



MONTCLAIR STATE
UNIVERSITY

Montclair State University
**Montclair State University Digital
Commons**

Department of Accounting and Finance Faculty
Scholarship and Creative Works

Department of Accounting and Finance

2017

Annual Report Readability: The Case of Small-Cap Companies

Cecilia W. Ricci

Montclair State University, riccic@mail.montclair.edu

Follow this and additional works at: <https://digitalcommons.montclair.edu/acctg-finance-facpubs>



Part of the [Accounting Commons](#), and the [Business and Corporate Communications Commons](#)

MSU Digital Commons Citation

Ricci, Cecilia W., "Annual Report Readability: The Case of Small-Cap Companies" (2017). *Department of Accounting and Finance Faculty Scholarship and Creative Works*. 14.

<https://digitalcommons.montclair.edu/acctg-finance-facpubs/14>

This Article is brought to you for free and open access by the Department of Accounting and Finance at Montclair State University Digital Commons. It has been accepted for inclusion in Department of Accounting and Finance Faculty Scholarship and Creative Works by an authorized administrator of Montclair State University Digital Commons. For more information, please contact digitalcommons@montclair.edu.

Annual Report Readability: The Case of Small-Cap Companies

Cecilia Wagner Ricci

Abstract

This study proposes to fill a gap in the literature on the readability of annual reports submitted to the SEC by focusing on an area that has not been studied previously: small cap companies. Seven passages of approximately 100 words each were randomly selected from the annual reports of a random sample of fifty companies in the S&P Small Cap 600. The testing of the passages finds that small cap companies' 10-Ks have readability scores similar to or worse than large cap companies.

I. Introduction

The U.S. Securities and Exchange Commission (SEC) was created to protect investors by providing adequate information on potential investments. The SEC states that, "all investors, whether large institutions or private individuals, should have access to certain basic facts about an investment prior to buying it, and so long as they hold it" (www.sec.gov). The major conduit for this information transfer is SEC filings.

Consequently, the readability of SEC filings is important, and research concerning the readability of a variety of financial documents is long-lived and ongoing. Regrettably, the studies to date have focused on the annual reports (10-Ks) of large cap companies only. In fact, as indicated in the literature review, most of the samples are drawn from the Fortune 500.

To date, there has been little research on the readability of the annual reports of small-cap companies. The purpose of this paper is to address this lack of research by examining the readability of the annual reports (10-Ks) submitted to the SEC by small cap companies. Fifty randomly selected companies in the S&P Small Cap 600 are used to determine whether the readability of these companies' 10-Ks is similar to that of large cap companies. As such, this study should be of interest to a variety of entities, ranging from regulators to practitioners to academics.

The remainder of the paper is organized as follows: the next section explains the measure of readability utilized in this study; this is followed by a review of the literature on the readability of annual reports. Next, information on the sample and methodology is provided, followed by the results. The final section of the paper discusses the outcomes of this research and offers some conclusions, as well as suggestions for future research on the readability of annual reports.

II. Background

The most common measure of readability in annual reports is the Flesch Reading Ease Score method. Developed in 1948, the Flesch Reading Ease Score measures readability from 0 to 100, with the higher numbers indicating increasing readability (Flesch, 1948). The readability score is calculated as follows:

$$\text{Score} = 206.835 - 1.015 \times \frac{\text{total words}}{\text{total sentences}} - 84.6 \times \frac{\text{total syllables}}{\text{total words}}$$

Once readability scores are calculated, their degrees of difficulty are classified using the Flesch chart in Figure 1 (Flesch, 1948).

III. Literature Review

Perhaps the earliest research in this area is that of Pashalian and Crissy (1950), who analyzed a sample of the twenty-six annual reports from companies in the 1949 “Corporate Billion Dollar Club” (non-financial companies with assets, sales, or revenue greater than \$1 billion). Flesch (1948) recommended that researchers take 100-word samples from every other page, and Pashalian and Crissy used this method, arriving at a total of 211 samples. The analysis of the sample using the Flesch Reading Ease Score showed that that the readability scores were between 6 and 58, while the average reading ease was 34.37. On the Flesch scale, these scores fall into the “Very Difficult” to “Fairly Difficult” range.

This was followed by the work of Soper and Dolphin (1964), whose research had several objectives. The one relevant to this study is that, using the same sample as Pashalian and Crissy (1950), they evaluated the readability of the companies’ 1961 annual reports. They found readability scores between 11 and 43, with a mean of 28.76. These scores classify the annual reports as “Very Difficult” to “Difficult” to read.

Next, they compared their 1961 results to the 1950 results of Pashalian and Crissy (1950) to determine whether the readability of annual reports had increased over time (Soper and Dolphin, 1964). Their results showed that annual report readability did not improve between 1948 and 1961. Indeed, only three annual reports were more readable in 1961 than they were in 1948 (Soper and Dolphin, 1964).

