Article

An Analysis of the Readability of the Chairman's Statement in South Africa

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Abstract: Board members and the chairman of the board must provide shareholders and other stakeholders with annual reports that include the chairman's statement. The statement provides an important message to stakeholders concerning financial performance, non-financial information and future outlook of the company. Stakeholders are concerned about the transparency and usefulness of the disclosed as this would have an impact on whether the chairman's message is readable or not. The purpose of this study is to evaluate whether messages from the chairman of the board are readable or not. A sample of 40 Johannesburg Stock Exchange listed companies, for the financial period ending 2021, was selected to meet the study objectives. The Gunning Fog Index (Fog index) was applied to assess the readability of the chairman's statement. The study found that it was difficult to read the chairman's statements for the selected corporations and South African companies.

Keywords: chairman's statement; readability; fog index; JSE

1. Introduction

This study examines the phenomenon of readability concerning the message disclosed by the chairman of the board. Companies use strategic reporting to control stakeholders' perceptions. Impression management is a technique for regulating stakeholders' perceptions of the company. It is also described as a strategic use of disclosures to manage stakeholders (Bozzolan et al. 2015). This can be viewed as how management responds to optimism. As part of a comprehensive communication package, annual reports contain both quantitative and narrative disclosures, allowing managers to manage impressions for their intended audience (Abdul Raman et al. 2012). Therefore, because narrative disclosure is an integral part of the overall communication package, it is critical for managers when writing the narrative to do so in a clear and understandable manner so that the annual report readers do not misunderstand the information, as it informs their decision making.

The annual reports include accounting narratives that support the financial data, and the majority of these narratives are not audited, making it easy for management to falsify the data (Merkl-Davies et al. 2011). For instance, in financial reporting, impression management occurs when managers present unnecessarily complicated narratives that readers cannot understand, rendering the information useless. Management may be able to conceal a bad performance of the company by making disclosure narratives not readable (Brennan and Merkl-Davies 2013).

When you read an annual report, you usually start with the chairman's statement (Abdul Raman et al. 2012). Business analysts make significant use of information presented in the narrative disclosures (Smith and Taffler 2000; Yasseen et al. 2017). According to Abdul Raman et al. (2012), the chairman's message is a significant portion of the reporting as it conveys an important message to the stakeholders about performance and future outlook of the company. Furthermore, because the chairman's disclosure narrative is considered voluntary, executives are free to make whatever claims they see fit. According to recent research, users of company disclosure narratives, including the chairman's statement,

are perceived to be subject to management biases (Jugnandan and Willows 2021).With more investors concentrating not just on the financial potential of the companies in their portfolios, but also on their sustainability, the need for stronger sustainability measurements and reporting has increased.

As an extension of the existing literature, the present study examines readability and its relationship with financial performance in a developing country, namely South Africa. There are a number of reasons compelling this examination. It appears that few studies have focused on developing countries, for instance, since the majority of existing studies concern developed countries. There are issues with the chairman's statement not being audited. There are also recent company scandals in South Africa, for example, the Steinhoff and Tongaat Hulett scandals, to name a few, that have raised some level of concern among stakeholders. As a result of concerns about transparency and the usefulness of the information disclosed, the accounting and auditing professions have been scrutinized regarding their legitimacy.

The paper poses the following research question: Is the message from the chairman of the board readable? Accordingly, the objective is to examine the readability of the chairman's statement in South Africa. Using a South African perspective, this study examines whether or not the chairman's statement is readable. Thus, this study contributes to the literature by addressing this objective within the context of South African listed companies, since no such study has been conducted before.

An integrated report generally includes a message from chairman of the board which is a narrative disclosure that provides both internal and external information about the company (Phesa 2021). Narrative disclosures, according to Mishra and Haldar (2019), provide important non-financial information which accompanies the financial information in order to provide a holistic picture about the business operations and sustainability. Merkl-Davies et al. (2011) states that annual reports include accounting narratives that support the financial data, and the majority of these narratives are not audited, making it easy for management to falsify the data. The packaging of the message by the chairman is fundamental; it is related to the financial performance and contains valuable data (Smith and Taffler 2000). This is supported by Abdul Raman et al. (2012) who stated that the chairman's disclosures are significant part of financial and sustainability reporting because they communicate the company's performance, governance, ESG issues, and future outlook toward present and potential stakeholders.

The chairman's message is considered to be influential; however, the absence of a statutory requirement or law that governs this statement and the fact that it is written according to whatever the chairman wants to say, is a concern. A statement's length and complexity may be deliberately chosen by the preparer in order to disguise undesirable information or make it less transparent. Stakeholders may make inaccurate and misleading decisions as a result. In addition, the chairman's statement is rarely audited, which brings more scepticism. Following the reporting scandals, including the most recent corporate scandals in South Africa, for example, the Steinhoff and Tongaat Hulett scandals, there is a call by stakeholders for a fair presentation of financials. Over and above this, stakeholders require not only financial reporting but also non-financial reporting. Literature concerning the ease of read for financial reports is limited in South Africa and the research on chairman's readability and its relationship with financial performance has not been conducted. Additionally, there is no consensus in the literature of whether financial performance influences readability of accounting narrative disclosures. Thus, further investigation is needed into whether the readable nature of the chairman's statement in South Africa is affected by company results.

