capital.

*Table 5: Tone impact on the cost of equity capital*

| | Expected Signal | (2.1) | | (2.2) | | (2.3) | | (2.4) | | (2.5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Intercept | | -10.5284 | ** | -1.2881 | | 2.9479 | ** | -0.0426 | | -12.9405 | *** |
| | | (0.0317) | | (0.5130) | | (0.0457) | | (0.9806) | | (0.0092) | |
| LTG | + | 0.0390 | *** | 0.0373 | *** | 0.0372 | *** | 0.0393 | *** | 0.0379 | *** |
| | | (0.0001) | | (0.0002) | | (0.0002) | | (0.0001) | | (0.0001) | |
| PB | - | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** |
| | | (0.0434) | | (0.0396) | | (0.0318) | | (0.0358) | | (0.0479) | |
| BETA | + | 3.7193 | *** | 3.9653 | *** | 3.8816 | *** | 3.8245 | *** | 3.7768 | *** |
| | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | |
| Log_MVCE | - | -0.0664 | | -0.0898 | | -0.0858 | | -0.0219 | | -0.0144 | |
| | | (0.7185) | | (0.6172) | | (0.6373) | | (0.9033) | | (0.9374) | |
| TONE_MR | - | -1.0787 | | | | | | | | -2.2857 | |
| | | (0.3536) | | | | | | | | (0.1337) | |
| Log_Words_MR | | 3.2003 | *** | | | | | | | 2.2539 | ** |
| | | (0.0021) | | | | | | | | (0.0412) | |
| TONE_CHAIR | - | | | 0.6798 | | | | | | 1.1545 | |
| | | | | (0.2964) | | | | | | (0.1334) | |
| Log_Words_CHAIR | | | | 1.5663 | *** | | | | | 1.1569 | * |
| | | | | (0.0064) | | | | | | (0.0561) | |
| TONE_CEO | - | | | | | 0.1377 | | | | 0.8234 | |
| | | | | | | (0.8359) | | | | (0.3959) | |
| Log_Words_CEO | | | | | | 0.2979 | | | | -0.3125 | |
| | | | | | | (0.4406) | | | | (0.5117) | |
| TONE_OFR | - | | | | | | | -0.4567 | | -0.4319 | |
| | | | | | | | | (0.4740) | | (0.6628) | |
| Log_Words_OFR | | | | | | | | 1.1050 | *** | 0.9116 | * |
| | | | | | | | | (0.0061) | | (0.0707) | |
| Dummy | - | -0.3681 | ** | -0.3294 | * | -0.3376 | * | -0.3232 | * | -0.3725 | ** |
| | | (0.0453) | | (0.0728) | | (0.0688) | | (0.0782) | | (0.0431) | |
| Industry Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Year Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Observations | | 404 | | 404 | | 404 | | 404 | | 404 | |
| R Squared | | 0.4063 | | 0.4018 | | 0.3904 | | 0.4025 | | 0.4247 | |

Table 6 presents the impact of FLD on the cost of equity capital (3). Models 3.1, 3.2, 3.3, and 3.4 demonstrate the individual effects of forward-looking information of each type of disclosure, while model 3.5 represents the combined impact of forward-looking information across all four disclosure types on the cost of equity capital. Only the individual impact of forward-looking information of CEO letters (3.3) and OFR (3.4) was statistically significant. Surprisingly, the results do not align with my expectations. The current study posits that investors' decisions to buy or hold a firm's financial securities depend on their expectations of the firm's future cash flows and returns, which are based on all available information. Forward-looking disclosures may aid investors in forming expectations about a firm's future performance, reducing uncertainty, and positively affecting its value. Consequently, the cost of equity capital should be negatively impacted by FLD.

However, the results show exactly the opposite: an increase of the disclosure of forward-looking information of CEO letters and OFR is positively significant in the determination of the cost of equity capital. There could be several potential explanations for these results. Firstly, one possible reason for the positive impact of forward-looking information on cost of equity capital is that investors may be skeptical about the accuracy and reliability of such information. If investors perceive that the information is too optimistic or unrealistic, they may become less confident in the firm's ability to achieve its targets, leading to an increase in cost of equity capital. Another potential explanation is the timing of the disclosure. If the disclosure is made too far in advance of the expected outcomes, investors may not see any immediate positive impact on the firm's financial performance. This could lead to a negative market reaction to the disclosure, resulting in an increase of cost of equity capital. The relationship between forward-looking information disclosure and cost of equity capital may also

depend on the broader market conditions. If the market is already experiencing a downturn, the disclosure of optimistic forward-looking information may be viewed as overly optimistic or unrealistic, leading to a positive impact on cost of equity capital. Further analysis may be needed to identify the specific reasons for the unexpected results.

