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Revisiting readability of management information systems journals

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ABSTRACT

Academicians and practitioners in the Information Systems (IS) use the IS publications to acquire information about the latest developments in the field. Some publications are harder to understand than others and may not be effective if the reader is not capable of fully comprehending the contents. Therefore, of great consequence is the readability of journals in the field. This paper presents results of a survey conducted to determine the readability of information systems journals based on the Flesch-Kincaid Formula.

INTRODUCTION

People won't read what they can't understand. In a flourishing technical discipline like information systems, the difference between merely acceptable writing and truly good writing often is the difference between a manuscript that is read and one that is not. Thus, a high level of readability should be required of all papers submitted for publications in information systems-type journals.

Authors should realize that a high degree of readability does not mean avoiding the meticulousness approach to an article, or shunning the needed technical aspects that should be included. Rather, according to Burman (1991) it means implementing the fundamentals of organization and presentation that one has learned in an undergraduate English composition class. The goal of this paper is to present the results of a survey that examined the readability and comprehension of nine information systems journals. Our findings are also compared with an earlier study by Partow-Navid and Beheshitan (1991).

SURVEY METHODOLOGY

The authors selected a group of nine popular journals from information systems-type publications. The Flesch-Kincaid formula was applied to the journals to measure their readability. The journals were then ranked according to their readability index and conclusions on their readability were drawn based upon the ranking results.

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Twenty articles were randomly selected from each of the nine journals for the year 1999. A minimum of 100 words were sampled from each article. Quoted material was not used.

The following nine journals were selected and sampled:

- *Communications of the ACM*
- *Decision Sciences*
- *IEEE Transactions on Computers*
- *Information Systems Management*
- *Interfaces*
- *Journal of Management Information systems*
- *Management Science*
- *Management Information Systems Quarterly*
- *Sloan Management Review*

READABILITY INDEX

For the purpose of this paper, readability is defined as the ease of understanding, or comprehension, based upon the style of writing. We are not measuring the ease of reading due to the pleasantness of writing or the legibility of print (typography) (Loveland, et al., (1973). Experts have developed methods for measuring how easy, or difficult, a text is to read. One of the best known is the Flesch-Kincaid index, which we used to measure the readability of the articles. This index is the United States Government Department of defense standard and the government has mandated its use by contractors when writing manuals for the armed services. Penrose (1986) indicates that this index is based on the sentence length and number of syllables per word. In this report, we used WordPerfect to create text files and measure their readability index using Flesch-Kincaid formula.

The Flesch-Kincaid index is a numeric value between 6 and 20. The more difficult the reading of the text, the higher the index number is. The procedure is designed to assess the grade level of education needed to read the understand the material. Guffey (1998) reports that magazines and newspapers that aim for a wide readership keep their readability index values between 8 and 12. For example, *USA Today* is 10.6, *The New York Times* is 12.6, and *People* magazine ranges between 8.4 and 11.2.

SURVEY RESULTS

According to the results of the survey, the journals differed significantly in their readability. Table 1 presents the relative ranking of the journals according to their Flesch-Kincaid index. Table 2 shows the average number of words and sentence length for the articles.

Table 3 compares the current relative rankings of the articles to the relative rankings of articles from a similar study conducted in 1991 by one of the authors (Partow-Navid & Beheshtian,

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1991). Two of the journals in the previous study, *Journal of Systems Management* and *Data Management,* were no longer available. In order to have the same number of journals in both studies, those two were replaced by the following journals: *Information Systems Management* and *Journal of Management Information Systems.*

Table 1. Readability of Articles Using WordPerfect

Name of the Journal	Reading Average Level
Communications of the ACM	13.57
Decision Sciences	13.96
IEEE Transactions of Computers	14.12
Information Systems Management	14.20
Interfaces	14.47
Journal of Management Information systems	14.51
Management Science	15.37
Management Information Systems Quarterly	15.57
Sloan Management Review	16.12

Table 2. Average Number of Words and Sentence Length of the Articles

Name of the Journal	Average Number of Words	Average Number of Words
Communications oof the ACM	122.30	6.15
Decision Sciences	118.65	5.00
IEEE Transactions on Computers	114.90	5.55
Information Systems Management	113.80	6.10
Interfaces	121.95	5.55
Journal of Management Information Systems	120.80	5.15
Management Science	110.55	5.35
Management Information Systems Quarterly	114.10	4.75
Sloan Management Review	111.60	5.65

Table 3. Comparative Ranking of the Journals for 1999 and 1991 Studies

Name of the Journal	1999 Ranking	1991 Ranking
Communications of the ACM	1	4
Decision Sciences	2	6
IEEE Transactions on Computers	3	3
Information Systems Management	4	N/A
Interfaces	5	1
Journal of Management Information Systems	6	N/A
Management Science	7	2
Management Information Systems Quarterly	8	8
Sloan Management Review	9	9

It is interesting to note that *Management Information Systems Quarterly* and *Sloan Management Review* were indicated by both studies as the most difficult journals to read. Communications of the ACM has moved from the fourth position in the 1991 study to become the most readable journal in the current study, and Interfaces has moved from the first position on the earlier list to number 5 on the current list.

According to Burman (1991) and Partow-Navid and Beheshtian (1991), as far as the articles' readability, there are some specific ways to improve the grade level reading requirement of a document. They are:

- Delete unnecessary words and phrases.
- Replace passive voice with active voice.
- Change complex sentences into multiple, simple sentences.
- Visual perception thinking is effective and efficient. Whenever possible, use figures and illustrations of all kinds.
- Graphs are generally better than tables and numbers.
- Make sure the reader is well oriented to what is being discussed and why.
- Use appendices for providing detailed algorithms and proofs.

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