

Librarian as Researcher and Knowledge Creator: Examining Librarian's Research Involvement, Perceived Capabilities and Confidence

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Abstract:

This paper seeks to investigate the current research practices of Filipino librarians, examine their confidence with the research process, determine how they learned their research skills, and explore their research involvement and productivity from 1993-2013. A survey was conducted to determine the research performance and participation, perceived capabilities and confidence, and training needs of librarians from different types of libraries in the Philippines. Published works and paper presentations of licensed Filipino librarians were also analyzed using informetric technique to examine the research patterns and to identify which Library and Information Science (LIS) fields have highest number of research papers. While majority of the librarians have conducted research after completing their bachelor and/or master's degrees in LIS, there is no predictable trend of research growth between 1993 and 2013. The number of librarian-researchers as well as the publication of research findings was quite insignificant, thus knowledge sharing among Filipino librarians is not a

prevailing research activity. The contributions of practitioner-researchers are higher than academics-researchers. Most librarians preferred conducting research individually. Findings revealed that research outputs are heavy on the Information Industry Economics and Management. Although majority of the respondents believe that their LIS degrees prepared them to conduct original research, they feel the need for training on designing conceptual/theoretical framework, statistics, and reporting results in written format. Filipino librarians need to engage in research not just for the benefit of the patrons but for professional development as well.

Keywords: Librarians, evidence-based research, research skills, training needs, research productivity.

Introduction

Providing information and conducting research are two different albeit, closely related activities. Librarians have been known to be forerunners of the former, while the notion is that they exist to support the latter. While this may be true in decades past, lines between the two have continuously blurred, if not eliminated, due to the work of librarians. Although they have a clear understanding of the research process and provide support to library patrons in pursuit of research agendas, librarians generally do not conduct and publish research. McCluskey (2013) argues that as a librarian, one can support research by engaging in the process itself, thus transcending into knowledge creation from merely providing information. Thus, a librarian becomes a knowledge creator when one engages in research.

While it has been stated that librarians make themselves “indispensable” to researchers by becoming researchers themselves, the quintessential question still remains -- must librarians conduct research for the sake of research, or simply to improve the level of service given to patrons? Is research then the end, or merely a means to an end? Watson-Boone (2000) maintains that research not just improves the provision of service to patrons, but the practice of librarianship in general.

This study investigates the current research practices of Filipino librarians, examines their confidence with the research process, determines how they learned their research skills, and explores their research involvement and productivity from the years 1993 to 2013. The working definition of research in this study is borrowed from Kennedy and Brancolini (2012, p.432) which includes “theoretical research, designed to advance knowledge in the field of Library and Information Science (LIS), and operation research, planned to inform decision making.”

Literature Review

Several studies have been conducted on the research productivity of librarians and faculty of LIS in foreign countries, but no research made locally (Watson 1985; Fenske & Dalrymple 1992; Joswick 1999; Weller, Hurd & Wiberley 1999; Bahr & Zemon 2000; Kardash 2000; Watson-Boone 2000; Henry & Neville 2004; Fennewald 2008; Aharony 2011; Damasco & Hodges 2012; Kennedy & Brancolini 2012; Kwanya, Stilwell & Underwood 2012; Ocholla, Ocholla & Onyancha 2012; Okonedo & Popoola 2012; McCluskey 2013; Wilson 2013). Many of these defined and described the research patterns of academic librarians. Results reveal that women publish more than men; that collaboration among librarians is increasing; and that academic librarians in South Africa preferred publishing individually (Joswick 1999; Weller, Hurd & Wiberley 1999; Henry & Neville 2004; Ocholla, Ocholla & Onyancha 2012).

Kennedy and Brancolini (2012) concluded that, regardless of the issues and barriers to research, such as research time, quality-utility balance, and role conflict, academic librarians are actively involved in the research process. Although participants agreed that their LIS master's degree satisfactorily trained them to read and understand research, they believe that it did not prepare them to write original research (Kennedy & Brancolini 2012). In relation to this, Fennewald (2008) found out that several librarians credited their degree in English or History rather than Library Science for their research skills. Interesting studies were also conducted to investigate the factors influencing research productivity among librarians (Fenske & Dalrymple 1992; Fennewald 2008; Kennedy & Brancolini 2012). Their findings reveal that institutional expectations and support, educational training and preparation, and confidence are indicators that more likely affect the research productivity.

Watson-Boone (2000) and Wilson (2013) explained the concept of a librarian practitioner-researcher. Furthermore, Watson-Boone (2000) argued that practitioner-researchers address problems not only by using practical knowledge but by conducting practice-based research, e.g. action research, case study, assessment study, survey research, and others. In other words, a librarian practitioner-researcher, as Wilson (2013, p. 112) described it, is "someone on the inside looking around, observing and attempting to understand what's going on for the benefit of how things are working on the inside."

