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Clarence GOH

Singapore Management University, clarencgoh@smu.edu.sg

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Recommendations from SEC's Plain English Handbook: Perspectives from Behavioural Research

Clarence Goh

Assistant Professor of Accounting (Practice)

School of Accountancy, Singapore Management University,

60 Stamford Road, Singapore 178900

Email: clarencegoh@smu.edu.sg

Abstract

The SEC published the plain English handbook in 1998 with the objective of providing preparers of financial disclosures with a guide to using well-established techniques to create clearer and more informative disclosure documents. The handbook provides various recommendations to preparers of disclosure documents. In this study, I examine and systematically synthesize the extent behavioural research literature that investigates the impact of implementing these recommendations on investors. I do so by developing a framework to systematically examine relevant studies. Overall, the analysis provides important insights from a behavioural perspective into how and why investors react to various recommendations in the SEC's plain English handbook. My study provides insights to investors, and other stakeholders about how/why key recommendations in the handbook can influence investor judgments. It also provides regulators with insights into how recommendations contained in the handbook are consistent with its stated objective of making disclosures more accessible and easily understandable.

KEYWORDS: Readability, plain English, disclosure language

1. Introduction

Language used in financial disclosure is often difficult to decipher. In order to encourage the use of language that is easy to understand and accessible to investors and other stakeholders who may not have had formal training in accounting and finance, the Securities and Exchange Commission (SEC) in the US launched the plain English handbook in 1998 (SEC, 1998). Plain English refers to the use of English in written communication that is easily readable, accessible, and usable (Thrush, 2001). The plain English handbook provides a guide to aid preparers of disclosures in creating plain English documents.

Among a variety of useful tips that the guide provides are specific recommendations that preparers can follow to write in plain English (in Chapter 6) and to design a document that is easy to read and understand (Chapter 7). In this study, I examine and systematically synthesize the small but growing literature that adopts a behavioural perspective in investigating the impact of implementing these recommendations for disclosure on investors.

I focus on recommendations contained in chapters 6 and 7 of the plain English handbook for several reasons. First, the recommendations contained in these two chapters are relevant because they are specific and can be readily implemented by preparers of various types of disclosures that companies make (including prospectuses, press releases, annual reports, etc). Second, prior studies suggest that linguistic characteristics of narrative disclosures are likely to vary with firm performance in a financial reporting context (Jones and Shoemaker, 1994).

Therefore, given that any variation in such linguistic characteristics is likely to also reflect a firm's level of adoption of the recommendations contained in chapters 6 and 7 of the handbook, it is important to examine how these variations influence investor judgments. Third, while recommendations elsewhere in the handbook provide recommendations about the content of the disclosures, the recommendations in chapters 6 and 7 of the handbook relate more to the style of disclosures.¹ Content relates to the literal meaning of the information or the concrete facts contained in a disclosure whereas style captures the methods used to convey meaning to an audience. Although style elements can also influence investor judgments, it is an often neglected area of focus (relative to content). It is hence important to examine how such style related recommendations in the plain English handbook can influence investor judgments.

I also focus my analysis on studies that have adopted a behavioural approach (see Birnberg, 2011 for a review). Behavioural research in accounting has grown rapidly in the last two decades (Birnberg, 2011). Using experiments, behavioural research in accounting focuses on the study of individuals, small groups, organizations, and environmental conditions that act "upon accounting or that accounting helps to shape (Birnberg, 2011)." In particular, Libby, Bloomfield, and Nelson (2002) propose that in the area of financial accounting research, "successful financial accounting experiments use the comparative advantages of the experimental approach to determine how, when, and (ultimately) why important features of financial accounting settings influence behaviour." I focus on behavioural research in accounting for several reasons. First, while archival studies (e.g. Li, 2008) have examined the overall effects of incorporating plain English in disclosures on investor reactions, they are unable to examine specific characteristics of plain English and how they influence investor judgments. Behavioural studies, in contrast, are able to provide additional insights by capitalizing on the experimental method to isolate specific characteristics of plain English and to examine their effects on investor judgments. Second, although archival studies can capture investor reactions via observable measures such as stock price movements, they are unable to provide insights into why investors react in certain ways (Rennekamp, 2012). In contrast, behavioural studies can, via the appropriate design of experiments, investigate specific psychological processes and mechanisms that drive investors' judgments and decision making. Third, archival studies are often unable to untangle content and style elements in disclosure, and are hence unable to identify the specific effects influencing investor judgments. In contrast, behavioural studies are relatively well suited to examining style elements in disclosure and examining their specific effects (Rennekamp, 2012).

