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Communications of the Association for Information Systems

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Journal Self-Citation X: Requirements on References – Can They be Justified?

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Abstract:

The paper discusses the possibility of introducing quantitative and qualitative requirements on references/citations in academic publications having in mind the goal of creating recommendations on reference usage. Quantitative requirements concern the number of references, while qualitative requirements concern types of publications to which the references are made. To reach the goal, the classification of contexts of reference usage is suggested. It differentiates three categories of references, namely: (a) references to foundations of the current research, (b) references to the core knowledge in the discipline, and (c) references to (loosely) related research works. Possibilities of introducing quantitative and qualitative requirements for the first two categories of references are limited. For the third category of references, both quantitative and qualitative requirements can be justified. Based on the suggested classification, the paper also discusses such issues as meaning of the impact factors and misuse of references. The paper is based solely on the experience of the author in reading, writing, editing, and reviewing academic publications, and it should be considered as a preliminary framework for further research.

Keywords: professional communication, citation, reference

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I. INTRODUCTION

This paper is a reaction to a policy adopted by an academic journal formulated in the following manner:

"... all articles that are accepted for publication to <journal x> should cite at least five <journal x> articles. This is common practice for all top journals."

The first reaction to such a statement is to reject it without any detailed consideration. Particularly irritating is the statement about common practice, which cannot be true unless all top journals (whatever this term may mean) openly publish similar statements on their respective Web sites. However, rejecting the above policy of this particular journal will not guarantee that this or other journals explicitly or implicitly adopt similar policies in the future. The best way to deal with this kind of policy, in my view, is by creating recommendations on the use of references in academic publications.

Existence of recommendations on the use of references accepted by the wider academic public will make it difficult for individual journals to create policies that totally contradict these recommendations, while leaving them the option of creating specific policies that do not contradict them. In the latter case, they can openly publish their policies without being afraid of being criticized.

This paper can be considered as preliminary research into the topic that may lead, in the end, to creation of recommendations on the use of references. The policy statement above puts forward a combination of two different types of requirements:

- A requirement on a number of references, which we call a quantitative requirement. That is, a requirement on a minimum number of references of a certain type.
- A requirement on reference sources, which we call a qualitative requirement. That is, a requirement to refer to the papers published in a particular journal.

The goal of this paper is to investigate whether quantitative and qualitative requirements on references can be warranted, and if so, in what cases and why. We widen our task from considering the particular requirements above to considering any type of quantitative and qualitative reference requirements. In the end, we would like to be able to judge whether reviewers' comments of the following types:

- too few references
- no reference to a particular article

can be considered appropriate and when.

In this paper we suggest the following three step approach for reaching the stated goal:

1. Define the purpose of using references in research publications
2. Classify the contexts of reference usage
3. Discuss the appropriateness of various quantitative and qualitative requirements on the references in different contexts

The results of application of this approach will certainly depend on the definition of the purpose of references, and the choice of classification of contexts. Accepting different definitions and different classifications can produce different results. The definition and classification suggested in this paper are by no means final, and they need to be discussed further. The paper should be viewed as an exercise in using the suggested three step approach. The paper is based solely on the author's experience as an author, reader, member of review boards (both regular and occasional), and editor of special issues of academic journals. No attempt to scan the existing literature on the topic has yet been made. Therefore the reflections presented in the paper may or may not be new or original.

II. PURPOSE OF USING REFERENCES

An academic paper is a communication between the authors of the paper and its readers. Therefore, any part of it, references/citations included, should be looked at from the point of view of whether it serves the goal of making the authors' message understood by the readers. The reviewers, editors and publishers concerns are secondary in this respect.

The above statement makes sense only if we assume that the goal of publishing a paper consists of conveying some message to potential readers. If a paper is written for some other purpose, and conveys no message, then the kind of references it contains does not matter. However, in this case, the question arises whether it is appropriate to write and publish such papers, because they contribute to creating a noise that hinders the readers to find information they seek. By saying that a paper should convey a message, we do not imply that the material presented in the paper needs to be completely new. For example, conveying to the readers in a certain research domain some results achieved in another domain in terms understandable for the researchers working in the first domain should be considered a legitimate goal.

Furthermore, unless a paper is a literary survey, we consider that the role of references is subordinate in conveying the message of the paper, i.e., the message itself is expressed by other means. References help to differentiate what is known from what is new in the paper, put the paper in the context familiar to its presumptive readers, and provide recommendations on where to find more information related to the material of the paper. Any reference that does not meet these purposes will only confuse the reader and hinder in understanding the main message of the paper.

Note 1: Though I met people who used a reference list for determining whether a paper is worth reading, I believe (or at least hope) that this is not a common practice. There are other means of attracting the attention of potential readers such as title, abstract, keywords, introduction, and the choice of journal in which the paper is published.

Note 2: In some papers, references are used as a way of referring to certain knowledge (e.g., facts, theories) which the authors do not bother to explain and briefly summarize in the paper. In my view, this is not a proper use of references, as they require a reader not familiar with the referenced knowledge to go somewhere else to obtain this knowledge. If a reader is not eager to read a paper with this kind of references, he/she may not read the paper at all.

Note 3: References can have secondary usage, e.g., for calculating impact of a publication on the development in a research discipline. However, if manipulating the impact factors becomes the main goal of using references, the factors themselves become meaningless and their usage unreliable.