Bell et al. (2022) describe research design as an approach for gathering and analyzing data that reflects the priorities given to various aspects of research, including the approach chosen. Using a quantitative approach, this study examines whether the chairman's message is readable or not. An evaluation of the readability of a chairman's statement is based on a Gunning Fog Index (Fog index) and Flesch Reading Ease Index (Flesch) score.

Overall, this study benefits stakeholders by creating awareness and the need for scepticism among users while reading the disclosures from the chairman of the organisation. Study results indicate that the messages from the chairman are difficult to read, requiring a high level of education. Decisions may be made by stakeholders with the help of specialists/professionals. This study will also assist with the general understanding that there is a risk that the disclosure narrative may not be readable. There are a number of users who will benefit from this study, including:

- Existing and potential investors: disclosure of transparent and truthful narratives will assist investors to make informed decision as to whether to invest or disinvest and be able to predict the future prospects.
- Business/financial analysts: most investors rely on recommendations made by the business analyst. As the business analyst represents investors, they require presented information to be able to give informed recommendations to their clients.
- National and international press: these are representative of the local and international communities and they require accurate information to report on.
- Current and potential employees: individuals are looking for growth in their career paths and therefore they require truthful and readable information to make career decisions. By taking part in share options provided by some companies as incentives, most employees are also shareholders.
- Customer: identifying reliable suppliers and assessing their performance and future outlook is of utmost importance to customers.

Here is how this paper continues. Section 2 presents an overview of the theoretical and empirical literature on this topic and identifies research gaps. Section 3 describes the methods used to achieve the objectives of the paper. The sampling and data sources used in Section 4 are described. Section 5 presents the findings and analyses derived from the collected data. In Section 6, the paper is concluded.

2. Literature Review

Jensen and Meckling (2019) states that agency theory is defined by the phrase "agent relations", in which the delegator entrusts a designated trustee to watch over and handle their financial interests, entirely or partially. These agency relationships have been characterised as "traditional agency relationships", created between managers and stockholders regardless of the latter's residual interest, and they revolve around information asymmetry. Scholars such as Beyer et al. (2010) have conducted a literature analysis on the economic reporting setting, and they point out that financial information serves two important functions in the market. For starters, knowledge is critical in the decision-making process of investors since it allows them to analyse potential returns on their investment possibilities. A second benefit of information is its ability to provide capital providers with tools to track how their capital resources are applied. Furthermore, managers frequently hold more information about the company's prospects than investors do. Investors and capital providers are unable to distinguish between profitable and unprofitable investment opportunities because of this knowledge gap (Beyer et al. 2010).

Boards of directors are essential internal governance mechanisms because they function as companies' ultimate controllers and direction givers (Steyn 2018). In this statement, Steyn (2018) emphasises the board's role as a controlling and directing force. Consequently, the board is regarded as the final layer of governance in a company, where control means more than preventing abuses; it means overseeing and directing the company to improve its worth. It is shareholders who elect the board, and they are accountable for protecting the interests of investors. Stability and profitability are part of that responsibility.

Boards of directors are the company's major decision-makers, and these decisions include hiring or firing executives, when to issue corporate dividends during their time as members of the board and its committees. Because they are in charge of setting the tone at the top, the board provides a control-oriented environment (Steyn 2018). According to Kanakriyah (2021), the board is responsible for pursuing, and steering the organisation, to

achieve its strategic objectives, vision and mission. The board has many responsibilities, such as setting and evaluating work policies, strategies, and programs. It also defines tasks and powers for each corporate department, and establishing relationships with stakeholders.

The common ground between the principal and the agent is the company, which serves as the vehicle for business between the principal and agent, and their relationship is contractual. A principal–agent relationship occurs when the owner invests in the company for the purpose of profiting, and the agent manages the company for the owner and receives incentives for personal growth and success. A conflict occurs between these parties due to their different goals and interests, resulting in the agency problem. When an agent uses company resources to advance their own interests instead of the principals', there is a problem (Panda and Leepsa 2017).

As the primary theoretical framework for this study, agency theory is supported by the chairman's statement, which presents information from the perspective of directors (agents) to shareholders (principals) concerning company strategies, board activities, achievements, and future goals. In order to set strategy and oversee management, the shareholders elect the board of directors. Am agency relationship has been established; therefore, agency theory is appropriate to the study. This is because the study analyses the readability of a narrative disclosure from agents addressed to principals and other stakeholders.

