Readability of sustainability reports: evidence from Indonesia

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Abstract

Purpose: This study aimed at investigating the readability of sustainability reports in Indonesia. The Indonesian government, through the Financial Services Authority of Indonesia (Otoritas Jasa Keuangan [OJK]), has issued regulation POJK 51/2017 concerning the implementation of sustainable finance, which requires public companies to prepare sustainability reports—either stand-alone reports or parts of annual reports. Until 2017, only 30% of the top public companies in terms of market capitalisation issued the required report. Companies' decisions to provide the report stem from the greater visibility and access to resources that flow from additional narratives. However, the usefulness of such a report can be questioned.

Design/methodology/approach: We used several linguistic techniques (Flesch Reading Ease [FRE], Flesch–Kincaid, and Gunning Fog measures) to evaluate the readability of sustainability reports. The analysis was performed using a software application called “Readability Studio 2015.”

Findings: We found the reports to have a low level of readability. This means that the information provided in the disclosures are very difficult to decipher and understand by the targeted users. Considering the similar levels of report readability in companies across industries, we observe a pattern of isomorphism in the way companies have implemented the same format and language construct in disclosing their sustainability information. They might apply the myth that complex language attracts investors or impresses others.

Research limitations/implications: The techniques to measure readability that we use might not capture the whole dimensions of readability and understandability, especially in the non-English language.

Practical implications: The results from this study can be used as evaluation tools for companies and regulators in preparing more intelligible and readable sustainability reports, as mandated by POJK 51/2017.

Social implications: Sustainability reports act as a medium of accountability for a company's sustainable production and operations. Their usefulness for investors and other users often depends on the readability of the information.

Originality/value: The readability of sustainability reports in the context of Indonesia as an emerging market has not been comprehensively investigated in previous research. This study is among the first of its kind to support the quality enhancement of the reports.

Keywords: Sustainability report, Readability, Indonesia

1. Introduction

This research evaluates the current level of readability of sustainability reports published by companies listed on the Indonesian Stock Exchange from 2015 to 2017. Readability is an important aspect of textual evaluation because it implies the value of the information to be fully comprehended with a high level of readability (Luo *et al.*, 2018). To provide value to stakeholders, sustainability reports should be easy to read. This enhances comprehension, especially by investors and shareholders, so that the information can be appropriately used in decision-making processes (Adams and McNicholas, 2007; Maas *et al.*, 2016).

This study was in demand after the Indonesian government released a regulation requiring public companies to implement sustainable finance practices, including the preparation of a sustainability report as part of their communications and accountability requirements. The regulation was issued by the Authority of Financial Services (OJK) under regulation POJK No. 51/POJK.03/2017 on “Sustainable Finance Implementation for Financial Institutions, Issuers, and Public Companies” with the objective of increasing awareness and commitment to implement sustainability principles and develop sustainable finance products. The new regulation is a major milestone in the OJK's sustainable finance roadmap, which supports Indonesia's commitment toward sustainable growth and development of a low-carbon economy.

According to a study conducted by Ernst and Young Indonesia, until 2017, only 30% of the top 100 companies in terms of market capitalisation, listed on the Indonesian Stock Exchange, issued sustainability reports (Ernst and Young, 2017). According to OJK, since 2016, only 9% of the companies listed on the Indonesian Stock Exchange published sustainability reports (OJK, 2017). Several organisations have adopted activities and initiatives to support sustainability practices and reporting, such as the Company Performance Rating Assessment Programme (PROPER). PROPER assesses companies' performance in environmental aspects, organised by the Ministry of Environment and the Indonesia Sustainability Reporting Award, held by the National Centre for Sustainability Reporting (NCSR). The NCSR was the first independent organisation to develop sustainability reporting in Indonesia and the first organisation to introduce the term “sustainability report” in Indonesia. It was founded in 2005 and has been actively socialising the sustainability reporting system in Indonesia through various seminars and trainings since then (National Centre for Sustainability Reporting, n.d.).

Several regulations have also been previously enacted to encourage social responsibility and sustainability practices in Indonesia, such as Law No. 25/2007 on Capital Investment, Law No. 40/2007 on Limited Liability Companies and Government Regulation No. 47/2012 on Corporate Social and Environmental Responsibility. Although the regulations require all listed companies in Indonesia to report on corporate social responsibility (CSR) activities, a report on company CSR activities alone is not considered to be a sustainability report. With the growing awareness of sustainability issues worldwide, the issuance of POJK 51/2017 is expected to boost the practice of sustainability and enhance the number of companies providing sustainability reports as a form of accountability to stakeholders.