The dummy variable is statistically significant on all models. The negative coefficients indicate, as I expected, that the impact of forward-looking information on the cost of equity capital is more notorious on low-performing firms.

*Table 6: FLD impact on the cost of equity capital*

| | Expected Signal | (3.1) | | (3.2) | | (3.3) | | (3.4) | | (3.5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Intercept | | -10.8651 | ** | -0.8750 | | 2.0780 | | -1.4385 | | -10.9989 | ** |
| | | (0.0298) | | (0.6516) | | (0.1522) | | (0.4197) | | (0.0316) | |
| LTG | + | 0.0371 | *** | 0.0394 | *** | 0.0397 | *** | 0.0392 | *** | 0.0401 | *** |
| | | (0.0001) | | (0.0001) | | (0.0000) | | (0.0001) | | (0.0000) | |
| PB | - | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | * |
| | | (0.0498) | | (0.0375) | | (0.0377) | | (0.0312) | | (0.0691) | |
| BETA | + | 3.7419 | *** | 3.9334 | *** | 3.8301 | *** | 3.8495 | *** | 3.7555 | *** |
| | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | |
| Log_MVCE | - | -0.1129 | | -0.0699 | | -0.0088 | | -0.0024 | | 0.0158 | |
| | | (0.5277) | | (0.6958) | | (0.9615) | | (0.9892) | | (0.9305) | |
| FLD_MR | - | -22.5107 | | | | | | | | -0.3317 | |
| | | (0.7142) | | | | | | | | (0.1900) | |
| Log_Words_MR | | 3.2756 | *** | | | | | | | -93.3306 | * |
| | | (0.0016) | | | | | | | | (0.0974) | |
| FLD_CHAIR | - | | | 8.1818 | | | | | | 1.8570 | |
| | | | | (0.6850) | | | | | | (0.5662) | |
| Log_Words_CHAIR | | | | 1.5332 | *** | | | | | 13.0254 | * |
| | | | | (0.0076) | | | | | | (0.0715) | |
| FLD_CEO | - | | | | | 52.3860 | ** | | | 1.0759 | |
| | | | | | | (0.0104) | | | | (0.1743) | |
| Log_Words_CEO | | | | | | 0.2905 | | | | 36.9547 | |
| | | | | | | (0.4482) | | | | (0.2650) | |
| FLD_OFR | - | | | | | | | 50.1154 | * | -0.5269 | |
| | | | | | | | | (0.0859) | | (0.4326) | |
| Log_Words_OFR | | | | | | | | 1.2335 | *** | 32.6528 | ** |
| | | | | | | | | (0.0022) | | (0.0164) | |
| Dummy | - | -0.3489 | * | -0.3341 | * | -0.3355 | * | -0.3308 | * | 1.2193 | * |
| | | (0.0567) | | (0.0690) | | (0.0680) | | (0.0705) | | (0.0669) | |
| Industry Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Year Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Observations | | 404 | | 404 | | 404 | | 404 | | 404 | |
| R Squared | | 0.4052 | | 0.4004 | | 0.4004 | | 0.4062 | | 0.4285 | |

Models 4.1 to 4.4 in table 7 depict the relationship between the presence of the various attributes in each disclosure and the cost of equity capital. For instance, model 4.1 analyzes the complexity (measured by the number of words), tone, and forward-looking information in management reports. However, only model 4.3 shows significant results: the disclosure of forward-looking information in CEO letters and OFR has a positive and statistically significant impact (at a 5% level

and 1% level, respectively) on determining the cost of equity capital, contrary to my expectations. The dummy variable on this model is negatively significant, indicating that the disclosure of forward-looking information has a higher impact on the cost of equity capital of low-performing firms.

The final model, model 4.5, provides an overview of the joint effects of all variables on the cost of equity capital. This includes controls and all attributes across all disclosure types. Long-term growth is statistically significant at the 1% level, and as expected, it has a positive effect on the cost of equity capital. When a firm invests in long-term growth, it may be sacrificing short-term profits or cash flows. Additionally, investors may view long-term growth as a signal of a firm's prospects, but they may also be uncertain about the accuracy of those expectations. Long-term growth often requires significant investments, which in turn can increase the cost of equity capital as investors demand a higher return to compensate for the additional funding risk. These motives may increase the perceived risk of investing in the firm and lead to a higher cost of equity capital.