I develop a framework to systematically examine the studies that have looked at the recommendations contained in the plain English handbook from a behavioural perspective. The framework categorises the studies into two specific groups – (1) readability-related studies and (2) graphics-related studies. I identify and examine four readability related studies and three graphics related studies, and provide an analysis of whether the findings in these studies are consistent with the objectives of the recommendations provided in the plain English handbook.

¹ For example, chapter 4 discusses knowing what information a company needs to disclose.

My study contributes both to practice and to research. It provides insights to managers, investors, and other stakeholders about how/why key recommendations in SEC's plain English handbook can influence investor judgments. It also provides regulators with insights into how recommendations contained in the plain English handbook are consistent with its stated objective of making disclosures more accessible and easily understandable to a wider group of investors and stakeholders. My study also contributes to the extent literature by introducing a framework for examining behavioural studies that investigate recommendations contained in SEC's plain English handbook, and highlights pertinent areas for future research.

The rest of my study proceeds as follows. Section 2 discusses the SEC's plain English handbook. Section 3 introduces a framework for examining behavioural studies looking at recommendations contained in the handbook. Sections 4 and 5 analyse and synthesize the behavioural research related to readability and graphics respectively, and section 6 concludes the study.

2 Plain English and the SEC's plain English handbook

Plain English has been used to describe attempts to produce English that is easily readable, accessible, and usable (Thrush, 2001). Techniques used to create plain English are applicable across different types of documents, settings, and purposes. For instance, in 1998, then US president Bill Clinton issued a memorandum calling for the use of plain English in government documents (Clinton, 1998). In the area of law, plain English guides have also been published as a reference for lawyers in creating legal documents (Wydick, 2005).

The Securities and Exchange Commission (SEC) in the US joined the plain English movement in August 1998, when it published the plain English handbook (SEC, 1998). Table 1 presents a summary of chapters found in the handbook:

Table 1: Summary of chapters found in SEC's plain English handbook

Chapter	Chapter Summary
1. What Is a "Plain English" Document	This chapter explains that a plain English document is "easy to read and look(s) like it's meant to be read." It also highlights that the purpose of the plain English handbook is to give readers practical tips on how to create plain English documents.
2. Getting Started	This chapter discusses the importance of the different roles people play in a successful plain English team (e.g. team leader, lead writer, etc). It also considers characteristics of the plain English document that is being produced (e.g. document length, preparation time available, etc).
3. Knowing Your Audience	This chapter examines the importance of knowing the profile of potential readers. In particular, it acknowledges that to "write understandable documents, you need to gauge the financial sophistication of your investors."

4. Knowing the Information You Need to Disclose	This chapter outlines key steps that teams should take in order to decide the information that should be disclosed in a document.
5. Reorganizing the Document	This chapter details key principles of good organization of information in a document. For example, it advocates presenting the big picture before the details and also the use of descriptive headers and sub-headers to break documents up into manageable sections
6. Writing in Plain English	This chapter highlights readability problems commonly found in disclosure documents. I discuss this in further detail in Section 3.
7. Designing the Document	This chapter highlights design choices that make documents easier to read. In particular, it discusses the importance of hierarchy, typography, layout, graphics, and colour. I discuss the importance of graphics in further detail in Section 3.
8. Time-Saving Tips	This chapter provides practical tips that enhance the time-efficiency of creating readable documents.
9. Using Readability Formulas and Style Checkers	This chapter advocates the use of readability formulas and style checkers to evaluate the readability of documents.
10. Evaluating the Document	This chapter recommends the use of focus groups or informal channels to elicit the feedback of potential readers.
11. Reading List	This chapter provides resources that provide additional information on creating readable documents.
12. Keeping in Touch with Us	This chapter provides details on how to provide feedback on the readability handbook.

The SEC's objective in publishing the handbook was to provide preparers of financial disclosures with a guide to using well-established techniques to create clearer and more informative disclosure documents. In his introduction to the handbook, then SEC chairman Arthur Levitt acknowledged that "many investors are neither lawyers, accountants, nor investment bankers" and that companies needed to "start writing disclosure documents in a language investors can understand." He further expressed the hope that companies would use plain English to "speak to investors in words they can understand" and to "tell them plainly what they need to know to make intelligent investment decisions."

In October 1998, the plain English speaking rule became effective. SEC Staff Legal Bulletin No. 7 specifies that:

"Companies filing registration statements under the Securities Act of 1933 must:

- Write the forepart of these registration statements in plain English;
- Write the remaining portions of these registration statements in a clear, understandable manner; and
- Design these registration statements to be visually inviting and easy to read."

Further, Rule 421(d) specifically requires that issuers must:

“Substantially comply with these plain English principles:

- Short sentences;
- Definite, concrete everyday language;
- Active voice;
- Tabular presentation of complex information;
- No legal jargon; and
- No multiple negatives.”