Kwanya, Stilwell and Underwood (2012) went as far as creating a competency index for research librarians in Kenya. The authors used documentary analysis, interviews, social network analysis and focus group discussions to find out the skills, attitudes and personality traits that are essential to research librarians in Kenya. This study reported that the importance of interpersonal, management, information communication technology, and research skills are becoming more essential for research; thus the development of these said skills must be given prime importance through training and retraining programs.

Research Methodology

A survey using a modified instrument based on the studies of Henry and Neville (2004), Kardash (2000), and Kennedy and Brancolini (2012) was administered to determine the research involvement and productivity, perceived capabilities and confidence, and training needs of Filipino librarians. The questionnaires were disseminated personally and online. Email invitations with the URL of the online survey were sent to librarians and e-groups of Philippine library associations. Requests for participation were likewise posted on the *Facebook* pages of various library associations to retrieve more responses. The link to the online survey was available to anyone who chose to participate. The survey was valid from September 2013 to mid-April 2014. A total of 325 librarians participated in this study. Incomplete surveys and non-librarian responses were excluded. Descriptive data were compiled and analysed using SPSS 20.

The study also utilized the informetric technique to examine the pattern of librarian's research outputs and to identify which LIS fields have highest number of research papers. A list of Filipino licensed librarians was downloaded from the *Facebook* page of the Philippine Association of Academic and Research Librarians, Inc. (PAARL). As mandated by Philippine law, Filipino librarians need to acquire a license to practice the profession by passing the licensure examination. The study includes licensed librarians both practitioner-researchers (practicing librarians who are employed in libraries/information centers) and

academics-researchers (librarians who teach in LIS schools). To obtain the research articles, books, and book chapters, each librarian's name was searched in the Google, library online catalogs, and subscription databases of De La Salle University, Ateneo De Manila University, and the University of the Philippines Diliman. Published articles, books and book chapters, as well as research papers presented at conferences from 1993 to 2013 were included in this study. Book reviews, research notes, theses, regular columns, and news articles were excluded from consideration.

Moreover, research-based articles published in the *Journal of Philippine Librarianship* from 1993 to 2013 were included. Additional works were identified in response to a request addressed to all respondents who expressed their interest to send the list of their research works. Note that some of the identified librarians who have published/presented research did not participate in the survey. After data were collected, the information (e.g. author, title, source, publication year, authorship, format, subject, and organizer if presented in a conference) were encoded in MS Excel for analysis. Each Filipino librarian constituted an entry. For collaborative research, separate entries were made for each author. Each author gets one credit for solo article. For multiple authors, credit was assigned fractionally to each author. Therefore, each author of two-author papers was given .50 credits and .20 credits for each author of five-author papers.

Findings and Discussion

1. Librarian's Demographics

Overall, female librarians comprised the 73% (237) of the total 325 respondents. Interestingly, the majority of the respondents are below 40 years old wherein 24% belong to 31-35 age group. Almost 75% of the total respondents are working in the National Capital Region (Metro Manila). The majority of the librarians who responded identified themselves as full time and permanent in their work. Approximately 59% of the total respondents were affiliated with academic libraries while 16% were teaching in both public and private LIS schools. Eighty-four percent (84%, 273) of respondents are practicing librarians. In general, librarian's position is eligible for tenure and promotion. Of those respondents, 89.7% have been through the tenure and/or promotion process. Furthermore, the bulk of the respondents were not required to submit research-based articles for tenure and promotion. Libraries and LIS schools support practitioner-researchers and academics-researchers in their research endeavors in numerous ways: workshops or other forms of continuing education (26.5%); research grants (18.9%); full reimbursement of travel funds (15%); partial reimbursement of travel funds (11.2%); and release time (10.6%). On the other hand, 45 respondents receive no research support from their institutions.

2. Keeping Current with Research Literature

Similar with the findings of Kennedy and Brancolini (2012), the vast majority (305, 94%) of the respondents said that it is assumed, as part of their job, that they will read research-based literature. Of those librarians, 76% are allowed time on the job to do so. Only 35.4% of the respondents reported that their library/institution subscribes to any LIS journals. Fifty percent

(50%, 163) revealed that they regularly scan the tables of contents or abstracts of research-based articles in any LIS journals. Ninety (90, 27.7%) respondents regularly read the full content of research-based articles in any LIS journals. This implies that respondents who have no subscription regularly scan the tables of contents/abstracts of open-access LIS journals, such as *College & Research Libraries*, *Journal of Philippine Librarianship*, *Library Journal*, etc. and that a few number of librarians with access to any subscribed LIS journals do not read the full content of the articles.