It is imperative for financial documents to be readable in order for them to be considered high quality. Readability refers to how easily a text can be comprehended (Ajina et al. 2016). According to readability literature, unreadable financial reports are associated with operational complexity and/or poor performance (Xu et al. 2018). Du Toit (2017) contends that the key to understanding is the ability to read easily. This facilitates comprehension, reduces processing costs, and increases reading speed. Generally, management and the board evaluate financial performance in ways that protect their positions by emphasising positive financial results and avoiding negative ones (Ahmed and Salat 2019). Furthermore, the chairman exposes crucial information to shareholders and other stakeholders through his/her remarks that are entailed in the statement. A statement from the chairman summarizes the results of the company's financial performance and explains its goals for the future. In recent years, investors have depended on the chairman's pronouncements to explain both their firms' positive and negative performance. As a result, it is critical that the chairman's message be legible to the reader.

A readability level can be measured using two main approaches (Abdul Raman et al. 2012; Clatworthy and Jones 2001; Courtis 1998). The first approach includes sociolinguistic methods, such as Cloze. Cloze focuses more on the understandability of the text and not readability per se. In the second approach, readability formulas are used. The difficulty of reading narratives is mainly related to textual complexity, with increased complexity resulting in complex narratives. Studies that have been undertaken from a South African persperctive before, examined the reading of annual reports and the narratives within those reports by scholars such as Du Toit (2017); Jugnandan and Willows (2021) and the results are common, showing that annual reports are extremely difficult to comprehend, in addition to being beyond the grasp of the ordinary public.

Readability formula brings forth a quantitative measure for determining whether a prose passage will be readable by the intended audience (Abdul Raman et al. 2012; Clatworthy and Jones 2001; Courtis 1998). Its intention is to determine and display the readability that the writer would have had in mind, while they were writing the textual passage. This is how they would have liked to be understood. The formula should include fundamental writing elements which include, among others: length of the words, style, sentence length, format, and organisation. Within readability formulas, however, only style factors can be conveniently measured (Courtis 1998).

Using a comparison of public firms under investigation by the US Securities and Exchange Commission (SEC) to other public firms not under investigation in the USA, the author tested whether management discussion and analysis (MD&A) are readable. The study was conducted using a quantitative approach by applying a statistical test called the

t-test. It was found that MD&A disclosures of companies under investigation by the SEC were difficult-to-read in comparison with those of other publicly traded companies.

The fog index was introduced by Robert Gunning in 1952 and has been widely used since then (Abdul Raman et al. 2012). Li (2008) states that the formula uses syllables per word and words per sentence to determine textual complexity. The index also indicates how much formal education is required to understand a piece of writing by a reader of average intelligence. This is illustrated in Table 1.

Table 1. Fog Index Score and Description.

Fog Index Score	Description
8–10	Childish
10–12	Acceptable
12–14	Ideal
14–18	Difficult
≥ 18	Unreadable

Abdul Raman et al. (2012) stated that there have been a number of readability formulas developed since over 80 years ago. The Flesch reading ease level (Flesch) readability formula is one of the most commonly used to measure textual complexity. According to (Clatworthy and Jones 2001), Rudolph Flesch developed this measure in 1948. In this formula, the higher the score, the more readable the textual passage will be. As a result, a Flesch score of 30 can be read by a graduate of higher education, whereas a score above 90 can be read by someone with a lower education level (Courtis 1998; Du Toit 2017). This is illustrated in Table 2.

Table 2. Flesch reading ease score and description.

Flesch Score	Description
0–30	Very difficult
30–50	Difficult
50–60	Fairly difficult
60–70	Standard
70–80	Fairly easy
80–90	Easy
90–100	Very easy

The Flesch formula was developed and updated further, resulting in the Flesch–Kincaid grade level score (Kincaid). A computerised model of Flesch has also been developed and is now available software packages (Clatworthy and Jones 2001). A reader's education level must be determined in order to determine the meaning of the Kincaid formula score.

Readability formulas have been commonly utilised in the readability studies. The use of these formulas is justified by the objective nature of the test, the fact they are easy to use and understand because results are comparable (Clatworthy and Jones 2001; Courtis 1998). Using readability formulas properly will assist writers in understanding the limited reading abilities of many audiences (Abdul Raman et al. 2012). As well as being economical, these formulas do not require human participation, thus eradicating validity concerns (Du Toit 2017). Furthermore, the usage of active rather than passive sentences is important for reading, and passive sentences are frequently used in cases of underperformance (Du Toit 2017).

Several accounting researchers (Abdul Raman et al. 2012; Boubaker et al. 2019; Chung et al. 2019; Clatworthy and Jones 2001; Courtis 1998; de Souza et al. 2019; Du Toit 2017; Fialho et al. 2020; García-Sánchez and Araújo-Bernardo 2020; Jugnandan and Willows 2021; Kuang et al. 2020; Li 2008; Lim et al. 2018) have used computational linguistics formulas to measure readability. The Fog Index, Flesch, and Kincaid are the most popular readability formulas. In the context of narrative disclosure, Bonsall et al. (2017); Du Toit (2017) suggest that the use of active rather than passive words contributes significantly to readability. Passively written sentences leave the reader with ambiguity, and it is evident that this ambiguity is intended to influence the reader (Phesa 2021; Yasseen et al. 2017).