To welcome the new trend, it is necessary to evaluate the quality of the existing sustainability reports that several companies produced before the regulation came into effect. This evaluation is not intended to criticise the initiatives that have been introduced by the limited number of companies. It is rather intended to encourage an increase in initiatives to improve the quality of reporting. The results from this study can become a benchmark for companies that have just begun to embrace the sustainability movement. From an academic perspective, this research is also important because companies' reporting practices are still under-researched in the emerging-economy context. Previous studies using Indonesian data have investigated the quality of sustainability reports using content analysis with the Global Reporting Initiative (GRI) as a benchmark (Nasution and Adhariani, 2016; Rudyanto and Siregar, 2018). The content analysis method evaluates the consistency of the substance of disclosures' content against a certain standard and does not really touch on the language used because readability is not part of the GRI standards. Because the content and language are two important but separate attributes of company reports, a readability study will complement the results of content analysis employed in previous studies.

This study is devoted to answering the following research question: “What is the current level of readability of sustainability reports of public companies in Indonesia?” The effort is expected to provide practical and academic contributions. The practical contributions include providing feedback to companies already engaged in sustainability-report initiatives to enhance the quality of their reporting by improving readability. The second practical contribution is to provide a benchmark for companies that plan to soon begin sustainability practices and reporting, following POJK 51/2017. Previous studies agreed that complex narratives were less effective and costlier in the analysis process for investment decisions (De Souza *et al.*, 2019; Callen *et al.*, 2013). Hence, our research can assist capital market participants in demanding more understandable and useful information for decision-making. The academic contribution of this study is twofold. First, to the best of our knowledge, this study is among the first to examine sustainability-report readability in Indonesia as an emerging-economy context. Most research on report readability originates from English-speaking countries, such as the United States and UK (see e.g. Lehavy *et al.*, 2011; Li, 2008; Linsley and Lawrence, 2007). Thus, our study extends this research into the realm of an emerging economy where English is not the first language. This may become a valuable reference for future research into report readability in Indonesia and other emerging economies. Second, plain-language disclosures have been suggested as a reform direction for disclosing information in capital markets worldwide (Luo *et al.*, 2018). Therefore, our research findings may have implications for this reform and provide insights for regulators in designing regulations to improve the quality of corporate reporting, especially in terms of readability.

The remainder of this paper is structured into five sections. Section 2 provides the theoretical perspectives, previous research and regulatory context in Indonesia. Section 3 discusses the research method. Section 4 presents the findings. The last section discusses the results, describes the study conclusions and presents areas for future research.

2. Literature review

2.1 Theoretical perspectives

Previous research investigated the readability of various accounting narratives, such as annual reports (Courtis, 1995; Li, 2008), integrated reports (Du Toit, 2017), sustainability reports and CSR communications (Abu Bakar and Ameer, 2011; Wang *et al.*, 2018), notes to the financial statements (Cheung and Lau, 2016) and management's discussion and analysis sections (Schroeder and Gibson, 1990). The theoretical perspective of the incentives needed to provide narrative disclosures falls into the two following schools of thought: value relevance and opportunistic voluntary disclosures (Nazari *et al.*, 2017). The value-relevance stream of this research focuses on the economic value relevance of voluntary disclosures needed to assess the relationship between financial performance and financial disclosure (Li, 2008). More readable reports will, thus, enhance the value relevance of information and help market participants extract relevant facts for decision-making, as indicated by the semi-strong form of the efficient market hypothesis.

The other research stream, opportunistic voluntary disclosure behaviour, relates to the management-obfuscation hypothesis, which assumes that managers can intentionally reduce the readability of narrative accounting disclosures in company reports to make them more complex and overshadow negative information, thus creating difficulties to extract the real meaning of a narrative (De Souza *et al.*, 2019; Diouf and Boiral, 2017). The obfuscation hypothesis is rooted in impression-management theory (García–Sánchez *et al.*, 2019) as a method to manipulate users' impressions via selective narrative disclosures. Diouf and Boiral (2017), through interviews with stakeholders, found various ways through which impression management is used in corporate reporting, for example obfuscating negative results, using various metrics to make comparability difficult, using outdated information and placing undue emphasis on the external audit process to create an impression of reliability. This social psychology field of study analyses how individuals modify and adjust their image to be perceived favourably. In the context of corporate disclosures, impression management occurs when management, under its own discretion, selects the information to disclose and presents it in a manner intended to modify the perceptions of users on corporate achievement (Godfrey *et al.*, 2003). This information asymmetry is a consequence of the use of corporate reporting to evaluate a company's performance because internal managerial performance reports are not directly observed by shareholders, investors and other stakeholders.