The PB ratio is statistically significant at the 10% level. However, its results are not what I expected, as it appears that PB has a positive impact in the cost of equity capital. There are several explanations for these results. Firstly, this may happen due to overvaluation: a higher PB ration may indicate that the firm is overvalued. This could be due to market speculation or irrational exuberance. Investors may perceive the stock to be riskier because of the high valuation, leading to a higher cost of equity capital. Another explanation is regarding market sentiment. A high PB ratio may be viewed as a signal that the stock is popular or "in vogue" with investors. However, this popularity could be temporary, and if market sentiment shifts, the stock price could fall, leading to higher perceived risk and a higher cost of equity capital.

As expected, Beta is positively significant at 1% level on explaining the cost of equity capital. According to the Capital Asset Pricing Model, a higher beta

implies a higher level of systematic risk. Investors will require a higher return to compensate for that risk, increasing the cost of equity capital.

The tone of management reports and Chairman letters is statistically significant at a 10% level in predicting the cost of equity capital, but some of the results were unexpected. I hypothesized that a more positive tone in disclosures would be associated with higher judgments and a higher stock price response from investors, resulting in a lower cost of equity capital. In this sense, the results for the tone of management reports follow my expectation, by being negatively significant. In contrast, the tone of Chairman letters did not align with my expectation. Although they were statistically significant, their coefficient was positive. There are several possible explanations for this result. For example, more sophisticated investors who read these disclosures may not be influenced by a positive tone, preferring a neutral tone instead. Investors may be suspicious of overly positive language, which may lead them to believe that the firm is trying to hide negative information or mislead them. This may lead to an increase in the cost of equity capital.

The FLD on management reports is statistically significant at a 10% level. The disclosure of forward-looking information can aid investors in forming expectations about a firm's future performance, thereby reducing uncertainty and positively impacting its value. As a result, it is expected that the cost of equity capital would decrease with an increase in FLD. The results of the management reports align with this expectation, as there is an inverse relationship between FLD and the cost of equity capital (negative coefficient).

The dummy variable has a negatively significant impact on the cost of equity capital. The negative coefficient suggests that there is, in fact, a difference in the impact of tone and forward-looking disclosure on the cost of equity capital between high and low-performing firms. Specifically, it suggests that the relationship between tone, forward-looking disclosure and the cost of equity

capital may be stronger for low-performing firms compared to high-performing firms, as I expected.

The statistically insignificance of the rest of the variables may be due the fact that cost of equity is determined by multiple factors. Other variables may be more relevant on its determination. Another explanation may be the limited sample size: a larger sample size may be needed to establish a statistically significant relationship.