Raimo et al. (2022) investigated whether integrated reports for 221 multinational companies were easy to read for the 2020 financial period. To measure readability, the Flesch reading ease formula was applied. The study found that integrated reports were difficult to read. The readability of integrated reports was also positively correlated with company size and leverage.

Richards and van Staden (2015) examined how easy it was to read annual disclosure narratives before and after the acceptance of International Financial Reporting Standards (IFRS). The purpose of this study was to determine whether it was difficult or easy to read disclosures following the implementation of IFRS. A sample of 180 New Zealand listed companies was chosen. To measure readability, the Flesch–Kincaid grade formula was applied. Control variables for readability identified in the study were company size, volatility, financial leverage, and industry. According to the study, disclosure narratives became less readable after IFRS were adopted.

Jugnandan and Willows (2021) investigated the impression management and readability phenomenon. The study looked into the implementation of impression management strategies and the reading ease of JSE listed companies' financial reports, such as Annual Financial Statements (AFS), Integrated Reports (IR), Johannesburg Stock Exchange News Services (SENS), and Interim Financial Statements (IFS). Report readability was regressed against financial performance using a multiple linear regression model. According to the study, readability was divided into length (word count) and complexity (Gunning Fog Index). The study measured financial performance by using return on equity, while controlling variables included company size, financial leverage, and industry. Return on equity was used to measure financial performance, and financial leverage, industry size, and company size were used as control variables. It was found that the financial reports of companies that performed poorly present longer disclosures. In addition, the study found no sufficient evidence to conclude that report complexity and performance are related.

A study conducted by Du Toit (2017) examined whether integrated reports are valuable to stakeholders by examining how easy they are to read. The study was conducted on companies listed on the Johannesburg Stock Exchange during the 2015 and 2016 financial years. The author used multiple computational linguistic methods, including Flesch, Kincaid and Fog index. The outcomes show that the language employed complicates the integrated reports, lowering reading levels.

The study by Boubaker et al. (2019) evaluated whether there is an association concerning the reading ease of annual reports and liquidity of stock related to French All Shares listed corporations. To quantify readability, the Fog index was used along with various liquidity factors. It was found that investors' capacities to comprehend information are reduced due to less legible disclosures, resulting in decreases in company share liquidity.

A readability study conducted by de Souza et al. (2019) examined whether there is a correlation concerning the reading ease of descriptive accounting disclosures (explanatory notes in Section 10.1) and the earnings of Brazilian listed companies. It was found that there is a purposeful inclusion of complex disclosures in order to hide poor performance. Furthermore, it is found that complex information relating to prior years also negatively impacts the current year, resulting in the analysis of the disclosed information being more time-consuming.

As for the readability of CEO statements, Pasko et al. (2020) assessed how impressions were managed. In the investigation, 30 NASDAQ OMX Stockholm companies with good performance were matched with 30 NASDAQ OMX Stockholm listed companies with poor performance. The companies' performance was examined by examining profits, and the Flesch reading ease readability test was used to assess readability. It was found that, compared to well-performed companies, CEOs of poorly performing firms tend to be future-focused in presenting their reports. The author did not find corroboration for the impression management.

Li (2008) conducted an influential study in the United States of America that examined how company financial performance and earnings persistence affect the readability of annual reports. Profitability was used to quantify financial performance in this study, and the readability index was used for readability. The author observed that annual reports of firms that did not perform financially were hard to read. A company that consistently earned profits was also found to have high level of reading ease of annual reports. This means that managers of performing companies have nothing to hide; however, the opposite may be true for companies that did not perform and companies may deceitfully misrepresent information on annual reports in a plan to hide from investors the information they believe to be adverse. According to the study, the adoption of the Plain English Handbook into law grew out of the following reasons: (1) companies tend to use vague language and thematic structures in disclosure narratives, resulting in information concealment; and (2) the inefficiency of the capital market could be caused by ordinary investors not understanding complex documents and language.

According to Abdul Raman et al. (2012), readability refers to a quantitative measure of how easily written material can be comprehended or understood by readers. Furthermore, the study examined whether the chairman's statement was readable in Malaysia. Findings revealed that all chairman's statements are difficult to read. A study by (Phesa 2021) concedes four characteristics of textual content in the message from the chairman. A positive disclosure tone, passive language, and length of the disclosure are some of these characteristics.

Reviewing the empirical literature on the reading ease of accounting descriptive disclosures and its relationship with the performance of the company, it was discovered that there is little research on this subject in South Africa. Additionally, several accounting researchers have used computational linguistics formulas in the past to measure readability. Fog Index, Flesch, and Kincaid are the most popular readability formulas. In South Africa, it is understood that integrated reports were studied for their readability. As such, this study is intended to contribute to the growing body of research by examining the report that a principal receives from an agent regarding the company's affairs. It also assesses if that report is influenced by financial performance. The readability and correlation between the chairman's statements and financial performance have not yet been studied from a South African perspective.