Although the plain English rule is required only for prospectuses, the SEC has encouraged companies to use plain English in all filings. Certainly, there are many benefits to having disclosures written in plain English. First, investors would be more likely to understand the disclosures and to make informed judgments. Second, investment analysts would be able to make more timely and accurate recommendations to their clients if they can understand such disclosures quickly and easily. Third, in communicating with their investors in plain English, companies would be more likely to successfully communicate their messages to investors and to build up stronger relationships with them. Finally, lawyers reviewing a company’s disclosures written in plain English would find it easier to spot errors in documents.

Following the passing of the plain English rule by the SEC, the evidence for whether the use of plain English in disclosures has improved has been mixed. In examining a sample of 42,357 10K filings from 1994 to 2007, Laughran and McDonald (2014a), found that while there were improvements in the use of plain English when they used a measure of readability derived from the SEC’s documentation surrounding the plain English initiative, no improvements were observed when other measures of readability, including the Fog index and Flesch reading ease score, were used.

Various archival studies have also examined how investors react to the adoption of plain English in disclosure documents. Laughran and McDonald (2014b) found significant associations between improved 10K readability and increased small investor trading, the likelihood of seasoned equity issuance, and better corporate governance in firms. Separately, Li (2008) found that annual reports which were easier to read had higher earnings and higher earnings persistence. Writing in plain English in this context entails analysing and making decisions about what pieces of information investors and other stakeholders need to make informed decisions even before words, sentence, or paragraphs are even considered. According to the SEC (1998), documents written in plain English should use words economically and at a level that the audience can understand. The tone used in the language should be welcoming and direct. It is important that a plain English document should also reflect thoughtful design choices. Certainly, disclosure that is written in plain English but which is not well designed could also fail to communicate its message effectively to investors and other stakeholders. Appropriate design choices make a document easier to read and understand, and make the overall design of the document more visually appealing.

SEC’s plain English handbook provides several specific recommendations to preparers of disclosure documents. In particular, chapter 6 of the document highlights some common problems in writing of disclosure documents that should be avoided (e.g. long sentences, passive voice). It also provides some tips on how to avoid such problems. Chapter 7 looks at five basic design elements (e.g.

typography, graphics) and how they contribute to creating a plain English document. While archival studies are well suited to examining how the overall adoption of plain English by companies in disclosures can influence investor reactions (e.g. Laughran and McDonald, 2014a, 2014b; Li, 2008), they are not able to examine how specific recommendations put forth in the plain English handbook (such as those in Chapters 6 and 7) influence investors. They are also not able to examine how specific decision making processes of investors and other stakeholders are influenced by such readability features. In this respect, experimental studies which examine behavioural factors that drive investor reactions to specific elements of plain English can use the comparative advantage of experiments to provide additional insights to how plain English influences the judgment and decision making of investors and other stakeholders.

3 Developing a framework

I developed a framework for analyzing behavioural studies that investigate how recommendations in the plain English handbook can influence investor judgments. Specifically, the framework identifies two major areas related to recommendations found in the plain English handbook, as described below.

3.1. Readability

Chapters 6 and 7 of SEC's plain English handbook discusses common problems in language and formatting used in disclosure documents and how to fix them. Common language problems discussed include long sentence, passive voice, weak verbs, superfluous words, legal and finance jargon, numerous defined terms, abstract words, unnecessary details, and unreadable design and layout. Common formatting problems that are discussed relate to areas including hierarchy, typography, and layout. These language and formatting issues can often reduce the ease of reading and understanding disclosures, hence reducing the overall *readability* of these disclosures. Several behavioural studies have examined factors affecting the readability of disclosures and how/why investors react to differences in the readability of disclosures. In this study, I identify and analyse four behavioural studies related to readability.

3.2. Graphics

Graphics are another important aspect of disclosure, and have become increasingly prevalent in various forms of communication. The plain English handbook highlights some basic guidelines - related to overall design, proportion of visuals, etc - in using graphics in disclosure in Chapter 7. Specific recommendations provided in the handbook include keeping the design simple (e.g. by removing needless 3-D effects) and ensuring accurate proportions of graphs. Various behavioural studies have examined how some of these characteristics of graphs can influence a reader's judgments. In this study, I identify and examine three behavioural studies related to graphics.

Table 2 provides a listing of the readability- and graphics-related studies that are identified and examined in this study.