*Table 7: Attributes joint impact on the cost of equity capital*

| | Expected Signal | (4.1) | | (4.2) | | (4.3) | | (4.4) | | (4.5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Intercept | | -9.7733 | * | -1.5038 | | 1.9889 | | -1.1013 | | -11.05786 | ** |
| | | (0.0561) | | (0.4579) | | (0.1877) | | (0.5531) | | (0.0350) | |
| LTG | + | 0.0386 | *** | 0.0372 | *** | 0.0393 | *** | 0.0403 | *** | 0.0381 | *** |
| | | (0.0001) | | (0.0002) | | (0.0001) | | (0.0000) | | (0.0000) | |
| PB | - | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | ** | 0.0002 | * |
| | | (0.0471) | | (0.0422) | | (0.0374) | | (0.0312) | | (0.0680) | |
| BETA | + | 3.7085 | *** | 3.9692 | *** | 3.8323 | *** | 3.8224 | *** | 3.7437 | *** |
| | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | | (0.0000) | |
| Log_MVCE | - | -0.0675 | | -0.0899 | | -0.0135 | | 0.0135 | | 0.0573 | |
| | | (0.7143) | | (0.6171) | | (0.9410) | | (0.9409) | | (0.7570) | |
| TONE_MR | - | -1.1732 | | | | | | | | -2.4901 | * |
| | | (0.3194) | | | | | | | | (0.0960) | |
| FLD_MR | - | -32.1352 | | | | | | | | -109.8930 | * |
| | | (0.6055) | | | | | | | | (0.0927) | |
| Log_words_MR | | 3.1384 | *** | | | | | | | 1.7770 | |
| | | (0.0028) | | | | | | | | (0.1160) | |
| TONE_CHAIR | - | | | 0.6958 | | | | | | 1.4176 | * |
| | | | | (0.2864) | | | | | | (0.0670) | |
| FLD_CHAIR | - | | | 9.3236 | | | | | | 10.4268 | |
| | | | | (0.6443) | | | | | | (0.6470) | |
| Log_words_Chair | | | | 1.5823 | *** | | | | | 1.2117 | ** |
| | | | | (0.0061) | | | | | | (0.0450) | |
| TONE_CEO | - | | | | | 0.1435 | | | | 0.7155 | |
| | | | | | | (0.8278) | | | | (0.4620) | |
| FLD_CEO | - | | | | | 52.4013 | ** | | | 38.6449 | |
| | | | | | | (0.0105) | | | | (0.1560) | |
| Log_words_CEO | | | | | | 0.2907 | | | | -0.4491 | |
| | | | | | | (0.4484) | | | | (0.3720) | |
| TONE_OFR | - | | | | | | | -0.4163 | | -0.2605 | |
| | | | | | | | | (0.5132) | | (0.7920) | |
| FLD_OFR | - | | | | | | | 49.4016 | * | 39.8986 | |
| | | | | | | | | (0.0909) | | (0.3400) | |
| Log_words_OFR | | | | | | | | 1.2027 | *** | 1.0511 | * |
| | | | | | | | | (0.0031) | | (0.0510) | |
| Dummy | - | -0.3673 | ** | -0.3295 | * | -0.3371 | * | -0.3273 | * | -0.3695 | * |
| | | (0.0460) | | (0.0729) | | (0.0672) | | (0.0738) | | (0.0440) | |
| Industry Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Year Fixed Effects | | Yes | | Yes | | Yes | | Yes | | Yes | |
| Observations | | 404 | | 404 | | 404 | | 404 | | 404 | |
| R Squared | | 0.4067 | | 0.4022 | | 0.4005 | | 0.4068 | | 0.4364 | |

# Chapter 5: Conclusion

This dissertation investigates the impact of three narrative attributes - complexity of language, tone, and disclosure of forward-looking information - on the cost of equity capital for UK FTSE-350 firms over a period of four years.

Disclosures provided by management play a critical role in the financial reporting process by offering qualitative information on a firm's financial performance and position. While the content of these discussions is informative for investors, research suggests that investors also react to the linguistic aspects of these disclosures. Complexity of language, the tone, and forward-looking disclosures can all influence investors and lead them to interpret a different message from the one conveyed in the narrative's content. Therefore, it is crucial for management to carefully select their words during the financial reporting process, as investors assess the value of a firm based on their perception of its financial reports. The value of a firm for its investors is inversely related to its cost of equity capital – If investors perceive a firm to have a higher value, they may be more willing to invest in the firm, leading to a decrease in their required rate of return. As a result, the cost of equity capital for the firm may decrease as well. This is because the firm is viewed as less risky by investors, who are now more confident in the firm's ability to generate future cash flows.

In order to achieve the aim of this dissertation, a regression model was employed, which incorporated various measures of language complexity (such as Flesch-Kincaid and Fog Index), tone, and forward-looking information, and their effects on the cost of equity capital were analyzed. The model included multiple types of disclosures, such as Management Reports, Chairman Letters, CEO Letters, and Operating and Financial Reports.

My findings are ambiguous regarding the tone and FLD. I expected that both attributes negatively affected the cost of equity capital. The tone of management reports follows these expectations; however, the tone of Chairman letters doesn't align with them. While a positive tone in financial disclosures can theoretically enhance investor sentiment and lower the cost of equity capital, the impact of tone on the cost of equity capital is not always clear-cut. In particular, the tone of Chairman letters did not align with expectations, as sophisticated investors may view overly optimistic language with suspicion and perceive the firm as attempting to obscure negative information or deceive them, leading to a higher cost of equity capital.

Similarly, FLD can theoretically reduce information asymmetry and lower the perceived risk of the firm, leading to a lower cost of equity capital. FLD of management reports follow these expectations, however FLD of CEO letters and OFR doesn't align with them. The impact of FLD on the cost of equity capital is not always straightforward, as the expectations for the future may not be seen as accurate or realistic by sophisticated investors, who may view the firm's forward-looking statements with skepticism, leading to a higher cost of equity capital.