In their research on the communication function of annual reports, Smith and Smith (1971) studied the 169 financial statements of the first fifty companies in the 1969 Fortune 500, and took four one-hundred word samples for each 2,000 words. Their results indicated that the level of readability ranged from 3.71 to 47.83 with a mean of 23.50, all which are in the “Very Difficult” to “Difficult” readability categories.

Pasadeos & Yeap (1991) studied annual reports and compared their results to annual reports from the 1960s, 1970s, and 1980s. They looked at the Fortune 500 listings for the previous thirty years and found thirty-one companies that appeared every year. They then chose six 100-word passages from each annual report and used the Flesch index for analysis. They conclude that the readability of annual reports did not increase over time, with Flesch scores of 58.7 (1960s), 57.1 (1970s), and 59.0 (1980s), all of which indicate readability in the “Fairly Difficult” category.

There are also studies that focus on specific parts of annual reports. For example, Hoskins (1984) used the 1980 annual reports of twenty-four of the top twenty-five companies in the Fortune 500 to test their readability. Using 100-word samples from every third page, he found that the “general overview” portions and letters to the shareholders had similar readability scores of between 12 and 52, and 26 and 53, respectively. Both results are classified in the “Very Difficult” to “Fairly Difficult” categories (Hoskins, 1984).

Schroeder and Gibson (1990) also examined particular parts of annual reports, specifically the Management’s Discussion and Analysis section, the President’s Letter, and the footnotes. Using a random sample from the 1986 Fortune 500 and Fortune Service 500, they found that the Flesch Reading Ease scores of all three fell into the “Difficult” category.

Heath and Phelps (1984) selected a random sample of twenty Fortune 500 companies and tested 200-word parts of three sections of the companies’ annual reports: the president’s

letter, general text, and notes to the financial statements. Using the Gunning formula to test the readability (though they note that it is likely to overestimate readability), they conclude that a large number of shareholders do not have the education needed to comfortably read annual reports (Heath and Phelps, 1984).

This review of the literature indicates that the readability of the 10-Ks of large cap companies varies between “Very Difficult” and “Difficult.”

IV. Sample & Methodology

A random sample from the S&P Small Cap 600 was used to test the readability of the 10-Ks of small cap companies. Each company in the index was assigned a number using the random numbers generator (RAND function) in Excel. The companies were then sorted by these numbers, and the first fifty companies were chosen as a random sample. The companies in the sample may be seen in the appendix.

Next, given that this study is the first step in the research on the readability of small cap 10-Ks, the annual report samples were not taken from specific areas, but rather from the entire text of 10-Ks (excluding financials). Specifically, seven samples of approximately 100 words each were randomly chosen from the most recent annual report for each company, for a total of 350 samples. There was an effort made to ensure that sample sentences were full sentences as this is a core part of the Flesch score. The end result was seven approximately 100-word excerpts for each of the 50 companies. The excerpts were arranged in paragraphs. The paragraphs were then evaluated using the Flesch Reading Ease score in Word, and confirmed by manual calculations using the Flesch formula on a random sample.

V. Results

Descriptives

Table 1 shows the sample by GIC Economic Sector. There are three sectors that are not represented in the sample: GIC Sector 40 Financials, GIC Sector 10 Energy and GIC Sector 55 Utilities. These sectors make up 22% of the S&P Small Cap 600. The largest sector in the sample is GIC 25 Consumer Discretionary (32%), which is close to double its representation in the S&P Small Cap 600 (16%). The fiscal year end market value of the sample ranges between \$198.5 million and \$1,987.8 million, with a mean of \$972.65 million, a median of \$882.4 million, and a standard deviation of \$468.6 million. The mean fiscal year end market value for the S&P Small Cap 600 is \$1,287.3 million, and its median is \$1,125.9 million, leading to the conclusion that the sample companies were smaller than the overall index. Consequently, the results of this study cannot be extended to the to the general population.

The Flesch Reading Ease Score for each company in the sample may be seen in Table 2. They range from 0.0 to 24.9, with a mean of 14.4, a median of 14.75, and a standard deviation of 5.5. A graph of the results may be seen in Chart 1. Recalling that a 40 is considered difficult, the graph indicates that all of the companies in the sample had 10-Ks in the “Very Difficult” to “Difficult” categories.

VI. Discussion

The purpose of this study was to determine whether small cap companies have 10-Ks with low readability levels, as the large cap companies do. Based on a random sample of the S&P Small Cap 600, the answer to this question is an emphatic “yes.” This raises several issues, the most important one being if an annual report is virtually unreadable, then the investor the

1933 Securities Act was created to protect, is effectively unprotected. This also raises the issue of the function of the 10-K. If it is hard to read, does it serve the purpose for which it was intended? In addition, if annual reports are readable only by institutions with people trained for this purpose, then the disclosure of information may not be considered fair.