Table 2: Listing of readability- and graphics-related studies examined

	Title	Author(s)	Journal	Year
Readability	Processing fluency and investors' reactions to disclosure readability	Rennekamp, K.	Journal of Accounting Research	2012
	How does readability influence investors' judgments? Consistency of benchmark performance matters	Tan, H. T., Wang, E. Y., and Zhou, B.	The Accounting Review	2014
	Firm performance, reporting goals, and language in narrative disclosures	Asay, S., Libby, R., and Rennekamp, K.	Working paper	2017
	Does concrete language in disclosures increase willingness to invest?	Elliott, W. B., Rennekamp, K., and White, B.	Review of Accounting Studies	2015
Graphics	Do irrelevant depth cues affect the comprehension of bar graphs?	Fischer, M.	Applied Cognitive Psychology	2000
	Measurement distortion of graphs in corporate reports: An experimental study	Beattie, V., and Jones, M,	Accounting, Auditing, & Accountability	2001
	Judgments of change and proportion in graphical perception	Hollands, J., and Spence, I.	Human Factors: The Journal of the Human Factors and Ergonomics Society	1992

4 Readability related studies

Rennekamp (2012) examines how the readability of disclosure (more versus less readable) interacts with the valence of news about a firm (good versus bad) to influence investor judgments. Drawing on psychology research, Rennekamp (2012) predicts that more readable disclosures increases the processing fluency of investors. This processing fluency acts as a heuristic cue which increases investors' belief that they can rely on information contained within the disclosures. Consequently, investors are more likely to rely on more readable forms of disclosure regardless of whether it contains good or bad information when making investment decisions. In her experiment, Rennekamp (2012) varied the readability of disclosures by manipulating various elements of plain English discussed in the SEC

handbook. Specifically, linguistic features that she manipulated include the use of short sentences, active voice, hidden verbs, superfluous words, positive language, synonyms, personal pronouns, and sentences that keep 'subject', 'verb', and 'object' close together. Formatting features that she manipulated include the use of clear headings, appropriate layout, tables, and bullet points. Consistent with her predictions, she found that more readable disclosures led to stronger reactions from participants in her experiment. In particular, changes in participants' judgments in response to a more readable disclosure were more positive when news was good and more negative when news was bad. In addition, participants in the study indicated that they expected managers to provide more readable disclosures when news was good and less readable disclosures when news was bad, consistent with prior literature which suggests that managers use features of readability to strategically obfuscate bad news.

Complementing the findings in Rennekamp (2012), Tan et al. (2014) examine readability in the context of managers having to report current period firm performance that is consistent or inconsistent with performance measured against certain benchmarks (in terms of the current period performance being indicative of positive or negative firm performance).² In particular, they examine how the readability of disclosure (more versus less readable) and benchmark performance consistency (consistent versus inconsistent) influence investor judgments. In their experiment, Tan et al. (2014) manipulated readability by varying the use of short sentences, definite, concrete everyday words, active voice, and tabular presentation or bullet points for complex material. Drawing on comprehension theory (Kintsch and Dijk, 1978), which indicates that coherence or consistency is a key attribute people attend to and influences how people process messages, Tan et al. (2014) predict that in the absence of inconsistencies, messages are relatively easier to understand, irrespective of variations in the readability of content (which is likely to have no effect on investor judgments). In contrast, in the presence of inconsistencies, messages become more complicated and harder to understand. In such cases, high (low) readability of content is more likely to improve (impair) individuals' understanding, which in turn influences their judgments. Using two experiments to examine their research question, Tan et al. (2014) indeed find that the readability of trend performance had a greater impact on participants' performance judgments when benchmark performance was inconsistent than when it was consistent with current period performance. When benchmark performance was inconsistent, higher readability of trend performance disclosure led to higher performance judgment when trend performance was positive, but lower performance judgment when trend performance was negative. The readability of trend performance, in contrast, did not have an effect on investor judgments when benchmark performance was consistent.

In another recent paper, Asay et al. (2017) sought to examine why managers produce readable/ less readable disclosures. To investigate how the readability of disclosures that managers produce change in response to firm performance and manager goals, Asay et al. (2017) designed an experiment where they manipulated firm performance and manager goals and asked a group of professional managers to

² For instance, current period firm performance can be inconsistent with performance measured against benchmarks when a firm beats analysts' consensus forecasts (positive benchmark performance) but reports negative earnings change (negative current period performance), or when a firm misses analysts' consensus forecasts (negative benchmark performance) but reports positive earnings change (positive current period performance).

prepare disclosures. Overall, they find that bad news disclosures prepared by professional managers are less readable than good news disclosures, but only when managers have a strong self enhancement goal. In addition, the managers provided disclosures that focused more on the future, contained more explanatory language, more passive voice, and fewer first person singular pronouns when writing disclosures about bad news than good news. Asay et al. (2017) then conducted a follow up survey with experienced professionals (who did not participate in the original experiment) to gain additional insights into potential explanations for findings in their experiment. The survey results suggest that survey participants believe that managers intentionally write more readable reports when performance is good, with the intention of highlighting positive performance, and that managers also provide more causal explanations for past performance and more information about future plans when performance is bad in order to satisfy investors' demands. At the same time, the survey provides little evidence that participants believe that managers intentionally write less readable reports when performance is bad in order to hide bad performance.