3. Methodology

An evaluation of the readability of a chairman's statement is based on a Gunning Fog Index (Fog index) and Flesch Reading Ease Index (Flesch) score. In this study, readability is a quantitative measure of how easily written content can be grasped or understood. The Fog Index and Flesch are used to determine the difficulty of the message presented by the chairman. These are well-known readability measures that are used to assess text readability and have gained traction in the literature (Jugnandan and Willows 2021; Li 2008).

Fog index is given by:

$$0.4 \times (\text{average number of words per phrase} + \text{percentage of complicated words}), \quad (1)$$

whereas complicated words are those with three or more syllables.

Flesch is given by:

$$[206.835 - 0.846 \text{ (average word length per 100 words)} - 1.015 \text{ (average number of words per sentence)}]. \quad (2)$$

4. Sample and Data

Using a non-probability sampling technique called quota sampling, the Top 40 JSE-listed firms, for the financial period ended 2021, were selected from the population of JSE-listed firms as part of this study (Bell et al. 2022). The Top 40 JSE listed companies are compiled based on their market capitalizations to determine the most valuable companies on the JSE. This Top 40 listing accounts for 80% of the total market capitalisation on the JSE (Wealth 2022). According to Barr et al. (2007), by virtue of participation in the JSE Top 40, it suggests that those companies are performing. The market capitalisation of these companies is measured and tracked as the list changes from time to time. There are a wide range of businesses on the Top 40 list, such as mining, banking, retail, and telecommunications (Padayachee 2010).

Researchers (Barr et al. 2007; Mamaro and Tjano 2019; Marx and Mohammadali-Haji 2014; Padayachee 2010) have used the Top 40 listed businesses for their sample population, and all have shown excellent results in terms of sample risk management. The Top 40 index reflects a broad variety of stakeholders' interests in South Africa (Du Toit 2017).

This research was conducted by gathering secondary information. Access to the websites of the selected companies was gained, and downloads of integrated reports were made for the financial period of 2021 and saved electronically in PDF on the computer. Thereafter, the chairman's statement was extracted and saved electronically in Microsoft Word, on the computer. Therefore, the chairman's statement was edited for any unwanted items such as headings, tables, and footers, where necessary.

Reading ease is a dependent variable measured by the readability of the chairman's statement. Readability variable is measured using Fog Index score and Flesch score. Fog Index and Flesch are widely used readability formulas, and the study compared the results of both to see if they came to the same conclusion (Abdul Raman et al. 2012)

5. Results

This study was conducted to examine whether the messages from the chairman of the board are readable or not. The study included the top 40 JSE-listed companies. Six companies were removed because they were financial institutions, which report differently to other sectors. The chairman's statements readability was measured using the Fog Index and an alternative readability measure, Flesch was used.

The variables used are listed in Table 3. The results show that Fog index (mean of 17.53, SD of 1.46) and Flesch readability (mean of 35.96, SD of 6.21) readability scores were 17.53 (SD of 1.46) and 35.96 (SD of 6.21).

Table 3. Descriptive statistics.

Variable	Mean	SD	Min.	Max	Q_1	Q_2	Q_3
Fog Index Score	17.53	1.46	14.93	20.85	16.56	17.57	18.50
Flesch Score	35.96	6.21	22.30	46.60	31.38	36.55	40.58

5.1. Readability of the Chairman's Statement

This section examines and addresses the reading ease of the message form the chairman of the board for the selected companies using the Fog index score and the Flesch score. A hypothesis testing using the one sample *t*-test is presented. This is followed by a similar analysis and presentation for the Flesch readability score. Lastly, a comparison of the two readability scores is conducted using McNemar's test.

5.2. Fog Index Score

Using the Fog index score (see Table 4), data were categorised into five (5) levels of readability (i.e., easy to read (8 to 10), acceptable (10 to 12), ideal (12 to 14), difficult to read (14 to 18) and unreadable ($\geq$18). These were later sub-divided into 2 categories, readable (8 to 18) and unreadable ($\geq$18). From the results in Table 4, none of the chairman's statements were considered as easy to read, acceptable or ideal to read. The majority of the statements (n = 21; 61.8%) were considered difficult to read. On the other hand, 38.2% (n = 13) of the chairman's statements were regarded as unreadable. The results are consistent with those of Demaline (2020); Li (2008) conducted in the U.S.A and Du Toit (2017) conducted in South Africa which stated that the integrated reports and MD&A disclosures of the companies are difficult to read.

Table 4. Fog index score results.

Fog Index	Readability Levels	Readability Category	Frequency	Percentage
8–10	Easy to read		0	0.0%
10–12	Acceptable		0	0.0%
12–14	Ideal	Readable	0	0.0%
14–18	Difficult to read		21	61.8%
$\geq$18	Unreadable	Unreadable	13	38.2%

Note: N = 34.

