

**RIDING THE WAVES OF PUBLICATION:
A CITATION ANALYSIS OF THE PROCEEDINGS OF IAMSLIC, 1984-1994**

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ABSTRACT: This study examines the eleven years of published proceedings to determine 1) types of papers presented, 2) the distribution of citations by type, date, and most cited publications, and 3) trends in authorship.

INTRODUCTION

In 1975 IAMSLIC had its start when east coast librarians were invited by Carol Winn to a meeting in Woods Hole. That first meeting included 23 librarians from the United States, three from Canada and one from Bermuda. The program was a series of workshops, tours of the libraries, a field trip by boat around the area, and a demonstration of computer-based information retrieval. The workshops included discussions of Sea Grant publications, interlibrary loan, reprints and exchanges, archives, maps and charts, and international publications. (Winn).

The organization continued to grow and by 1978, at a meeting in Woods Hole, became the International Association of Marine Science Libraries and Information Centers. At the 1990 annual meeting in Seattle, it was decided to include the aquatic libraries to underscore our commitment to freshwater libraries (Thomson)

The importance of the annual conference as a way of learning from one another also continued to grow. The need to share this information with those unable to attend the conference and a wider distribution of the information presented was a concern of the members. At the 10th annual conference, held in Woods Hole in 1984, the IAMSLIC Executive Board agreed to publish the papers presented. These papers have served a variety of purposes to meet the needs of staff and scientists from the participating organizations. These papers have included: descriptions and histories of specific programs, libraries and library resources; library methods we use; current issues; comparisons and descriptions of products of particular use to aquatic and marine library users.

This study examines the eleven years of published proceedings to determine: 1) characteristics of the authors 2) the distribution of citations by type, date, and most cited publications 3) in the types of papers presented.

METHODS

Lotus 1-2-3, version 4 for Windows was used to record and tabulate detailed information regarding articles, authors, and citations in the eleven volumes. Articles were looked at to determine their primary focus. The main areas were:

- 1) histories and general descriptions of organizations, including laboratories, libraries and groups,
- 2) descriptions of electronic resources,
- 3) applications of library methods,
- 4) descriptions of the resources and special collections of specific libraries,
- 5) comparisons of specific products.

Some judgments were made in this categorization. For instance, articles about electronic databases converted from a manual system were categorized according to the emphasis of the article. If the emphasis was on the new electronic resources it would be placed with electronic resources. If the article was more a description of the methods used to decide if something should be put in electronic format, it was placed in library methods. We recognize that this cannot be a totally objective undertaking; however, we tried to apply consistent criteria in this determination.

In each category the number of pages, and number and date range of citations per article were determined. The date range is simply the earliest and latest date of the articles cited. The citations per article were grouped according to source type:

- 1) books on library related topics,
- 2) books in other areas,
- 3) articles in library journals,
- 4) journal articles,
- 5) government documents,
- 6) IAMSLIC Proceedings and Newsletters,
- 8) other proceedings,
- 7) Notes and personal communications.

The characteristics of the authors were also examined to determine country and type of institution. The several papers written by authors with United Nations (UN) affiliation were grouped as an entity in the country category. The institution types were academic institution, publisher, research institution, governmental organization.

RESULTS

THE PAPERS

In these eleven years 292 papers have been published in the proceedings, for an average of 26.5 papers and median of 25 per year. The number of papers has ranged from 18 at the 10th conference in 1985 to 38 at the 14th in 1988. The number of pages ranged from 160 pages in the 12th to 300 pages in the 14th with an average of 195 pages and median of 236.

The eleven volumes had 1,513 citations. Slightly over 43% of the papers or 127 had no references. Only 7.5% or 16 of the papers presented were published only as abstracts and two of these had references to the complete paper that was to be published in a different source.

Topic Group	number of papers	% of total papers	number with cites	% with cites for topic	% of total cites
Lab/libraries/ services/groups, etc.	91	31.1%	42	46.2%	25.5%
Electronic Resources	25	8.6%	15	60.0%	9.1%
Library Methods	98	33.6%	69	70.4%	41.8%
Specific Resources	50	17.1%	23	46.0%	13.9%
Products	28	9.6%	16	57.1%	9.7%

Figure 1. Papers with references.

The earliest citation was to *Historie Physique de la Mer*, 1725 (Thiery, 1985). Other early references include Darwin's *The Voyage of the Beagle*, 1860, cited by Davis-Merlen in her 1994 paper on the Charles Darwin Research Center. All of the pre-1900 dates are found in the histories and general descriptions of organizations. The earliest reference used in the electronic resources, 1985, reflects the newness of this topic. However, there is a 1911 reference in the product comparison category.

THE AUTHORS

A total of 337 authors wrote the 292 papers. The average number of authors per paper is 1.15 with a range from one to five, with the vast majority, almost 76%, being single author papers.

The number of authors per volume ranged from 18 in the 10th to 42 in the 14th. The average is 30 and the mean is 29.

	One author	Two authors	Three authors
10th	18		
11th	21	4	
12th	20	2	
13th	22		
14th	35	2	1
15th	27	3	
16th	23	6	2
17th	21	4	
18th	21	7	1
19th	25	1	1
20th	23	2	
TOTAL # of papers	256	31	5
Percentage of total	87.67%	10.62%	1.02%

Figure 2. Number of authors per paper.

The authors come from a variety of backgrounds. 47.5% were from academic institutions, 28.5% were government employees (including United Nations employees), 19.3% were from research institutions, 3.0% were publisher representatives, and 1.2% were from commercial groups. Only two authors (0.6%) did not list affiliations.