Most of the librarians who regularly read research articles identified *Journal of Philippine Librarianship* as the main journal they read, followed by *College & Research Libraries*. The *Journal of Philippine Librarianship* is an open-access online journal published by the UP School of Library and Information Studies that publishes articles about librarians and libraries, LIS education, librarianship, library cooperation, and library associations in the Philippines.

Respondents cited the following reasons for not regularly reading research-based articles: no time for reading (148, 42.8%); do not have enough expertise in research methods (39, 11.3%); not expected to write a research-based article (37, 10.7%); prefer to read essays (36, 10.4%); do not enjoy reading research articles (24, 6.9%); not expected to read research-based articles (24, 6.9%); do not consider research-based article relevant to work (20, 5.8%); no subscription to LIS journals (13, 3.8%); and reading only when there is a need (5, 1.4%).

3. Learning the Research Skills

As might be expected, 83% of the respondents think that their LIS degree(s) have adequately prepared them to read and understand research-based literature. Furthermore, 76.9% of them believe that their LIS degree(s) adequately equipped them to conduct original research. Respondents were also asked how they learned their research skills. The top four answers are through formal bachelor's degree LIS courses (89 respondents, 26.1%); formal master's degree LIS courses (82 respondents, 24%); continuing professional education programs (77 respondents, 22.6%); and self-education activities, such as professional reading, and online tutorials (59 respondents, 17.3%). Although majority of the librarians in this study believe that they are prepared to conduct original research, 95.4% of respondents feel that they need training on research writing to further enhance their capabilities and boost their confidence. Respondents expressed the need for more training on designing conceptual/theoretical framework, statistics, and reporting results in written format.

4. Perceived Research Capabilities and Confidence

4.1 Skills and Confidence Levels

Respondents were also asked to rate their confidence in doing the research process. Generally, Filipino librarians in this study have an average level of confidence in performing research tasks (average mean score = 3.98). A total of 126 respondents (38.8%) have an average level of research confidence; 101 (31.1%) are highly confident with research process; 46 (14.2%) are extremely confident with it; 34 (10.4%) have low research confidence level; and 18 (5.5%) have a very low confidence. As presented in Table 1, respondents are highly confident in the areas of “Understanding contemporary concepts in LIS”, “Performing a research literature review,” “Gathering data,” “Reporting results in written format,” “Thinking independently,” “Citing references using APA, MLA, etc.” Of these tasks, “Gathering data” yielded the highest mean score which indicates that the librarians being studied demonstrate a high level of confidence in preparing data collection tools, e.g. questionnaires, interview questions, etc., collecting of data, and measuring the variables of interests. On the other hand, “Designing an experiment or theoretical test of the hypothesis” yielded the lowest mean score (3.6). “Statistically analysing data” garnered a mean score of 3.7. These mean scores suggest that respondents have an average level of confidence when designing the conceptual and theoretical framework and analyzing the collected data using statistics.

4.2 Factors Affecting Research Confidence

Regression analysis in SPSS 20 using the enter method was conducted to assess the association of variables influencing research confidence levels. Level of significance was set at .05. The assumptions of the present study are: (1) librarians who have conducted research after completing LIS degrees tend to be more confident; (2) librarians who have disseminated research show high level of confidence; (3) librarians who regularly scan and read research-based articles are much more confident; (4) librarians who believe that their LIS degrees have prepared them to read and understand research-based literature as well as to conduct original research exhibit higher research confidence. Analysis reveals that Conduct Research after LIS and Research Confidence are dependent where the computed F-value is 23.802, $p = 0.00$, adjusted R square = 0.066, and t-value = -4.879 (see Table 2). This indicates that respondents who have conducted research since completion of their LIS degrees are more likely to have higher confidence level than those who have not.

Table 1 Research Confidence Level of Filipino Librarians
n=325

Research Tasks	Not at all confident	Not very confident	Somewhat confident	Confident	Very Confident	Completely Confident	Mean	Level
Understanding contemporary concepts in LIS	7	19	51	137	77	34	4.1	High
Identifying a specific question for investigation based on the research in LIS	7	24	73	119	86	16	3.9	Average
Performing a research literature review	5	28	53	120	91	28	4.1	High
Identifying research partners, if needed	6	27	85	110	69	28	3.9	Average
Designing an experiment or theoretical test of the hypothesis	9	35	119	88	64	10	3.6	Average
Gathering data	5	18	48	111	95	48	4.3	High
Statistically analyzing data	11	45	84	96	72	17	3.7	Average
Reporting results in written format	7	20	73	99	78	48	4.1	High
Reporting results verbally	10	24	78	106	79	28	3.9	Average
Relating results to the "bigger picture" in your field	7	29	73	105	71	40	4.0	Average
Thinking independently	9	23	66	101	77	49	4.1	High
Citing references using APA, MLA, etc.	7	20	61	91	92	54	4.2	High
Determining appropriate format for disseminating results (poster/presentation/article)	8	28	80	103	61	45	4.0	Average
Identifying appropriate places to disseminate results (publication/conference)	8	33	93	87	85	19	3.8	Average