In order to determine whether the messages of the chairman of the board of the selected companies are considered readable or unreadable in general, the Fog index score was applied. In order to accomplish this objective, one-sample *t*-tests were used. An undetermined population mean is determined by a one-sample *t*-test in statistical hypothesis testing. Since Fog index readability scores follow a normal distribution, this parametric test was chosen. It is intended to test if the sample mean for readability is less than a Fog index of 18. A sample mean of less than 18 is considered readable, while a mean of 18 or greater is considered unreadable. There is a null hypothesis that the underlying sample mean for readability is greater than 18 points. The null hypothesis (H1$_{a0}$) and (one-tailed) alternative hypothesis (H1$_{a1}$) of the one sample *t* test can be expressed as:

H1$_{a0}$: *$\mu \geq 18$ ("the underlying Fog index mean for readability is significantly greater or equal to 18", thus, chairman's statements are not readable).*

H1$_{a1}$: *$\mu < 18$ ("the underlying Fog index mean for readability is significantly less than 18", thus, chairman's statements are readable).*

where 18 is the proposed value of the sample mean (Li 2008). A one sample *t*-test (see Table 5) indicates that the overall Fog index readability score using the bias-corrected and accelerated statistic based on 10,000 bootstrap samples is 17.5025 with a 95% confidence interval [17.048 18.012] and an overall standard deviation of 1.460 with a 95% confidence interval [1.205 1.649]. The sample mean for the Fog index readability score was lower than the hypothesized mean of 18 (mean difference = -0.475 with 95% CI [-0.985 0.034]). Statistical significance was established by a one-sample *t*-test ($p = 0.033$). Due to the fact that 5% is significant, it is therefore reasonable to reject the null hypothesis. This is because the underlying Fog index mean for readability is significantly less than 18. This implies that, in general, messages from the chairman of the board of the selected companies are readable. Looking at Table 4, one can conclude that using the Fog index readability score, the messages from the chairman of the board for the selected companies are considered readable but difficult to read.

Table 5. One-sample *t*-test summary.

Statistic	Value
One-sample test statistics	
Hypothesized mean/test value	18.00
Sample mean [Bca 95% CI]	17.525 [17.048 18.012]
Sample std. deviation [Bca 95% CI]	1.460 [1.205 1.649]
t-statistic (*df*)	−1.898 (33)
Mean difference [95% CI]	−0.475 [−0.985 0.034]
p-value (one-sided test)	0.033 *
One-sample effect size point estimates	
Cohen's d [95% CI]	−0.325 [−0.668 0.022]
Hedges' correction [95% CI]	−0.318 [−0.653 0.021]

Note: * Statistically significant at alpha = 0.05. Bca means Bias-corrected and accelerated. Bootstrap results are based on 10,000 bootstrap samples. Cohen's d uses the sample standard deviation. Hedges' correction uses the sample standard deviation, plus a correction factor.

5.3. Flesch Readability Score

A Flesch readability score is used in this section to assess the reading ease of the message from the chairman of the board. Firstly, data was categorised into seven (7) levels of readability (i.e., very easy to read ($90 <$ Flesch ≤ 100), easy to read ($80 <$ Flesch ≤ 90), fairly easy to read ($70 <$ Flesch ≤ 80), standard ($60 <$ Flesch ≤ 70), fairly difficult to read (50 to 60), difficult to read ($30 <$ Flesch ≤ 50) and very difficult to read/unreadable (0 to 30) (see Table 6). These were then sub-divided into two categories, readable ($30 <$ Flesch ≤ 100) and unreadable (0 to 30). From the results in Table 6, none of the chairman's statements were considered as very easy to read ($90 <$ Flesch ≤ 100), easy to read ($80 <$ Flesch ≤ 90), fairly easy to read (70 to 80), standard (60 to 70) and fairly difficult to read (50 to 60). The majority of the statements (n = 27; 79.4%) were considered readable but difficult to read. On the other hand, 20.6% (n = 7) of the chairman's statements were regarded as very difficult to read or unreadable. There is consistency between these results and Abdul Raman et al. (2012), which mention that chairman's statements are difficult to read.

Table 6. Flesch readability score.

Flesch Index	Readability Levels	Readability Category	Frequency	Percentage
$0 <$ Flesch ≤ 30	Very difficult to read	Unreadable	7	20.6%
$30 <$ Flesch ≤ 50	Difficult to read		27	79.4%
$50 <$ Flesch ≤ 60	Fairly difficult to read		0	0.0%
$60 <$ Flesch ≤ 70	Standard		0	0.0%
$70 <$ Flesch ≤ 80	Fairly easy to read	Readable	0	0.0%
$80 <$ Flesch ≤ 90	Easy to read		0	0.0%
$90 <$ Flesch ≤ 100	Very easy to read		0	0.0%

Note: N = 34.