The results of this study also indicate that small cap companies should not be overlooked in the quest to have readable SEC filings. Indeed, the takeaway is that the overall reading ease scores may be lower for small-cap companies than they are for large-cap companies.

This is a fruitful area for additional research. For example, there is no recent literature on the readability of the 10-Ks of large cap companies. Such research could evaluate current 10-Ks for readability, and compare the results to the readability of studies conducted previously. While it appears that the readability of 10-Ks has not improved over time, more timely research is necessary. The impact of the Sarbanes-Oxley Act of 2002, which requires more information in 10-Ks, may also be examined in the context of readability. Finally, it would also be interesting to see the historical evolution of the readability of the 10-Ks of small cap companies.

Reference

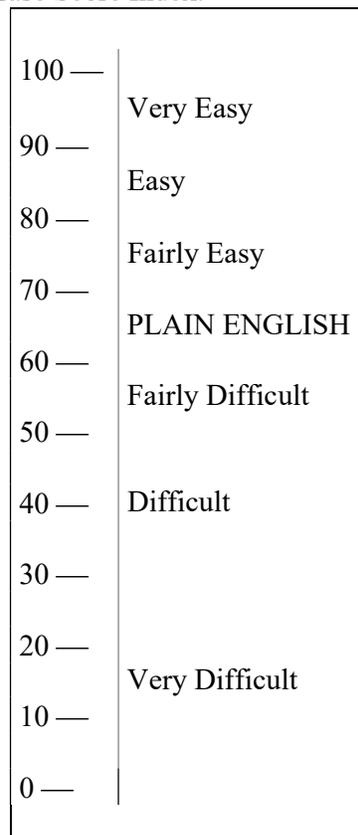
- Flesch, Rudolf. "A New Readability Yardstick." *Journal of Applied Psychology*, vol. 32, no. 2, June 1948, pp. 221-233.
- Heath, Robert L. and Greg Phelps. "Annual Reports II: Readability of Reports Vs. Business Press." *Public Relations Review*, vol. 10, no. 2, Summer 1984, pp. 56-62.
- Pasadeos, Yorgo and Yin Yeap. "Changes in Contents and Readability of Annual Reports." *Communication Research Reports*, vol. 8, no. 1/2, Jun-Dec 1991, pp. 121-125.
- Pashalian, Siroom, and William Crissy. "How Readable Are Corporate Annual Reports?" *Journal of Applied Psychology*, Vol 34, no. 4, Aug 1950, 244-248.
- Smith, James, and Nora Smith. "Readability: A Measure of the Performance of the Communication Function of Financial Reporting," *Accounting Review*, vol. 46, no. 3, July 1971, pp. 552-561.
- Soper, Fred J. and Robert Dolphin Jr. "Readability and Corporate Annual Reports." *Accounting Review*, vol. 39, no. 2, Apr. 1964, p. 358-362.
- www.sec.gov.

Appendix. Sample Companies.

Abaxis	G&K Services Inc
Agilysys Inc	General Communication
Amedisys Inc	Harte Hanks Inc
Amphastar Pharmaceuticals Inc	Healthstream
Anika Therapeutics Inc	Kaiser Aluminum Corp
Applied Industrial Technology	Luminex Corp
Benchmark Electronics	Lumos Networks Corp
Boise Cascade Co	M/I Homes Inc
Buckle Inc	Meritage Homes Corp
Capella Education Co	Monarch Casino & Resort Inc
Computer Programs & Systems	Monster Worldwide Inc
Core Mark Holding Co Inc	Motorcar Parts of America
Crocs Inc	Nutrisystem Inc