Apart from determining the level of readability of sustainability reports of Indonesian companies, this study also observes the pattern of readability across industries from the lens of institutional theory. Pressures experienced by organisations lead them to adopt certain rules and structures to enhance their legitimacy and access to resources (DiMaggio and Powell, 1983). Organisations become more homogeneous or isomorphic with their environment (De Villiers *et al.*, 2014), whereas they operate in different sectors with different business operations and strategies. DiMaggio and Powell (1983) identified the following three mechanisms of isomorphic forces to explain the homogeneity of organisational forms and practices: mimetic, coercive and normative. Mimetic refers to a benchmark or a model used by other companies to be followed or copied, coercive refers to formal and informal pressures exerted by other organisations and normative refers to the professionalisation of norms. Given that the regulation on sustainability reporting was just issued in 2017, the coercive factor does not yet have an impact in the study period; we argue that mimetic and normative forces are factors that can explain the isomorphism in the level of readability of sustainability reports in Indonesian companies. These pressures are relevant in the Indonesian context as previous empirical research on social responsibility or sustainability disclosures provided by Indonesian companies show similarities in the level of disclosure quality (see e.g. Arena *et al.*, 2018; Pratama *et al.*, 2019; Faisal, 2019), which might be attributed to the use of a benchmark or a model and to the professionalisation brought by certain professions and educational structure.

Mimetic processes are derived from symbolic uncertainty created by the environment that encourages imitation when organisations model themselves after other organisations. The form of model diffusion can be unintentional, indirect through employee transfer or turnover or explicit by specific organisations such as consulting firms or industry trade associations (DiMaggio and Powell, 1983). Normative pressures come from professionalisation as an important source of isomorphism. Two aspects of professionalisation have been identified by DiMaggio and Powell (1983). The first source is the formal education and cognitive legitimation produced by university specialists; the second is the growth and elaboration of professional networks. Universities and professional association and training institutions play an important role in developing normative rules about organisational and professional behaviour.

Such mechanisms create a similarity of orientation and disposition among individual professionals that may overrule the variations in tradition and control in each organisation (Fuchs and Turner, 1986).

2.2 Readability and corporate reports

Readability is a measure of textual complexity. Clear and readable messages are important for non-sophisticated investors to understand a firm's narratives and disclosures. Complex text requires more time and effort to extract important information, which can jeopardise investor analysis (Bloomfield, 2008). Thus, the meaning of the information can be hampered by an increase in text complexity.

Jones and Shoemaker (1994) mentioned two types of content analysis as follows: thematic and syntactic. Thematic analysis, including content analysis, examines the topics within a text, whereas syntactic or readability analysis focuses on the text's inherent capability of being read quickly and easily.

To measure reader comprehension and a narrative difficulty, several readability formulas have been commonly used for disclosure literature (Nazari *et al.*, 2017). Most readability formulas are based on two common elements, word and sentence length. English-based word and syllable counts are used to determine readability. Readability indices include the Flesch Reading Ease (FRE), Flesch–Kincaid and Gunning Fog. FRE is generally easier to compute and comprehend than other methods and has been used frequently in disclosure literature (Courtis, 1998). A text with a high FRE score is more readable, meaning that readers with lower comprehension skills can read it more easily. Table 1 shows how FRE scores correlate with levels of reading ease.