In another interesting study, Elliott et al. (2015) examine how the use of concrete/abstract language in prospectuses influences investors' willingness to invest in a firm. Construal level theory (Trope and Liberman, 2010) suggests that concrete language can reduce feelings of distance because there exists a positive, bi-directional relationship between a concrete description of a phenomenon and psychological distance. Consequently, highlighting concrete language may, in general, help to reduce concerns that investors may have in investing in a firm that they feel psychologically distant from (e.g. because it is located outside of their home market). To test their hypotheses, Elliott et al. (2015) conducted two experiments where they manipulated language used in a prospectus (abstract versus concrete) and physical location of a target company (more distant versus less distant). Consistent with the predictions of construal level theory, Elliott et al. (2015) find that investors are, in general, more willing to invest in a firm when concrete (versus abstract) language is highlighted. They also find that this is explained by an increased "feeling of comfort" that investors have in their abilities to evaluate the firm, especially if they feel psychologically distant from the firm.

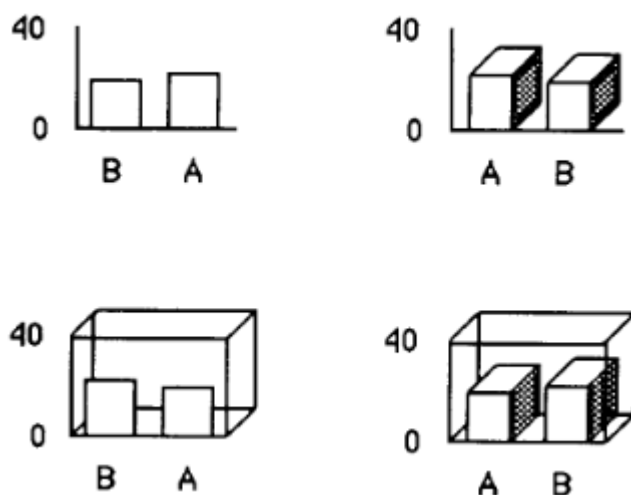
5 Graphics Related Studies

One characteristic of graphs that has been the focus of research relates to the impact of depth cues (i.e. 2 dimensional (2-D) versus 3 dimensional (3-D)). Some designers prefer 2-D graphical formats because they think that it is easier to comprehend and appears less cluttered. On the other hand, other designers prefer 3-D formats because they think that it is more attractive, more easily captures attention, and can thus enhance the memory of readers.

Fischer (2000) investigates the impact of depth cues on the comprehension of bar graphs. Specifically, he examines whether the irrelevant complexity of a 3-D graph slows down comprehension compared to a less complex 2-D graph. To do so, two experiments where the depth of bars and the depth of frames of a bar graph were manipulated was conducted. Figure 1 presents sample stimuli from the experiments. The two graphs in the top row display two-dimensional frames while the two graphs in the bottom row display three-dimensional frames. The two graphs in the left

column display two-dimensional bars while the two graphs in the right column display three-dimensional bars.

Figure 1: Sample stimuli from an experiment in Fischer (2000).

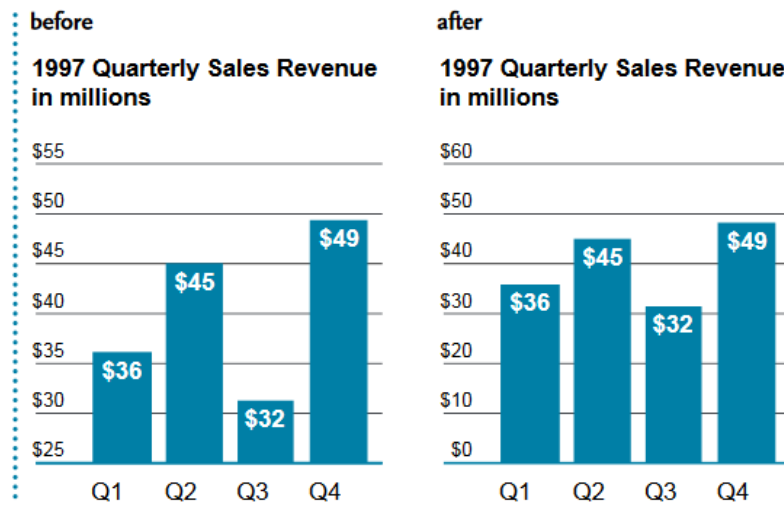


In general, Fischer (2000) finds that irrelevant depth cues were associated with slower decision times, slower encoding of information contained in the graph to working memory, and slower information retrieval times.³ Based on these findings, Fischer (2000) recommends that depth cues should generally be avoided in visuals because they tend to add unnecessary complexity and slow down comprehension. This is especially the case because the purpose of including graphs is to quickly convey information about the quantitative relationship between two or more variables of interest.

