研究発表：**Report**

LIS ジャーナルの抄録の長さについて：構造化抄録（structured abstracts）と従来の抄録との比較

The Lengths of LIS Journal Abstracts : A Comparison of Structured Abstracts and Traditional Abstracts

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Abstract

The purpose of this study was to empirically examine the lengths of the abstracts of LIS (Library and Information Science) journal articles. To conduct this study, the 50 journals with the highest h-index scores were selected from the LIS journals listed in *Elsevier's Scimago Journal Rank* (SJR) database. Subsequently, the abstracts of the articles from these journals were downloaded using the *Scopus* database. The average lengths of either structured or traditional abstracts were calculated for each journal, depending on the journal's required format. Measured in tokens, the lengths of traditional abstracts tend to be shorter than structured abstracts by approximately 26%. These results should provide useful guidelines for researchers and students who are writing abstracts for particular LIS journals.

Introduction

The abstract is an important component of a journal article as researchers frequently use it to decide whether a particular journal article is relevant to their research. Abstracts can be largely classified into two types : structured and traditional. A traditional abstract is one that does not include specific subheadings. For example, the abstract used for this article is traditional. By contrast, structured abstracts require authors to write under pre-defined subheadings such as *Purpose, Method, Results,* and *Implications of Study.*

One of the objections to using structured abstracts for journal articles is their protracted length. Hartley (2014) pointed out that, among the abstracts written for reports by psychology students at Keele University, the structured abstracts were longer than the traditional abstracts. Kitchenham et al. (2008) revealed that structured abstracts written for software engineering journal articles were, on average, 142.5 words longer than traditional abstracts. Although previous studies have suggested that structured abstracts are longer than traditional abstracts, their sample sizes have been small ; moreover, the average length difference between structured and traditional abstracts in LIS journals has not been investigated.

From an author's perspective, the typical average length of abstracts for papers published in a given journal provides useful information that can be used, in conjunction with the maximum length specified in the author guidelines, to produce an abstract of optimal length. Journal publishers can use such statistics to inform their author submission guidelines. Motivated by these benefits, this study empirically examines the lengths of abstracts in LIS journals. In particular, this study compares the lengths of structured abstracts with those of traditional abstracts.

To obtain data for this study, we selected the top 50 LIS journals, based on their h-index scores from the *Elsevier's Scimago Journal Rank (SJR)* database. Using the *Scopus* journal database, we then downloaded the abstracts of all articles from these 50 journals for the years from 2001 to 2016.

Results

Table 1 shows the results of this investigation. Based on the sample dataset used, the top 24% of LIS journals use structured abstracts. Kim (2016) has shown that approximately 25% of journals present in *Medline* also use structured datasets. This suggests that structured abstracts are as popular for LIS journals as for medical journals.

As shown in Table 1, the numbers of abstracts appearing in individual journals for the five years (2011 to 2016) ranged from 58 (*Reference and User Services Quarterly*) to 2632 (*IEEE Transactions on Information Theory*). The overall proportions of structured and traditional abstracts are worth noting. Of the 50 LIS journals examined, a total of 38 (76%) used traditional abstracts, while 12 (24%) used structured abstracts.

The lengths of the abstracts were calculated using the UNIX tools such, as *grep* and *awk* (Friedl, 2009). In Table, the average number of tokens in each journal's abstracts is shown in the right-most column. For the purposes of this study, a token is defined to be a word that is separated from its neighbors by blank space (Kim, 2013). For operational purposes, the notion of a token is more precise and consistent in measuring the lengths of abstracts than the notion of a word. Among journals using traditional abstracts, the average number of tokens in each abstract is smallest for *Information Systems Management* (82.7 tokens), and largest for *Information Systems Research* (210.3 tokens). For journals using structured abstracts, the average number of tokens is smallest for the *Health information and Libraries Journal* (160.0 tokens), and largest for the *Journal of Enterprise Information Management* (266.1 tokens). As shown, there is a substantial overall difference in the average numbers of tokens in traditional abstracts and structured abstracts. The overall average number of tokens in structured abstracts is 224.0, whereas the overall average number of tokens in traditional abstract is 165.5. Consequently, on average, structured abstracts are 59 tokens (26%) longer than traditional abstracts.