Table 1. FRE formula scores and levels of reading ease

Score	Description of style	Typical magazine
0–30	Very difficult	Scientific
30–50	Difficult	Academic
50–60	Fairly difficult	Quality
60–70	Standard	Digests
70–80	Fairly easy	Slick fiction
80–90	Easy	Pulp fiction
90–100	Very easy	Comics

Source(s): Moreno and Casasola (2016, p. 215)

Flesch–Kincaid is an updated version of the FRE method, which was developed by US Navy enlisted personnel (Kincaid *et al.*, 1975). The score derived from the Flesch–Kincaid formula indicates the grade level needed by a reader to comfortably read and comprehend a piece of text. Another measure in computational linguistics, the Gunning Fog Index, is a function of the number of words per sentence plus the percentage of words considered to be complex (e.g. having three or more syllables). This sum is scaled by a constant (0.4) resulting in the Fog value, which approximates the number of years of formal education required to understand the text. Li (2008) investigated both the Fog index and document length as readability measures of annual reports and related this to financial performance. The author found a negative relationship between profitability and Fog index, meaning that the annual reports of firms with lower earnings were more difficult to read. Bloomfield (2008) discussed several potential explanations based on the findings of Li (2008), including the obfuscation motivation. Lo *et al.* (2017) observed the presence of the obfuscation hypothesis in their study, explaining the association between annual report readability and earnings management.

2.3 Previous research on readability and corporate reports

Previous research has mostly found corporate reports to be difficult to read (Du Toit, 2017). Some of these studies already date decades back, indicating that readability of corporate communications is a long-standing issue (Pashalian and Crissy, 1952; Soper and Dolphin, 1964; Smith and Smith, 1971). However, most studies have been conducted in developed economies such as the US and UK, where readers can be considered fully proficient in the English language (Jones, 1988; Eugene Baker and Kare, 1992; Schroeder and Gibson, 1992; Smith and Taffler, 1992; Subramanian *et al.*, 1993; Linsley and Lawrence, 2007; Li, 2008; Lehavy *et al.*, 2011). Only a small number of studies have analysed emerging economies such as China, India, Malaysia and South Africa (Courtis and Hassan, 2002; Rahman, 2014; Smeuninx *et al.*, 2016; Du Toit, 2017), where English is most often the second or third language. This means that the problem of English corporate reports being difficult to read may be even more prominent in these locations and thus warrants further investigation. International investors are welcomed in emerging economies, but for them to be able to make informed decisions, it is imperative that corporate reports are not only presented in a global business language such as English but are readable as well.

The sections of the corporate reports that previous research analysed include, amongst others, the chairperson or CEO report, risk disclosures, letters to shareholders and sustainability reports. However, regardless of the section that was analysed or the location of the study, the conclusion from previous research is that text in corporate reports is difficult or even very difficult to read.

2.4 POJK 51/2017 in brief

In Indonesia, the government requires listed firms to report their social and environmental activities in the annual reports. This requirement is stated in various regulations, namely in Law No. 40 years 2007 concerning Limited Liability Company, Government Regulation No. 47 years 2012 concerning Company's Social and Environmental Responsibility and Financial Service Authority Regulation No. 29/POJK.04/2016 on Public Firms Annual Reports. The regulations have not specified a specific report to disclose social and environmental activities and there is also no standard for any elements that must be disclosed; therefore, the level of social and environmental disclosure varies among enterprises (Hajawiyah *et al.*, 2019).

Further development in this area is marked with the Sustainable Financial Roadmap published by the Financial Services Authority (OJK) in 2014. Continuing the effort in sustainability, in 2017 OJK issued OJK Regulation (POJK) No. 51/POJK.03/2017 concerning the Implementation of Sustainable Finance for Financial Services Institutions, Issuers and Public Companies. Different from the previous regulations, Sustainability Report is stated as one of the required documents to be prepared by a listed company besides a Sustainable Financial Action Plan (Rencana Aksi Keuangan Berkelanjutan- RAKB).

The Sustainability Report in POJK 51/2017 is defined as a report published to the public that presents the economic, financial, social and environmental performance of Financial Services Institutions, Issuers and Public Companies in running their business in a sustainable fashion. The Appendix of this regulation further explains that the Sustainability Report can be prepared separately from the annual report or as an inseparable part. The following information should be included in the Sustainability Report:

1. Explanation of the sustainability strategy;
2. Overview of sustainability aspects (economic, social, and environment);
3. Brief profile of Financial Services Institutions, Issuers and Public Companies;

4. Explanation of the Directors;
5. Sustainability governance;
6. Sustainability performance;
7. Written verification from an independent party, if any;
8. Feedback sheet for readers, if any; and
9. Financial Services Institutions, Issuers and Public Companies' response to previous year's feedback report.

When the Sustainability Report is prepared as a part of the annual report, it must also contain the above information. This research focuses on stand-alone Sustainability Reports to better evaluate their quality in terms of readability. Another type of report that is now a growing trend in global business, the Integrated Reporting, is not yet applied by most companies in Indonesia.