Nonetheless, the study suggests that tone and FLD can play a role in shaping investor perceptions and may have an impact on cost of equity capital.

Upon examination of the dummy variable, the results show that it has a significant effect on the cost of equity capital. The negative coefficient suggests that there is, in fact, a difference in the impact of tone and forward-looking disclosure on the cost of equity capital between high and low-performing firms. Specifically, it suggests that the relationship between tone, forward-looking disclosure and the cost of equity capital may be stronger for low-performing firms compared to high-performing firms, as I expected.

I hypothesized that more complex disclosures may hinder investors' ability to make accurate predictions about a firm's future performance and increase their

perception of risk. As a result, investors may demand a higher risk premium, leading to a higher cost of equity capital. However, the results of my study don't support this hypothesis as both the Flesch and the FOG indices did not have a statistically significant effect on the cost of equity capital. On the other hand, it is possible to conclude that the number of words of each disclosure is positively significant in explaining the cost of equity capital. This relationship is in line with my expectations and could be due to several factors, such as increased disclosure being less transparent or more confusing, which may increase uncertainty among investors, leading them to require a higher rate of return. Alternatively, it could be that longer disclosures are a signal of lower quality or less sophisticated management, which could also lead to a higher cost of equity capital.

This dissertation has certain limitations which could serve as potential areas for future research. Firstly, in my conclusions, I attempted to account for unexpected results by referring to the sophistication of investors, but I did not include this variable in my empirical model. It would be interesting to investigate how the reactions to disclosures vary among more and less sophisticated investors.

Secondly, the sample size presented a limitation, as some values that were previously found to be significant were statistically insignificant in this dissertation. This could be due to the sample size limitation.

Finally, this dissertation solely focuses on financial disclosures in the UK. Different countries could adopt different approaches for financial disclosures. Investigating financial disclosures in other countries could help to comprehend the significance of the attributes of disclosures. Therefore, extending the current research design to include other countries could be an area of interest for future research and help in observing the impact of country characteristics, such as culture and legal and political factors.

# References

Abrahamson, E., & Park, C. (1994). Concealment of negative organizational outcomes: An agency theory perspective. *Academy of management journal*, *37*(5), 1302-1334.

Amihud, Y., & Mendelson, H. (1986). Asset pricing and the bid-ask spread. *Journal of financial Economics, 17(2), 223-249*.

Amihud, Y., & Mendelson, H. (1988). Liquidity and asset prices: Financial management implications. *Financial Management, 5-15.*

Beaver, W., Kettler, P., & Scholes, M. (1970). The association between market determined and accounting determined risk measures. *The Accounting Review, 45(4), 654-682*.

Berk, J. B. (1995). A critique of size-related anomalies. *The review of financial studies, 8(2), 275-286.*

Bloomfield, R., & Fischer, P. E. (2011). Disagreement and the cost of capital. *Journal of Accounting Research, 49(1), 41-68.*

Botosan, C. A. (1997). Disclosure level and the cost of equity capital. *Accounting review, 323-349.*

Botosan, C. A. (2006). Disclosure and the cost of capital: what do we know?. *Accounting and business research, 36(sup1), 31-40.*

Botosan, C. A., Plumlee, M. A., & Xie, Y. (2004). The role of information precision in determining the cost of equity capital. *Review of Accounting Studies, 9(2), 233-259.*

Boudt, K., & Thewissen, J. (2019). Jockeying for position in CEO letters: Impression management and sentiment analytics. *Financial Management, 48(1), 77-115.*

Bravo Urquiza, F., Abad Navarro, M. C., & Trombetta, M. (2012). Disclosure strategies and cost of capital. *Managerial and decision economics, 33(7-8), 501-509.*

Brennan, N. M., Guillamon‐Saorin, E., & Pierce, A. (2009). Methodological Insights: Impression management: developing and illustrating a scheme of analysis for narrative disclosures‐a methodological note. *Accounting, Auditing & Accountability Journal, 22(5), 789-832.*

Diamond, D. W., & Verrecchia, R. E. (1991). Disclosure, liquidity, and the cost of capital. *The journal of Finance, 46(4), 1325-1359.*

Diouf, D., & Boiral, O. (2017). The quality of sustainability reports and impression management: A stakeholder perspective. *Accounting, Auditing & Accountability Journal.*

Easley, D., & O'hara, M. (2004). Information and the cost of capital. *The journal of finance, 59(4), 1553-1583.*

El-Haj, M., Alves, P., Rayson, P., Walker, M., & Young, S. (2020). Retrieving, classifying and analysing narrative commentary in unstructured (glossy) annual reports published as PDF files. *Accounting and Business Research, 50(1), 6-34*.