Another characteristic of graphs relates to the relative proportion of visuals contained within. Preparers of disclosures have incentives to distort the proportions of visuals in order to convey information about their companies in a more favourable light. In this respect, the plain English handbook recommends that preparers of disclosures should avoid the use of non-zero baselines in their charts in order to avoid misleading readers. Figure 2 presents the example used in the Plain English Handbook which illustrates how the graph on the left which starts from a non-zero baseline (on the y-axis) can be misleading to a reader relative to the graph on the right which starts on a zero baseline.

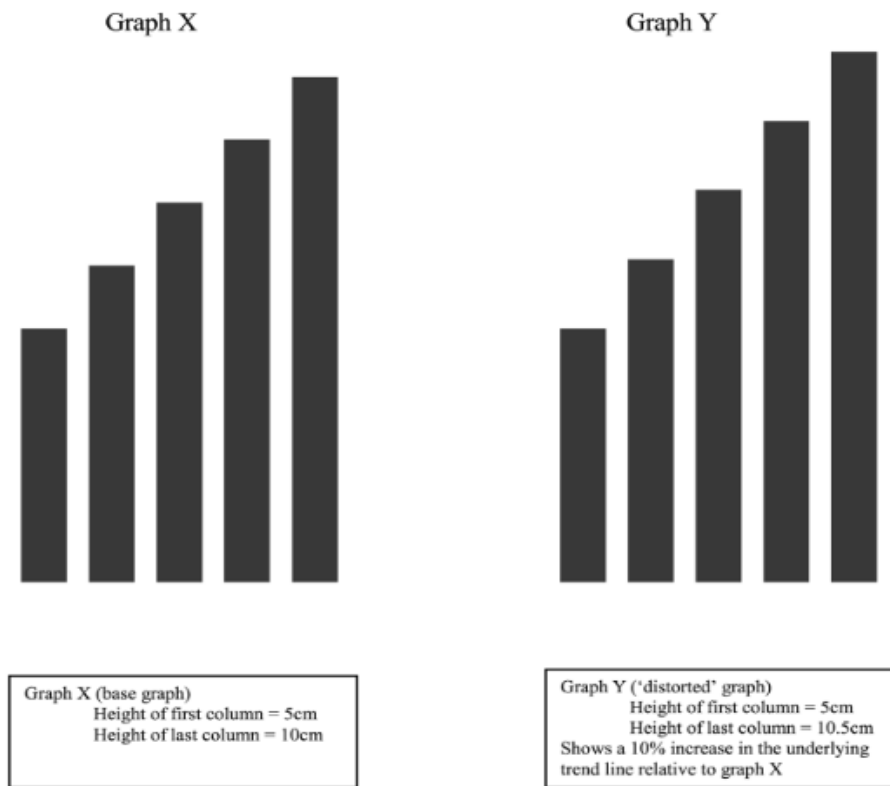
³ These findings are consistent with prior studies such as Zacks et al. (1998) who report lower accuracy in judgments when irrelevant depth cues were added to bar charts.

Figure 2: Graphs used in the Plain English Handbook to illustrate how non-zero baselines can be misleading to readers.



To gain insights into the effects of the distortion of proportion of graphical elements in disclosures on investor judgments, Beattie and Jones (2002) conducted an experiment where they manipulated the level of distortion on a five-year time series column graph. Figure 3 presents examples of the graphs used in the experiment. The graph on the left is the initial base graph which shows a 100% increase over the five-year period (i.e. an implicit straight trend line). The graph on the left, in contrast, shows distortion in that it displays a 10% increase in the underlying trend line of the base graph (i.e. 10% distortion).

Figure 3: Example of base graph (left) and 10% distortion graph (right) used in Beattie and Jones (2002)



Beattie and Jones (2002) find that the majority of readers noticed differences between the base graph and the distorted graph when distortion was 20% or more. Distortions at 10% or less were less noticeable. Further, the findings also suggest that readers with a lower level of financial understanding appear to be most at risk of being misled by such distortions. The findings from the study suggest that readers can be misled by distorted graphs. To avoid misleading readers, companies should avoid such distortions in proportions in their graphs, especially if the levels of distortion exceed 10%.