3. Research methods

3.1 Sampling and data collection

Because this study evaluates the current level of readability of sustainability report in Indonesia, the samples for this study are all companies listed on the Indonesian Stock Exchange for the period 2015–2017 and published stand-alone sustainability reports. The three-year period from 2015 to 2017 represents the latest period before POJK 51/2017 came into effect. It also represents the latest period since this research was conducted; hence, it is expected to reflect the current condition of the readability level of Indonesian companies' sustainability reports. Cross-listed companies were excluded to eliminate the possibility of other context pressures contributing to the varying content and format of the sustainability reports. For uniformity of the object under analysis, we did not extract any sustainability matters disclosed in a non-stand-alone annual report. Thus, we enable the comparison of the sustainability-report readability levels for companies that chose to publish stand-alone sustainability reports. Another justification for such approach arises from the current regulation, POJK 51/2017, on sustainable finance, which requires listed companies to prepare a sustainability report, either as a stand-alone report or as a part of an annual report. Evaluation of existing stand-alone sustainability reports can provide the impetus for future reports to be produced in a readable way by other newly engaged companies following POJK 51/2017.

We collected sustainability reports from companies' websites for the three-year period under review. To observe a trend, the companies selected were required to have continuously produced sustainability reports from 2015 to 2017. The final sample consisted of 25 companies (74 observations for the three-year-period as there is one company that combined the 2015–2016 reports into one Sustainability Report). The reports collected were converted to Microsoft Word format to enable further analysis by readability software. All reports were written in Indonesian and English. Because the software could only analyse documents written in English, we deleted the Indonesian parts.

3.2 Method of analysis

The sustainability-report documents were analysed using a software application called "Readability Studio 2015," which enables the analysis of multiple records of multiple pages in a relatively easy, quick and objective way. The FRE, Flesch–Kincaid and Gunning Fog measures were used to test the readability of material intended for adult readers, including corporate technical reports. These tests were selected as they are most often used in the analysis of corporate report readability and are therefore not only known by the wider readership but also allow for comparison with previous research.

Table 2. Results from readability measures

		FRE						Flesch–Kincaid						Gunning fog					
		Mean			SD			Mean			SD			Mean			SD		
Industry	*n*	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Agriculture	2	41.5	35.5	34.5	0.71	2.12	4.95	12.6	14.05	14.25	0.07	0.92	1.2	13.3	14.45	14.4	0.14	1.2	1.84
Basic	2	28.5	22.5	17	0.71	3.54	8.49	15.05	16.6	17.6	0.35	0.14	1.98	13.8	15.55	15.45	0	1.2	1.34
Consumer goods	2	29	29.5	28	2.83	3.54	2.83	15.2	15.05	15.35	0.42	0.64	0.07	14.55	14.15	14.7	0.21	1.06	0.28
Finance	5	25.8	21	17.5	2.39	5.52	9.98	15.88	17.08	17.3	0.82	1.21	1.19	15.44	15.14	16.05	0.89	0.82	1.05
Infrastructure	3	12.3	17	19	4.04	5.57	8	18.47	17.7	17.3	0.46	1.3	1.76	16.57	16.33	17	1.42	2.22	1.78
Mining	5	25.4	22.8	25.2	5.59	5.63	6.46	15.84	16.28	15.6	0.94	1.02	1.24	15.2	15.32	14.94	0.97	0.44	0.93
Trade	1	34	25	30				14.3	15.4	15.3				14.3	14.5	14.9			
Miscellaneous	2	24.5	26.5	23.5	2.12	4.95	3.54	15.9	15.1	15.6	0.71	1.56	1.56	15	14.15	14.5	0.28	1.77	0.57
Total	*22*	*26.72*	*23.48*	*23.41*	*7.71*	*6.89*	*8.09*	*15.58*	*15.94*	*15.8*	*1.37*	*1.16*	*1.14*	*14.92*	*14.98*	*15.13*	*1.14*	*1.21*	*1.07*

4. Results

4.1 Analysis using the readability measures

Generally, the results of the readability analysis of sustainability reports of companies listed on the Indonesian Stock Exchange showed a lack of readability. Following Du Toit (2017), we analysed the readability per industry. The results are depicted in Table 2.