El-Haj, M., Young, S., & Rayson, P. (2015). UK annual report narratives dataset: CFIE-FRSE May 2019. *Lancaster University.*

Elliott, W. B., Rennekamp, K. M., & White, B. J. (2015). Does concrete language in disclosures increase willingness to invest?. *Review of Accounting Studies, 20, 839-865.*

FASB (Financial Accounting Standard Board). 2001. Improving Business Reporting: Insights into Enhancing Voluntary Disclosures. *Steering Committee Report, Business Reporting Research Project. Norwalk, CT: Financial Accounting Standard Board.*

FASB (Financial Accounting Standard Board). 2006. Statement of Financial Accounting Standards No. 157: Fair Value Measurements: Financial Accounting Series. *Norwalk FASB.*

Feldman, R., Govindaraj, S., Livnat, J., & Segal, B. (2010). Management's tone change, post earnings announcement drift and accruals. *Review of Accounting Studies, 15, 915-953.*

Fisher, R., Van Staden, C. J., & 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.*

Gatzert, N., & Heidinger, D. (2020). An empirical analysis of market reactions to the first Solvency and Financial Condition Reports in the European insurance industry. *Journal of Risk and Insurance, 87(2), 407-436.*

Gebhardt, W. R., Lee, C. M., & Swaminathan, B. (2001). Toward an implied cost of capital. *Journal of accounting research, 39(1), 135-176.*

Goffman, E. (1959). The presentation of self in everyday life (1st edn.) *Anchor*.

Hail, L., & Leuz, C. (2006). International differences in the cost of equity capital: Do legal institutions and securities regulation matter?. *Journal of accounting research, 44(3), 485-531.*

Hassanein, A., Zalata, A., & Hussainey, K. (2019). Do forward-looking narratives affect investors' valuation of UK FTSE all- firms?. *Review of Quantitative Finance and Accounting, 52, 493-519.*

Hayn, C. (1995). The information content of losses. *Journal of accounting and economics, 20(2), 125-153.*

Healy, P. M., & Palepu, K. G. (2001). Information asymmetry, corporate disclosure, and the capital markets: A review of the empirical disclosure literature. *Journal of accounting and economics, 31(1-3), 405-440.*

Healy, P. M., Hutton, A. P., & Palepu, K. G. (1999). Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary accounting research, 16(3), 485-520.*

Henry, E. (2006). Market reaction to verbal components of earnings press releases: Event study using a predictive algorithm. *Journal of Emerging Technologies in Accounting, 3(1), 1-19.*

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

Hermawan, S., Nurasik, E., Rahayu, D., & Rahmawati, I. (2020). Intellectual Capital Disclosure and Company Financial Performance: Market Capitalization. *International Journal of Innovation, Creativity and Change, 13(7).*

Hermawan, S., Nurasik, E., Rahayu, D., & Rahmawati, I. (2020). Intellectual Capital Disclosure and Company Financial Performance: Market Capitalization. *International Journal of Innovation, Creativity and Change, 13(7).*

Hussainey, K., Schleicher, T., & Walker, M. (2003). Undertaking large-scale disclosure studies when AIMR-FAF ratings are not available: the case of prices leading earnings. *Accounting and business research, 33(4), 275-294.*

Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review, 76(2), 323-329.*

King, R., Pownall, G., & Waymire, G. (1990). Expectations adjustment via timely management forecasts: Review, synthesis, and suggestions for future research. *Journal of accounting Literature, 9(1), 113-144.*

La Porta, R. (1996). Expectations and the cross‐section of stock returns. The *Journal of Finance, 51(5), 1715-1742.*

Lam, S. S., & Du, J. (2004). Information asymmetry and estimation risk: preliminary evidence from Chinese equity markets. *Pacific-Basin Finance Journal, 12(3), 311-331.*

Lang, M., & Lundholm, R. (1993). Cross-sectional determinants of analyst ratings of corporate disclosures. *Journal of accounting research, 31(2), 246-271.*

