Annual Report Readability: The Case of Small-Cap Companies

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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 be 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 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
www.sec.gov.

Appendix. Sample Companies.

Abaxis
Agilysys Inc
Amedisys Inc
Amphastar Pharmaceuticals Inc
Anika Therapeutics Inc
Applied Industrial Technology
Benchmark Electronics
Boise Cascade Co
Buckle Inc
Capella Education Co
Computer Programs & Systems
Core Mark Holding Co Inc
Crocs Inc
G&K Services Inc
General Communication
Harte Hanks Inc
Healthstream
Kaiser Aluminum Corp
Luminex Corp
Lumos Networks Corp
M/I Homes Inc
Meritage Homes Corp
Monarch Casino & Resort Inc
Monster Worldwide Inc
Motorcar Parts of America
Nutrisystem Inc
CTS Corp
Diplomat Pharmacy Inc
DSP Group Inc
Echo Global Logistics Inc
El Pollo Loco Holdings, Inc.
Encore Wire Corp
Esco Technologies Inc
Exlservice Holdings
Faro Technologies Inc
Federal Signal Corp
Forrester Research Inc
Francescas Holdings Corp

Omnicell Inc
Quanex Building Products
Re/Max Holdings Inc
Scholastic Corp
Select Medical Holdings Corp
Sonic Automotive Inc
Sonic Corp
Stepan Co
Synchronoss Technologies
Trueblue Inc
WD-40 Co
Zumiez Inc

Figure 1. The Flesch Reading Ease Score Index.

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Very Easy</td>
</tr>
<tr>
<td>90</td>
<td>Easy</td>
</tr>
<tr>
<td>80</td>
<td>Fairly Easy</td>
</tr>
<tr>
<td>70</td>
<td>PLAIN ENGLISH</td>
</tr>
<tr>
<td>60</td>
<td>Fairly Difficult</td>
</tr>
<tr>
<td>50</td>
<td>Difficult</td>
</tr>
<tr>
<td>40</td>
<td>Very Difficult</td>
</tr>
<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
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</table>
Table 1. GIC Sectors in Sample.

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

Table 2. Flesch Reading Ease Score by Company.

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