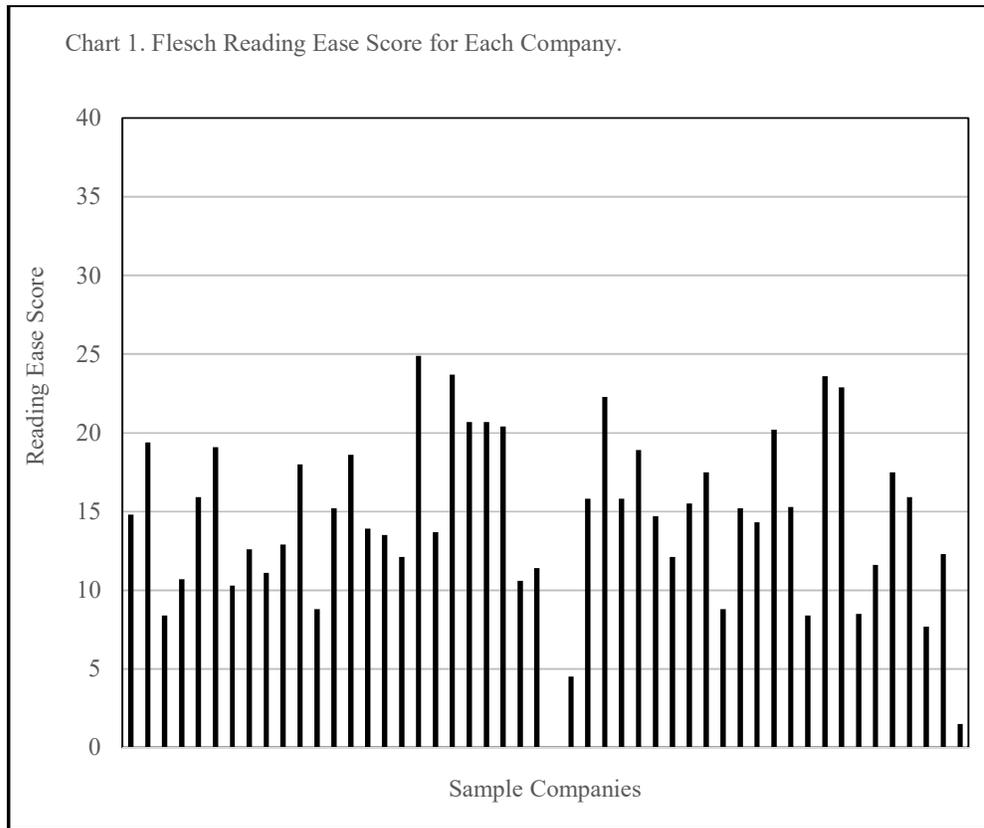
CTS Corp	Omnicell Inc
Diplomat Pharmacy Inc	Quanex Building Products
DSP Group Inc	Re/Max Holdings Inc
Echo Global Logistics Inc	Scholastic Corp
El Pollo Loco Holdings, Inc.	Select Medical Holdings Corp
Encore Wire Corp	Sonic Automotive Inc
Esco Technologies Inc	Sonic Corp
Exlservice Holdings	Stepan Co
Faro Technologies Inc	Synchronoss Technologies
Federal Signal Corp	Trueblue Inc
Forrester Research Inc	WD-40 Co
Francescas Holdings Corp	Zumiez Inc

Figure 1. The Flesch Reading Ease Score Index.



GIC	Frequency	Percent
15 Materials	3	6.0
20 Industrials	8	16.0
25 Consumer Discretionary	16	32.0
30 Consumer Staples	1	2.0
35 Health Care	10	20.0
45 Information Technology	9	18.0
50 Telecommunication Services	2	4.0
60 Real Estate	1	2.0
Total	50	100.0

Abaxis	15.9	G&K Services Inc	20.7
Agilysys Inc	14.8	General Communication	20.7
Amedisys Inc	19.4	Harte Hanks Inc	20.4
Amphastar Pharmaceuticals Inc	8.4	Healthstream	12.3
Anika Therapeutics Inc	10.7	Kaiser Aluminum Corp	10.6
Applied Industrial Technology	7.7	Luminex Corp	11.4
Benchmark Electronics	8.5	Lumos Networks Corp	0.0
Boise Cascade Co	15.9	M/I Homes Inc	4.5
Buckle Inc	19.1	Meritage Homes Corp	15.8
Capella Education Co	10.3	Monarch Casino & Resort Inc	22.3
Computer Programs & Systems	12.6	Monster Worldwide Inc	1.5
Core Mark Holding Co Inc	11.1	Motorcar Parts of America	15.8
Crocs Inc	12.9	Nutrisystem Inc	18.9
CTS Corp	18.0	Omnicell Inc	14.7
Diplomat Pharmacy Inc	8.8	Quanex Building Products	12.1
DSP Group Inc	15.2	Re/Max Holdings Inc	15.5
Echo Global Logistics Inc	18.6	Scholastic Corp	17.5
El Pollo Loco Holdings, Inc.	17.5	Select Medical Holdings Corp	8.8
Encore Wire Corp	13.9	Sonic Automotive Inc.	15.2
Esco Technologies Inc	13.5	Sonic Corp	14.3
Exlservice Holdings	11.6	Stepan Co	20.2
Faro Technologies Inc	12.1	Synchronoss Technologies	15.3
Federal Signal Corp	24.9	Trueblue Inc	8.4
Forrester Research Inc	13.7	WD-40 Co	23.6
Francescas Holdings Corp	23.7	Zumiez Inc	22.9



Author

Cecilia Wagner Ricci, PhD

Professor of Finance, The Feliciano School of Business, Montclair State University,
Montclair, NJ, riccic@montclair.edu