The authors represent 29 countries. These countries were grouped into six geographic areas:

- 1) North America including Canada, Mexico and the United States;
- 2) Central and South America and the Caribbean including Brazil, Ecuador and Trinidad;
- 3) Europe including Denmark, France, Germany, Greece, Iceland, Italy, Malta, the Netherlands, Poland, Russia, Sweden, and England;
- 4) Africa including Cote d'Ivoire, Kenya, Senegal, and South Africa;
- 5) Pacific Rim including Australia, Fiji, and the Philippines;
- 6) Asia including China, India, Indonesia, Japan, Sri Lanka, Taiwan, and Thailand.

Region	Number of papers	% of total papers
North America	248	73.6%
South America	3	0.9%
Europe	50	14.8%
Africa	11	3.7%
Pacific Rim	15	4.5%
Asia	10	3.0%

Figure 3. Author countries.

CITATIONS

Of the 1,513 total citations 41.4% are to journals, 33.4% to books, 14.9% to government publications, 7.5% to proceedings (3.4% to IAMS LIC Proceedings), and 2.8% to notes and personal

communications. Books were cited most in the organization description papers (10.77% of citations in category) and least in the product comparisons (1.6%) (Figures 4 and 4a).

The most cited library and information science journals (ten or more citations) were:

CD-ROM Librarian
Collection Management
Current Contents
Database
JASIS
Library Journal
Online
Online Review
Science and Technology Libraries
Special Libraries

Most the organization histories are simple descriptions of the facilities. Many do not have references. Of the 417 citations in this category 39.1% were to books. Government documents were also significant in this area with almost 25% of the citations to them.

The citations in the papers on electronic resources presented somewhat of a surprise. Papers in five of the eight volumes had no references to journals and in six of the eight volumes had no references to library journals. The 14th Proceedings had no papers on electronic resources with references. What was most surprising was that almost one-third of the citations came from books and only 50% from journals.

Not surprisingly, the papers on applications of library methods cited more library books and journals (42.3%) in category and 54.4% of all citations to library books and journals.

Descriptions of the resources and special collections of specific libraries accounted for 16.5% of the total study. Books are the most highly cited category of materials (35.2%).

Comparisons of specific products cited the IAMSLIC Proceedings and Newsletter because these papers often expanded earlier papers and/or used the same methods. As this type of article became popular in the general literature and we implemented more databases, more papers were presented at the Annual Meeting. Almost 60% of the citations were from two proceedings, the 15th and 17th.

The first citation to an IAMSLIC publication appeared in the very first published proceedings. It was to the *Directory of Marine Science Libraries and Information Centers*, which was published in response to the need for name/address information. The first citation to the IAMSLIC proceedings by another author in the proceedings occurred in the 14th Proceedings and it was to the entire 11th Proceedings.

Both the 15th and 16th proceedings have been cited seven times. The most cited article in the proceedings is Stephanie Haas' article "Gaps and overlaps: a comparison of CD-ROM coverage of Selected Water Resources Abstracts, Wildlife Review/Fisheries Review and ASFA" in the 16th. The highest percentage of citations to IAMSLIC Proceedings was in the electronic resources area.

Citations per country of origin were tabulated. Most of the references were published in the United States. After attempting to list each country of origin, it was realized that it would be a listing of most of the countries on Planet Earth. We listed the United Nations as a separate entity that accounted for 0.8% of the references. We then looked at the remaining countries. Clearly the United States led (69.0%), followed by Canada (6.4%), and the United Kingdom (3.4%)

THE CONFERENCE ATTENDEES

As an aside we also looked at the number of number of attendees at each conference. These participants represent 44 countries.

The IAMSLIC Executive Board has speculated occasionally about the effect of location on the attendance. At various times, the existence of direct flights, the cost of accommodations and other factors related to the location of the conference have been cited as the reason for variations in attendance. After looking at the attendees, we can draw no firm conclusions other than that attendance is most probably economically driven, with no one factor being the deciding one.

	North Amer.	South Amer.	Europe	Pacif Rim	Asia	Africa	Total Attend.
10th	94.2%		2.9%		2.9%		104
11th	85.7%	3.5%	5.2%		5.2%	0.9%	115
12th	98.4%		1.6%				63
13th	92.0%		5.3%			2.7%	75
14th	75.3%	7.5%	7.5%	3.2%	2.2%	4.3%	93
15th	86.5%		9.5%	2.7%	1.4%		74
16th	83.3%	1.4%	5.6%	5.6%		4.2%	72
17th	88.3%		6.5%	2.6%	1.3%	1.3%	77
18th	37.8%	1.4%	51.4%	4.1%		5.4%	74
19th	80.2%	2.2%	9.9%	4.0%	1.1%	2.2%	91
20th	74.2%	1.5%	9.1%	7.6%	6.1%	1.5%	66

CONCLUSIONS

Gone are the days of describing ways how we do things. The IAMSLIC Proceedings now emphasize ways to do things better. Barb Butler's paper on the one person library is a good example of this. The numbers of papers comparing products and services demonstrate our need, in times of declining budgets and increasing information, to be selective of what we have in our collections and how we provide information.

While we have had some collaborative efforts across countries, they have primarily been descriptions of programs. We would encourage people to look at research projects and comparisons of services in different countries.

The Proceedings suggest that IAMSLIC is continuing to reflect the original goals of the conference -- to share information about our institutions and how we manage our library resources.

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