The FRE formula ranges in value from 0 to 100, indicating that the lower the value, the more difficult the readability (Flesch, 1979). The 30–50 range of FRE is classified as *difficult* material appropriate for holders of an undergraduate degree (e.g. academic literature). The 0–30 bracket indicates *very difficult* material appropriate for holders of a postgraduate degree (e.g. scientific material). From 2015 to 2017, the reading-ease rating of sustainability reports published by companies listed on the Indonesian Stock Exchange was consistently classified as *very difficult*, meaning that the documents were at the level of scientific writing and could only be comprehended by readers possessing a postgraduate degree. This rating shows a deteriorating average from 2015, indicating that no improvements were made by companies in the period under study to increase readability. Only the agriculture industry consistently had readable sustainability reports, whereas the infrastructure sector had the least readable reports.

Consistent with the FRE formula, the second measure, Flesch–Kincaid, indicates the grade or education level needed by readers (Li, 2008), showing that the sustainability reports of the companies listed on the Indonesian Stock Exchange were *very difficult* to read. This means that only university graduates or postgraduate students with an education of at least 15 years or more (based on US standards) could read and comfortably comprehend the reports.

The next measure, the Gunning Fog Index, uses a rating to indicate the difficulty level based on the type of reading material, ranging from youth magazines to technical material (Courtis, 1986). The lower the rating in the Gunning Fog Index, the more readable the material. Technical books have an index of 19.5, scientific literature has 17.0 and newspapers have 13.7. The Gunning Fog results obtained for the sustainability reports of Indonesian public companies indicate a measure between scientific literature and newspapers, which means they are readable only by college seniors or graduates.

According to a report from the Indonesian Central Securities Depository, since 2017, the profile of investors in Indonesia was as follows: 77.15% were concentrated in Java, the business centre; 25% were 21–30 years old; 25% were 31–40 years old; and 59% were male. In composition, most Indonesian capital market investors were local individual investors, whose number reached 993,181 or 96% of the total. This is an increase of 109% from the 475,112 investors of the previous year. In terms of ownership, as of 2018, foreign investors dominated the market at 52%, compared with local investors (48%). With a market dominated by foreign and younger investors, a highly readable corporate report in English is required to accommodate sound investment decisions. The current unnecessary complexity of corporate sustainability information can hamper this objective, especially when trying to raise awareness to and increase the demands of sustainable development goals.

Further analysis using other measures to complement the results of the readability tests is depicted in Table 3. Around a quarter of the content of the sustainability reports of companies listed on the Indonesian exchange can be considered *complex*, meaning that the language is more complex than the English used in everyday speech or reading. Nearly 40% of the report content was composed of long words, which has a detrimental effect on readability. Fog measures *hard* words (e.g. more than three syllables, suffixed words and compound words). Nearly a fifth of each sustainability report consisted of these, which again affects readability. Many passive sentences and wordy items appeared in the

Table 3. Word difficulty aspects that affect readability

Industry	Average of total words			Average of % complex words			Average of % long words			Average of % fog hard words			Average of passive voice sentences			Average of "wordy" items		
	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015	2016	2017
Agriculture	19,135	18,408	17,681	22%	23%	24%	39%	41%	42%	18%	19%	19%	160	170	168	1,160	1,210	1,283
Basic	9,212	11,864	17,244	26%	28%	28%	45%	46%	47%	18%	19%	18%	89	90	116	745	968	1,210
Consumer goods	18,797	12,755	12,022	25%	25%	26%	43%	44%	43%	18%	18%	18%	162	135	94	1,313	880	687
Finance	16,787	51,830	22,284	27%	29%	23%	44%	45%	37%	19%	18%	14%	146	365	132	1,331	2,968	1,301
Infrastructure	19,105	18,723	16,910	31%	30%	30%	47%	46%	46%	18%	19%	21%	133	136	130	1,405	1,464	1,431
Mining	16,201	18,997	19,718	28%	29%	28%	44%	44%	44%	20%	20%	20%	164	179	196	1,247	1,503	1,855
Trade	16,966	18,903	18,047	25%	29%	28%	40%	43%	42%	17%	19%	18%	204	196	195	994	1,334	1,493
Miscellaneous	9,338	7,381	7,525	27%	27%	28%	44%	44%	45%	19%	19%	19%	71	74	65	734	650	585

sustainability reports, which could be used to obfuscate negative factors or make the texts look impressive in the eyes of the readers.