In another study, Hollands and Spence (1992) investigated how readers judged change and proportions when information was presented in different types of graphs. Figures 4 and 5 present a line graph and a bar chart (respectively) displaying an increase in D and decrease in C over time (change) and a growth in the proportion of D and fall in the proportion of C over the 4-year period that was used in the experiments conducted in Hollands and Spence (1992).

Figure 4: A line graph used in Hollands and Spence (1992) to illustrate changes in proportions of C and D over time.

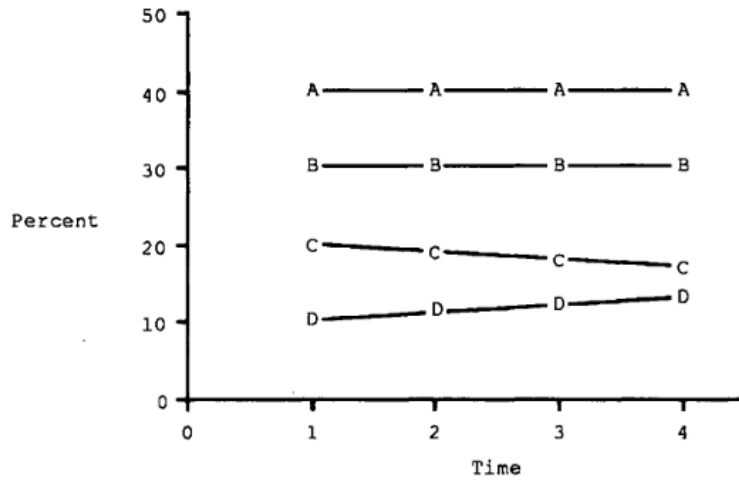
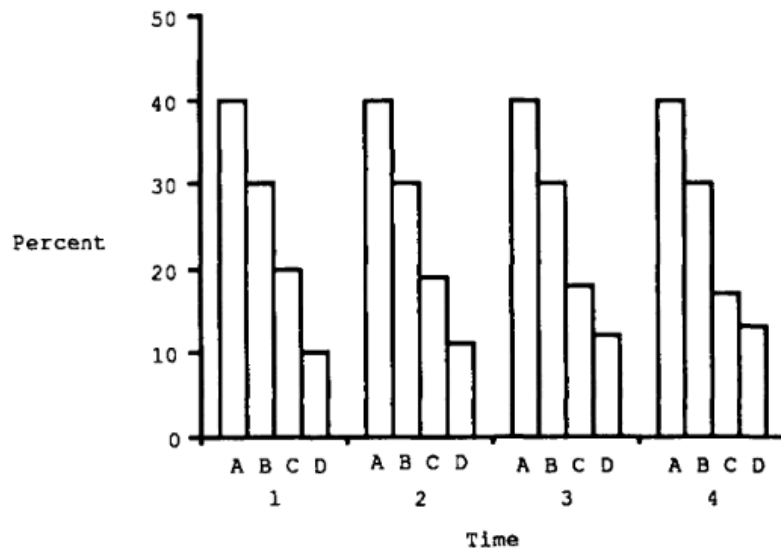


Figure 5: A bar graph used in Hollands and Spence (1992) to illustrate changes in proportions of C and D over time.



Hollands and Spence (1992) find that change was judge more quickly and accurately when readers viewed the information with line charts and bar charts than with pie charts or tiered bar charts. In contrast, proportion was judged more quickly and accurately with pie charts and divided bar charts than with line or bar graphs. The findings in this study complement the existing literature, and provide insights to designers for selecting the appropriate graphical form that best suits the information that is intended to be communicated.

6 Conclusion

The SEC published the plain English handbook in 1998 with the objective of providing preparers of financial disclosures with a guide to using well-established techniques to create clearer and more informative disclosure documents. The

handbook provides various recommendations to preparers of disclosure documents. In particular, chapters 6 and 7 of the handbook provide recommendations for how to avoid common language and formatting issues in preparing disclosure documents.

In this study, I examine and systematically synthesize the extent literature that adopt a behavioural perspective in investigating the impact of implementing these recommendations for disclosure on investors. I do so by developing a framework to systematically examine the relevant studies that are identified that have looked at the recommendations contained in the plain English handbook from a behavioural perspective. The framework categorises the studies into readability related studies and graphics related studies. I identify and examine four readability related studies and three graphics related studies. Overall, the analysis provides important insights from a behavioural perspective into how and why investors react to various components of readability and graphics, which constitute part of the recommendations in the SEC's plain English handbook.