III. CLASSIFICATION OF REFERENCE USAGE

In my view, the usage of references is warranted in three situations:

1. References to the works by the authors, or other researchers on which the research reported in the current paper is built or which influenced the current research in some way.
2. References to the works that represent core knowledge used in the paper, which are needed to show that the authors do not claim the discovery of this knowledge.
3. References to the works somehow (sometimes loosely) related to the current research. These references are usually found in the "related research section." Such references are needed to help the reader better understand the current paper by properly placing it in context among other research works (presumably) known to the potential readers. These works may not have influenced the current research. These types of references are often gathered after the research was completed.

IV. DISCUSSION

In our discussion, we consider each of the three types of contexts described in the previous sections separately to see whether requirements on references (quantitative or qualitative) make sense for each of them.

References to Foundations

References of this type depend on what the authors chose as a foundation for their research. Requirements on this type of references cannot be considered as requirements on the papers themselves. Rather, they are requirements on the type of research the authors are invited to submit. A scientific journal (or other type of publication) certainly has the right to limit the kind and subjects of research they want to publish. However, using an implicit method of introducing such limitations through requirements on references is strange. There are other ways of expressing limitation on the kind of research accepted for publication. For example, this can be done by choosing an

appropriate title such as “Journal of xxx Method”, or in the detail definition of the scope of the papers invited for submission.

Sometimes reviewers make comments that “such and such” references should be included, while more or less explicitly meaning type 1 references. One example of such a comment is as follows:

The authors should insert an xxx-based method ... (e.g., see yyy). Such a method makes it possible to model ... clearly and consistently rather than use textual descriptions that are ambiguous.

While comments of this type are fully acceptable, in my view, the reviewer needs to realize that he/she is asking the authors not just to rewrite the paper, but also to re-do their research. I believe that it should be mentioned explicitly. First of all, the reviewer should judge the current paper and reject or accept its underlying research. Then he can suggest doing the research over based on some references. In the case of rejection, suggesting doing the research over is quite acceptable. In the case of acceptance, the reviewer needs to evaluate the amount of work and additional space required for implementing his/her suggestion. If the suggestion requires substantial extension of the paper, the reviewer may consider advising the author to write an additional paper.

References to the Core Knowledge

It is difficult to imagine how qualitative reference requirements that concern core knowledge could be formulated. I believe that the current practice is to refer to historically first works, or to well known books on the topic. I do not see any reason for changing this practice.

Quantitative requirements are a different matter. While I can accept referring to several sources for the readers' convenience, I cannot justify citing too many references. Excessive use can distract readers from the main topic of the paper.

References to the Related Works

The goal of the references to related works is to put the current research into context familiar to the readers. Selection of these references depends on the journal, more exactly, on its profile. Sending a paper to a different journal may require total revision of this type of references. Qualitative requirements for this kind of references, in my view, should be considered as appropriate. For example, if we assume that a journal had a hardcore set of subscribers who are readers, then preferring relevant references from this journal makes sense.

Quantitative requirements for references to related works can also be set, but they should be modest. Including too many related references may result in the readers losing the main thread of the paper. Considering the rapidly growing number of publications in IS related domains, it is not possible to analyze all works related to a subject of a particular paper. Suggestions to include more references of this type when there already are enough of them should be avoided, unless a reviewer can recommend which of the existing references can be removed without any harm to the quality of the paper.

V. CONCLUSION

Based on our discussion, we draw the following conclusions:

1. Reference requirements on the foundation of the underlying research cannot be warranted and should be avoided.
2. A tradition for using references to the core knowledge already exists. Quantitative requirements for core knowledge references can be set, but they need to be in the form of recommending both minimum and maximum numbers of references.
3. For related work, both qualitative and quantitative reference requirements make sense. However, they must be explicitly stated and explained. Just requiring a certain number from the same journal is exceptionally suspicious.

Based on the discussions in Sections III and IV, we can also critically assess the value of impact factors calculations. Real impact can be measured based on the references of Type 1, and perhaps Type 2. References of Type 3 show the correlation between works, not the impact factor. This correlation can be used, for example, for clustering works by topics. Because it is not possible to separate references of Type 1 and 2 formally from references of Type 3, we do not actually have a way of knowing how much of the impact factor vs. the correlation is presented in the calculated numbers. For example, if we assume that an average paper has more references of Type 3 than Type 1 and 2, the impact factor, in reality, is a correlation factor. Though this assumption may be too

extreme, it is difficult to imagine that references of Type 1 represent the major part of references in an average paper.

As far as manipulation of impact factors is concerned, the easiest way to manipulate them is by inserting extra references of Type 3. Introducing a limit on the maximum number of references to related works may help make such manipulation more difficult. This cannot exclude the possibility of manipulation altogether. To limit the manipulation, we need to understand the motives behind such activity. In my view, the real reason lies in these factors being widely used in areas only loosely related to research, such as assessment of quality of candidates for an academic position, or obtaining research funds from governmental agencies. In these areas the “factors” fall in the hands of individuals who do not understand the reality behind the numbers, and who may trust them as if they were given by God. Limiting the direct or indirect reliance on the impact factors (e.g., the number of works published in the “top” journals) in these areas may help to reduce the manipulation.

ABOUT THE AUTHOR

Dr. Ilia Bider is director of R&D and co-founder of IbisSoft. He is an active proponent of Douglas Engelbart’s vision that the aim of a computer system is to enhance human intellect rather than substitute it or turn humans into slaves. Dr. Bider has combined experience of more than 30 years of research and practical work in five countries. He is the inventor of the state oriented business process modeling technique, and the author of many research papers, as well as articles for practitioners. He frequently holds tutorials at international conferences, and he sits on the editorial board of several academic journals.

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