4.2 Sensitivity analysis

The use of readability measures to judge the level of corporate report readability is not free from criticism. Loughran and McDonald (2014) argued that traditional readability measures are poorly specified for use in evaluating financial documents because it is common for business texts to contain a high percentage of complex words that investors and analysts can be expected to be familiar with. They recommended using the 10-K document file size as the proxy of readability. However, Bonsall *et al.* (2017) documented significant measurement errors in the use of file size as a proxy because non-textual components of the file size (e.g. hypertext markup, extended markup and file attachments), instead of the underlying text, were found to be the significant determinants of post-filing stock return volatility. The authors suggested the use of a measure of readability grounded in plain–English attributes based on the plain–English principles outlined by the Securities and Exchange Commission. A computational linguistics software program, StyleWriter—Plain English Editor, was suggested for this purpose. The alternative measure is called the Bog Index, the StyleWriter's standard measure of readability, which incorporates negative plain–English attributes, such as the use of passive verbs, style problems and long sentences, with positive attributes that make writing more interesting.

The Bog Index is a comprehensive measure of readability designed to capture writing features that "bog" readers down. Based on plain–English attributes, the Bog Index formula consists of three components:

where a higher Bog Index indicates a less readable document.

On the basis of the recommendation of Bonsall *et al.* (2017), we attempted to measure the readability of the sustainability reports using the Bog Index to investigate whether the results differed from the FRE, Flesch–Kincaid and Gunning Fog measures. The results are presented in Table 4. There were no differences from the main tests. Only the consumer-goods industry achieved a "Fair" level in 2015 and 2016. The mining industry, which is highly regulated in terms of resource management, showed a consistent "Bad" level of readability for the period under study. Generally, we can conclude that the sustainability reports published by Indonesian listed companies had a low level of readability, which could hamper their usefulness in decision-making.

Table 4. Bog index results

Industry	Bog index 2015	2016	2017	Level
Agriculture	71.5	71	78.5	Poor
Basic	74.5	77.5	74.5	Poor
Consumer goods	68.5	69.5	77	Fair–Poor
Finance	82	86.5	84	Poor
Infrastructure	83	85	88	Poor
Mining	93.2	90.2	92.6	Bad
Trade	95	75	83	Poor–Bad
Miscellaneous	85	80	78.5	Poor

5. Discussion and conclusions

This research is an exploratory study that investigated the level of readability of sustainability reports produced by listed companies in Indonesia. The findings of this study showed a low level of readability using several measures. This is in line with the findings from previous studies, as discussed in section 2.3, especially those conducted in emerging economies where English is most often the second or third language (see e.g. Du Toit, 2017; Courtis and Hassan, 2002; Rahman, 2014; Smeuninx *et al.*, 2016). This means that English corporate reports remain difficult to read in these locations.

Since most past research on the readability of corporate reports found that these documents tend to contain text that is difficult to read, this phenomenon reduces the usefulness of sustainability reports for decision-making by investors and others. Although the results may not directly correspond to understandability, the results can partially explain the approximated low level of report understandability (Courtis, 1995). Notwithstanding there being a small number of listed companies in Indonesia that publish sustainability reports, these findings present a good starting point, providing input for improving the readability of corporate reports in an emerging market. Improvements in this area should help enhance the informational content of the reports and achieve their intended purpose as a medium of accountability, rather than merely a tool for legitimacy or to manage user impression as indicated by the impression-management theory.

We observed a similar pattern of sustainability report low readability level for companies across different industries. This can be interpreted as an effect of institutionalising sustainability reporting among small players in the Indonesian capital market. All companies followed GRI standards in preparing their sustainability reports, but only 38% have commissioned external assurance. The number of companies investing in the third-party assurance in Indonesia is lower than the global trend of 45% in 2017 for the top 100 companies by revenue in each of the 49 countries researched in the KPMG study (KPMG, 2017). The sustainability reports with external assurance have a low readability level, which is similar to what is observed in reports without assurance. The engagement of the third-party assurance is not yet obligatory in Indonesia. Given the voluntary nature of the independent assurance, the absence of legislation in the assurance service seems to be justified in terms of readability level as it does not contribute to increase the readability of Sustainability Reports.