The Flesch index score was used to examine, with statistical certainty, whether in general, the chairman's messages in relation to the selected companies are considered as readable or unreadable. To achieve this goal, the one sample *t*-test was adopted. This parametric test was opted for because the Flesch readability score is consistent with normality. The aim is to test if the sample mean for Flesch readability score is greater than a hypothesized mean of 30. A sample mean greater than 30 indicates that the chairman's statements are readable. A mean less than or equal to 30 indicates that the statements are unreadable or difficult to understand. The null hypothesis is that the underlying sample mean for the Flesch readability score is less than 30. The null and alternative hypothesis of the one sample *t*-test can be expressed as:

H1$_{b0}$: *$\mu \leq 30$ ("the underlying Flesch score mean for readability is significantly less than or equal to 30", thus, chairman's statements are not readable or very difficult to read).*

H1$_{b1}$: *μ > 30 ("the underlying Flesch score mean for readability is significantly greater than 30",*
thus, chairman's statements are readable).

where 30 is a hypothesized value for the sample mean. In the one-sample *t*-test (see
Table 7), the overall Flesch readability score is 35.965 with a 95% confidence interval [33.950
37.991] and a standard deviation of 6.2128 with a 95% confidence interval [5.1348 7.0251]
when using the bias-corrected and accelerated statistic based on 10000 bootstrap samples.
The sample mean for the Flesch readability score was greater than the hypothesized mean
of 30 (mean difference = 5.9647 with 95% CI [3.797 8.132]). Statistical significance was
found for this established mean difference by using the one-sample *t*-test (*p* = <0.0001). It
is, therefore, reasonable to favour the alternative hypothesis at 5% significance and to reject
the null hypothesis. This is because the underlying Flesch score mean for readability is
significantly greater than the hypothesized mean of 30. This implies that, in general, the
chairman's statements of the selected companies are readable. As shown in Table 6, the
Flesch readability score for chairman's statements of selected companies is readable, but
difficult. This is the same conclusion that was reported using the Fog index readability
score. Thus, both scores for measuring readability gives the same result. However, it is also
important to test simultaneously if these scores indeed prove to be similar in measuring
readability. This is presented in the next sub-section.

Table 7. One-sample t- test summary for the Flesch readability score.

Statistic	Value
One-sample test statistics	
Hypothesized mean/Test value	30.00
Sample mean [Bca 95% CI]	35.965 [33.950 37.991]
Sample std. deviation [Bca 95% CI]	6.2128 [5.1348 7.0251]
t-statistic (*df*)	5.598 (33)
Mean difference [95% CI]	5.9647 [3.797 8.132]
p-value (one-sided test)	<0.0001 *
One-sample effect size point estimates	
Cohen's d [95% CI]	0.960 [0.547 1.363]
Hedges' correction [95% CI]	0.938 [0.535 1.332]

Note: * Statistically significant at alpha = 0.05. Bca means Bias-corrected and accelerated. Bootstrap results are
based on 10000 bootstrap samples. Cohen's d uses the sample standard deviation. Hedges' correction uses the
sample standard deviation, plus a correction factor.

5.4. Comparisons between the Fog Index Score and the Flesch Score

In order to simultaneously test and compare the readability scores there was a need
to dichotomize the scale of measurement of these scores. Both scores were measured on a
continuous scale that was not similar. However, since both scores can be categorised into
readable and unreadable, it is ideal to use this dichotomous scale for comparative purposes.
These dichotomous variables were then treated as matched pairs of repeated measurements
in measuring readability and a McNemar change test was then used for comparisons. Fog
index and Flesch score dichotomous data led to the use of the nonparametric McNemar
change test. Based on the dichotomous-matched-pair variable, the two related groups
(Fog index score and Flesch score) were tested for differences in the Fog index score. By
comparing the proportion of pairs whose scores changed one way versus those whose
scores changed the other way, the changes in the Fog index score to the Flesch score were
examined. Tables 7 and 8 shows the non-parametric related-samples McNemar change test
results for Fog index score and Flesch score comparisons on readability of the chairman's
statements. The contingency table (see Table 9) was used to further explain the direction of
change for the McNemar change test.

Table 8. Related-samples McNemar change test.

Statistic	Value
McNemar Test statistics	
Total N	34
Test Statistic	3.125
Degree Of Freedom	1
Asymptotic Sig. (2-sided test)	0.077
Exact Sig. (2-sided test)	0.070

Table 9. Contingency table for McNemar change test.

Readability Scores		Fog Index Score		Total
		Difficult to Read	Unreadable	
Flesch Score	Difficult to Read	20	7	27
	Unreadable	1	6	7
	Total	21	13	34

Odds ratio = 0.448; Log odds ratio exact = −0.802; Exact Sig. (2-tailed) = 0.070.

The proportions of the scores on both measures of readability were not statistically significant according to McNemar's asymptotic test. The results show McNemar's test statistics were 3.125 with a corresponding *p*-value of 0.077 (see Table 8). Accordingly, we conclude that using the Fog index score or the Flesch score does not significantly alter the measurement of readability. Thus, either score leads to the same conclusion. Results for the contingency table and cross tabulations are presented in Table 9, which clearly shows that the proportion of unreadable statements was less than that of readable (but difficult to read) statement for both the Fog and Flesch index scores.