The framework also highlights several areas of future research, particularly from a behavioural perspective. Preparers of financial disclosure often have a choice as to the readability- and graphics- related characteristics that they incorporate in disclosure documents. Circumstantial (e.g. profitability of the firm) and personal factors (e.g. personal incentives) could influence these choices, and contribute to how closely a firm's disclosure documents follow the recommendations in the plain English handbook. Researchers could use the behavioural method to investigate motivations and psychological mechanisms that drive the adoption of the recommendations in the plain English handbook by preparers of financial disclosures. Research in this area is important as it would provide insights into how preparers of financial disclosures could be encouraged to create documents written in plain English.

In addition, prior readability studies have tended to examine the effects of various components of readability (e.g. sentence length, use of active voice, use of concrete language) as a whole on investor judgments. This holistic view of readability assumes that each readability characteristic has similar effects on judgments. However, it may be the case that specific readability characteristics have different influences on judgments. Future studies could investigate the effects of specific readability characteristics in financial disclosure on judgments.

References

- Asay, H. S., Libby, R., and Rennekamp K. (2017) 'Firm performance, reporting goals, and language in narrative disclosures'. *Working paper, The University of Iowa and Cornell University*.
- Beattie, V., and Jones, M. (2002) 'Measurement distortion of graphs in corporate reports: An experimental study'. *Accounting, Auditing & Accountability Journal*, Vol. 15, pp. 546-564.
- Birnberg, J. G. (2011). 'A proposed framework for behavioral accounting research'. *Behavioral Research in Accounting*, Vol. 23, pp. 1-43.
- Clinton, W. J. (1998) 'Presidential memorandum on plain language in government writing'. Available at: <http://www.presidency.ucsb.edu/ws/?pid=56067>
- Elliott, W. B., Rennekamp, K., and White, B. J. (2015) 'Does concrete language in disclosures increase willingness to invest?' *Review of Accounting Studies*, Vol. 20, pp. 839-865.

- Fischer, M. (2000) 'Do irrelevant depth cues affect the comprehension of bar graphs?' *Applied Cognitive Psychology*, Vol. 14, pp. 151-162.
- Hollands, J. G., and Spence, I. (1992) 'Judgments of change and proportion in graphical perception.' *Human Factors: The Journal of the Human Factors and Ergonomics Society*, Vol. 34, pp. 313-334.
- Jones, M. J., and Shoemaker, P. A. (1994) 'Accounting narratives: A review of empirical studies of content and readability.' *Journal of Accounting Literature*, Vol 13, pp. 142-184.
- Kintsch, W., and Van Dijk, T. A. (1978) 'Toward a model of text comprehension and production.' *Psychological Review*, Vol. 85, pp. 363-394.
- Laughran, T., and McDonald, B. (2014a) 'Measuring readability in financial disclosures.' *Journal of Finance*, Vol. 69, pp. 1643-1671.
- Laughran, T., and McDonald, B. (2014b) 'Regulation and financial disclosure: The impact of plain English.' *Journal of Regulatory Economics*, Vol. 45, pp. 94-113.
- Li, F. (2008) 'Annual report readability, current earnings, and earnings persistence.' *Journal of Accounting and Economics*, Vol. 45, pp. 221-247.
- Libby, R. Bloomfield, R., and Nelson, M. W. (2002) 'Experimental research in financial accounting'. *Accounting, Organizations and Society*, Vol. 27, pp. 775-810.
- Rennekamp, K. (2012) 'Processing fluency and investors' reactions to disclosure readability.' *Journal of Accounting Research*, Vol. 50, pp. 1319-1354.
- Securities and Exchange Commission (SEC). (1998) 'A plain English handbook: How to create clear SEC disclosure.' *SEC Office of Investor Education and Assistance*. Available at: <https://www.sec.gov/pdf/handbook.pdf>
- Tan, H. T., Wang, E. Y., and Zhou, B. (2014) 'How does readability influence investors' judgments? Consistency of benchmark performance matters.' *The Accounting Review*, Vol. 90, pp. 371-393.
- Thrush, E. (2001) 'Plain English? A study of plain English vocabulary and international audiences.' *Technical Communication*, Vol. 48, pp. 289-296.
- Trope, Y., and Liberman, N. (2010) 'Construal-level theory of psychological distance.' *Psychological Review*, Vol. 117, pp. 441-463.
- Wydick, R. C. (2005) 'Plain English for lawyers.' *Carolina Academic Press*. Durham: North Carolina.
- Zacks, J., Levy, E., Tversky, B., and Schiano, D. J. (1998) 'Reading bar graphs: Effects of extraneous depth cues and graphical context.' *Journal of Experimental Psychology*, Vol. 4, pp. 119-138.