Although only less than a half of the sample mentioned engaged with a professional assurance provider (i.e. a big-4 accounting firm and/or internationally licensed assurance provider), a professionalisation factor (the normative pressure) might explain the institutionalisation in the field. In addition to no formal regulation requiring listed companies to publish sustainability reports prior to the issuance of POJK 51/2017, mimetic isomorphism might partially explain the uncertainty around the appropriate response to the pressures at the early stage of sustainability reporting in Indonesia. The mimetic factor might come from the use of a benchmark in terms of best practices followed by companies publishing stand-alone sustainability reports. Findings from this theoretical perspective bring about implications on the need to provide socialisation to professionals involved in the preparation of sustainability reports, such as corporate management/accountant and external parties who provide the independent assurance on the importance of preparing a report with a good readability level. Another implication is the need to develop “true” best practices in terms of readability; for example, by assigning some companies with a relatively good readability level report as the benchmark.

This study also has several practical implications. First and foremost, those parties in charge of governance and management of listed Indonesian companies need to recognise that the text they are currently using for sustainability reporting falls on the spectrum of not being readable. In a country such as Indonesia, where English is not the first language, this can lead to reduced understanding of corporate communication and the message the company wants to convey. This is especially problematic for international investors, who are not able to read the Indonesian version of corporate reports. It is thus imperative that those at the helm of overseeing the corporate reporting process ensure that principles of plain English are applied.

It may even be helpful to consider adding a clause in the POJK 51/2017 that requires the use of plain English. The POJK 51/2017 was an excellent initiative to encourage the publication of sustainability practices and can be enhanced to a great extent if it includes technical guidelines following a broad consensus among regulators worldwide on plain disclosure. However, as suggested by Luo *et al.* (2018), regulators should carefully consider bringing plain disclosure into relevant laws and requirements to create a reasonable trade-off between integrity and the readability of disclosed information.

In Indonesia, appreciation has been shown to listed and non-listed companies that published sustainability reports via the annual Sustainability Report Award, organised by the NCSR. This award provides a Best Sustainability Report Award for several categories, such as industries, early adopted GRI standards, and best overall. To improve the readability and to enhance awareness on this issue, we recommend that the award be given to companies that achieve a good level or show progress in readability as well. For companies, the results show a need for proper editing to enhance the usefulness to stakeholders.

The findings of this study suggest that companies might deliberately use a more complex language for some purposes such as to create good impression in front of the eyes of stakeholders and support the company's legitimacy, as described by Diouf and Boiral (2017). Previous studies in the Indonesian context (such as Nasution and Adhariani, 2016; Rudyanto and Siregar, 2018, Ramadhini *et al.*, 2020) support this notion as CSR disclosures practices or sustainability reports are found to be symbolic to establish a company's positive image rather than substantive in nature; and that the active role of stakeholders can improve the quality of sustainability reports. This brings implications to increase the stakeholder engagement in the co-creation of a sustainability report with a high substantive quality or to make them aware of the low readability problem as to create the demand or pressure of more readable reports. As a medium of accountability to stakeholders, the sustainability report should be transparent and easy to read so that the information asymmetry can be reduced. This will assist external parties such as shareholders, investors and other stakeholders in evaluating a company's performance.

Our study has limitations that could become a basis for improvement in future studies. Readability is an abstract concept, and we recognise that several of the measures we used might not fully capture the dimension of readability in the Indonesian context. Owing to the limitation of software that can only compute the readability measures for English texts, we do not further investigate whether the results hold if we investigate the reports in Indonesian. This could be used as a reference by local retail and institutional investors. Constructing more accurate measures of readability in the Indonesian context is essential for future research.

This research is exploratory since we have not investigated the determinants and impacts of such low levels of readability. Research into the determinants and economic consequences of readability is still in its infancy in the Indonesian context and deserves more attention in the future. There is also a need to confirm the results of this study with various parties, including investors, regulators and assurance providers. Furthermore, a more efficient way to engage professionals, such as external assurance providers, to enhance the readability of sustainability reports should be identified as our results showed that sustainability reports with assurance also have a low readability level.

Future studies can also investigate whether there is a relationship between the readability of sustainability reports and companies' financial performance. Previous studies have documented the positive association between corporate social performance (CSP) disclosed in sustainability reports and better financial results in terms of corporate financial performance (CFP) (see e.g. McGuire *et al.*, 1988; Simpson and Kohers, 2002; and Saleh *et al.*, 2011). Future research can complement these studies by investigating whether enterprises' efforts to increase readability of sustainability reports can result in a better image and better financial performances.

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