Lee, C. M., So, E. C., & Wang, C. C. (2021). Evaluating firm-level expected-return proxies: implications for estimating treatment effects. *The Review of Financial Studies, 34(4), 1907-1951.*

Li, F. (2008). Annual report readability, current earnings, and earnings persistence. *Journal of Accounting and economics, 45(2-3), 221-247.*

Li, Y., Ng, D. T., & Swaminathan, B. (2013). Predicting market returns using aggregate implied cost of capital. *Journal of Financial Economics, 110(2), 419-436.*

Li, Y., Ng, D. T., & Swaminathan, B. (2013). Predicting market returns using aggregate implied cost of capital. *Journal of Financial Economics, 110(2), 419-436.*

Martínez‐Ferrero, J., Suárez‐Fernández, O., & García‐Sánchez, I. M. (2019). Obfuscation versus enhancement as corporate social responsibility disclosure strategies. *Corporate Social Responsibility and Environmental Management, 26(2), 468-480.*

Merkl-Davies, D. M., & Brennan, N. M. (2007). Discretionary disclosure strategies in corporate narratives: incremental information or impression management?. *Journal of accounting literature, 27, 116-196.*

Merkl-Davies, D. M., & Brennan, N. M. (2011). A conceptual framework of impression management: new insights from psychology, sociology and critical perspectives. *Accounting and business research, 41(5), 415-437.*

Merkl‐Davies, D. M., Brennan, N. M., & McLeay, S. J. (2011). Impression management and retrospective sense‐making in corporate narratives: A social psychology perspective. *Accounting, Auditing & Accountability Journal.*

Merkley, K. J. (2014). Narrative disclosure and earnings performance: Evidence from R&D disclosures. *The Accounting Review, 89(2), 725-757.*

Miller, B. (2010).The Effects of Reporting Complexity on Small and Large Investor Trading. *The Accounting Review 85 (2010): 2107–43.*

Miller, G. S. (2002). Earnings performance and discretionary disclosure. *Journal of accounting research, 40(1), 173-204.*

Mittelbach-Hörmanseder, S., Hummel, K., & Rammerstorfer, M. (2021). The information content of corporate social responsibility disclosure in Europe: an institutional perspective. *European Accounting Review, 30(2), 309-348*

Mohanram, P. (2003). Inferring the cost of capital using the Ohlson–Juettner model. *Review of accounting studies, 8, 399-431.*

Oliveira, M. G. D., Azevedo, G., & Oliveira, J. (2021). The relationship between the company's value and the tone of the risk-related narratives: the case of portugal. Economies, 9(2), 70.

Rasiah, D., Tong, D. Y. K., & Kim, P. K. (2014). Profitability and firm size–growth relationship in construction companies in Malaysia from 2003 to 2010. *Review of Pacific Basin Financial Markets and Policies, 17(03), 1450014.*

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

Riley, T. J., & Luippold, B. L. (2015). Managing investors' perception through strategic word choices in financial narratives. *Journal of Corporate Accounting & Finance, 26(5), 57-62.*

Riley, T. J., & Luippold, B. L. (2015). Managing Investors' Perception Through Strategic Word Choices in Financial Narratives. *Journal of Accounting Research, 26(5), 57–62.*

Rjiba, H., Saadi, S., Boubaker, S., & Ding, X. S. (2021). Annual report readability and the cost of equity capital. *Journal of Corporate Finance, 67, 101902.*

Roman, A. G., Mocanu, M., & Hoinaru, R. (2019). Disclosure style and its determinants in integrated reports. *Sustainability, 11(7), 1960.*

SEC, 1998. A Plain English Handbook: How to Create Clear SEC Disclosure. *Available at: https://www.sec.gov/pdf/handbook.pdf.*

Segars, A. H., & Kohut, G. F. (2001). Strategic communication through the World Wide Web: An empirical model of effectiveness in the CEO's letter to shareholders. *Journal of Management Studies, 38(4), 535–556.*

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

Wang, M., & Hussainey, K. (2013). Voluntary forward-looking statements driven by corporate governance and their value relevance. *Journal of accounting and public policy, 32(3), 26-49.*

Zhang, L., & Ding, S. (2006). The effect of increased disclosure on cost of capital: evidence from China. *Review of Quantitative Finance and Accounting, 27, 383-401.*