5.5. Dicussion of the Results

As depicted above by Fog index and Flesch readability score, the results indicate that the chairman's statements were difficult to read and this is consistent with (Du Toit 2017; Jugnandan and Willows 2021). For different reasons, management confuses the information disclosed (Demaline 2020). In South Africa, researchers (Du Toit 2017; Jugnandan and Willows 2021) examined the reading ease of integrated reports but not specifically the message from the chairman of the board. Du Toit (2017) found that the language employed complicates the integrated reports, lowering reading levels. Jugnandan and Willows (2021) found that the financial reports of companies that performed poorly present longer disclosures. In addition, the study found no sufficient evidence to conclude that report complexity and performance are related.

Disclosure narratives are manipulated to influence targeted audiences (Bozzolan et al. 2015). The remarks of the chairman are regarded as influential; however, without statutory regulation or law governing this statement, and as written according to the chairman's wishes, it can be problematic. In order to conceal undesirable information or make the statement less transparent, the preparer may deliberately choose the length and complexity of the statement. The consequences of this may lead stakeholders to make inaccurate and misleading decisions. de Souza et al. (2019) found that there is a purposeful inclusion of complex disclosures in order to hide poor performance. This is consistent with (Li 2008) who found that companies that did not perform financially had narrative disclosures that were difficult to read.

Raimo et al. (2022) investigated whether integrated reports for 221 multinational companies were easy to read for the 2020 financial period. The study found that integrated reports were difficult to read. The readability of integrated reports was also positively correlated with company size and leverage. Additionally, Abdul Raman et al. (2012) found that chairman's statements in Malaysia were difficult to read. Richards and van

Staden (2015) found New Zealand listed disclosure narratives to be less readable after IFRS were adopted.

Overall, the literature depicts that the narrative disclosures included in annual reports/integrated reports are difficult to read; this is also impacted by different aspects, with the major impact identified being financial performance. The packaging of the message by the chairman is fundamental; it is related to the financial performance and contains valuable data (Smith and Taffler 2000). This is supported by Abdul Raman et al. (2012) who stated that the chairman's disclosures are a significant part of financial and sustainability reporting because they communicate about the company's performance, governance, ESG issues, and future outlook toward present and potential stakeholders.

6. Conclusions

The study examines whether the chairman's messages in their statements are readable. Management can manipulate the chairman's disclosure, resulting in less transparency and misleading stakeholders. A South African perspective on the chairman's statement will contribute to existing literature by exploring whether it is readable. The chairman's message has been identified to be influential; however, with no statutory requirement or law that governs this statement and the fact that it is written according to whatever the chairman wants to say, is a concern. A statement's length and complexity may be deliberately chosen by the preparer in order to disguise undesirable information or make it less transparent. Stakeholders may make inaccurate and misleading decisions as a result.

The study objective was achieved by selecting a sample of 40 top-rated Johannesburg Stock Exchange listed companies, of which six financial institutions were removed from the sample. As such, the study used 34 listed companies as the sample. A sample of 40 top-rated Johannesburg Stock Exchange listed companies was selected to meet the study objectives. To assess the readability of the chairman's statement, the Fog Index was applied and the Flesch Index was applied as an alternative measure. According to the results, the chairman's statements are readable, but difficult to read.

There is a limitation to the scope of the study in that it only covers companies listed on the JSE Top 40 in the financial year 2021. The study is conducted based on a South African context. The concept of readability can be difficult to measure quantitatively due to its complexity.

A disclosure rule was enacted by the Securities and Exchange Commission (SEC) of the United States of America on 22 January 1998, to enhance disclosure documents' readability. These rules govern the content and the writing style to ensure disclosure narratives are readable to the ordinary reader. It is recommended that South African policymakers and standard-setters consider enacting procedures such as those in the Plain English Handbook into law. In the handbook, writing principles are outlined, including: avoiding long sentences, using active voice as opposed to passive voice, using everyday language, presenting in tables or bullet points whenever possible, and avoiding technical business language and double negatives (Du Toit 2017). In order to hide undesirable information or make the statement less transparent, the preparer may choose the length and complexity of the statement deliberately. Due to the lack of an audit, stakeholders may make inaccurate decisions. Adopting procedures such as those entailed in the Plain English Handbook would allow the development of standards for auditing disclosure narratives, such as the chairman's statements.

In South Africa, there is no law that regulates the principles for writing narrative disclosures. In contrast, the Plain English Handbook was adopted into law in the USA. For future research, the readability of chairman statements can, therefore, be compared between companies listed in the USA and South Africa. Thus, USA listed companies' chairman's statements are compared to those of South African companies without any restrictions on the way these statements are written. The purpose of this comparison is to determine whether adopting writing principles into law improves readability. Addition-

ally, researchers could look into auditing standards for disclosure narratives such as the chairman's statement.

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