〈Table 1〉 The Lengths of Structured and Traditional Abstracts

	Index	H-Index Rank	Publication Name	# of Abstracts	Avg. # of Tokens
Traditional Abstracts	1	1	IEEE Transactions on Information Theory	2632	161.1
	2	2	Journal of Chemical Information and Modeling	1816	195.2
	3	3	Information Systems Research	375	210.3
	4	4	Journal of the Association for Information Science & Technology	531	172.0
	5	5	Scientometrics	1909	171.2
	6	6	International Journal of Geographical Information Science	769	207.6
	7	7	European Journal of Information Systems	222	179.9
	8	8	Information Processing and Management	465	179.3
	9	9	International Journal of Information Management	473	166.7
	10	10	Government Information Quarterly	418	168.0
	11	11	Journal of Health Communication	742	181.5
	12	12	Journal of Information Technology	126	187.0
	13	13	Social Science Computer Review	281	163.0
	14	15	Journal of Information Science	363	163.4
	15	16	Information and Organization	88	185.2
	16	18	Journal of Academic Librarianship	435	131.4
	17	19	Information Retrieval	165	196.1
	18	20	Information Systems Management	160	82.7
	19	21	Information Communication and Society	496	184.6
	20	22	Library and Information Science Research	228	167.9
	21	25	D-Lib Magazine	286	135.9
	22	26	College and Research Libraries	195	111.3
	23	28	Library Trends	258	160.6
	24	29	Ethics and Information Technology	168	177.0
	25	31	Language Resources and Evaluation	217	156.4
	26	32	Research Evaluation	129	180.5
	27	35	Journal of Classification	126	142.1
	28	36	Proceedings of the ASIST Annual Meeting	198	147.4
	29	37	Journal of Information Science and Engineering	661	162.8
	30	38	Lecture Notes in Control and Information Sciences	364	129.4
	31	39	Library Quarterly	111	132.6
	32	40	Social Science Information	196	155.1
	33	44	Reference and User Services Quarterly	58	142.0
	34	45	Information Resources Management Journal	116	147.8
	35	46	International Journal on Digital Libraries	96	191.6
	36	47	Information Technology and Libraries	91	124.5
	37	48	Education and Information Technologies	291	175.6
	38	50	Archival Science	144	170.1
				Average	165.6
Structured Abstracts	1	14	Journal of Documentation	332	230.0
	2	17	Journal of the Medical Library Association	206	164.6
	3	23	Online Information Review	325	229.3
	4	24	Journal of Enterprise Information Management	238	266.1
	5	27	Information Research	319	195.7
	6	30	Information Technology and People	163	263.4
	7	33	Health information and Libraries Journal	202	160.0

	8	34	Aslib Journal of Information Management	98	252.7
	9	41	Journal of Cheminformatics	326	252.0
	10	42	Electronic Library	370	256.8
	11	43	Library Hi Tech	304	225.6
	12	49	Reference Services Review	246	217.9
				Average	224.0

Discussion and Conclusion

This study showed that structured abstracts are, on average, 26% longer than traditional abstracts. One reason for this length difference is that certain components of structured abstracts can be omitted from traditional abstracts, whereas the specified components of structured abstracts must be filled in explicitly using pertinent sentences. Although limited by the dataset we used, our results have implications for setting journal submission guidelines. Based on our results, the larger length of structured abstracts should be taken into consideration by journals which publish short articles. In addition, the average and maximum numbers of tokens in both types of abstracts obtained in this investigation suggest that traditional journal abstracts should be limited to approximately 225 words (tokens), while structured abstracts should be limited to approximately 275 words (tokens).

Our results also have implications for authors who submit their articles to journals in LIS. It may be prudent for novice authors to pay careful attention to the average lengths of abstracts in their targeted journals when preparing the abstracts for their papers. Abstracts that substantially deviate from the normal length may generate concern among reviewers. Additional empirical investigations of the lengths of abstracts using various datasets should benefit authors and journal publishers in their respective domains of interest. Future studies may examine the relative lengths of abstracts with respect to the specific research methods employed, such as content analysis, qualitative studies, and quantitative studies.

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