Table 2 Regression Analysis of Research Confidence and Independent Variables

Independent Variables	Dependent Variables	F-value	Adjusted R square	T-value	P-value
Conduct Research (since completing LIS degrees)	Research Confidence Level	23.802	0.066	-4.879	0.00*
Disseminated Research	Research Confidence Level	77.764	0.192	-8.818	0.00*
Regularly Scan (Tables of contents/abstracts)	Research Confidence Level	24.442	0.067	-4.944	0.00*
Regularly Read Research Articles	Research Confidence Level	43.909	0.117	-6.626	0.00*
Prepared to Read and Understand Literature	Research Confidence Level	27.247	0.075	-5.22	0.00*
Prepared to Conduct Original	Research Confidence Level	11.936	0.033	-3.455	0.001*

* Highly significant at $\alpha=.01$

** Highly significant at $\alpha=.05$

As might be expected, Research Confidence is also associated with Disseminated Research with a significance level lower than $\alpha=.05$, thus, the assumption that librarians who have disseminated research show high level of confidence was accepted. Likewise, Regularly Scan (Tables of contents/abstracts) and Regularly Read Research Articles are negatively associated with Research Confidence. This association suggests that respondents who regularly scan and read research-based articles are much confident than those who are not. Moreover, those who believe that their LIS degrees have prepared them to read and understand research-based literature as well as to conduct original research display higher level of research confidence where the computed p-values are highly significant at $\alpha=.05$.

5. Research Involvement and Productivity

5.1 Research Productivity

Surprisingly, 71.4% (232) of the respondents have conducted research since completion of their bachelor/master's LIS degree. Of those, 124 (38.2%) respondents have published or presented their results to an external audience. Data showed that 56.5% (74) of respondents have presented a total of 134 research papers at international conferences, such as *IFLA World Library and Information Congress*, *Congress of Southeast Asian Librarians (CONSAL)*, *Asia-Pacific Library & Information Education and Practice (A-LIEP)*, *Special Libraries Association Annual Conference*, and *Rizal Library International Conference*. This suggests that several research outputs remained to be unpublished. It can be further deduced that knowledge sharing among the Filipino librarians being studied is not a prevailing research activity.

Among the respondents who have conducted research after earning their bachelor/master's degrees, 95 (40.9%) prefer to do it on their own; 78 (33.6%) collaborate with Filipino librarians outside their own institution; 56 (24.1%) collaborate with their co-workers; and 3 (1.3%) collaborate with librarians abroad. The publication channels used by Filipino authors during the period under study are shown in table 3. Sixty-nine (69) respondents have published in refereed journals like *Journal of Philippine Librarianship*, *IFLA Journal*, *International Information*, *Journal of Librarianship & Information*, *Library Hi Tech News*, *Library Management*, *Archival Science*, *Education for Information*, *IAMURE Multidisciplinary Research*, etc.

Table 3
Source-Wise Distribution of Published Papers

Publication Source	No. of Librarians	# of Published Research
Refereed journals	69 (52.7%)	116 (51.8%)
Conference proceedings	62 (47.3%)	24 (10.7%)
Non-refereed journals or magazines	18 (13.7%)	49 (21.9%)
Books (solo or co-author)	8 (6.1%)	17 (5.0%)
Digital repositories	3 (2.3%)	8 (3.6%)
Book chapters	6 (4.6%)	8 (3.6%)
Institutional websites	1 (0.8%)	2 (0.9%)

As illustrated in Figure 1, there is no predictable trend of research growth between 1993 and 2013. Notice that after a gentle rise in 2000-2002, the research outputs decreased significantly in 2003. The same pattern was observed in 2003-2007 and 2007-2010. The same findings were discovered by Ocholla, Ocholla & Onyancha (2012) where the real reasons remained to be undetected. Despite the unpredictable trend of growth, an average of 31% (24 researches) annual increase was recorded in the last 10 years. The year-wise productivity analysis reveals that 2013 was the most productive year with 50 (16.9%) research papers followed by 2008 and 2009 with 28 (9.5%) papers each. Observed that a significant decrease of research outputs was spotted in 1995 (-83%), 1997 (-75%), 2003 (36%) and 2007 (36%).

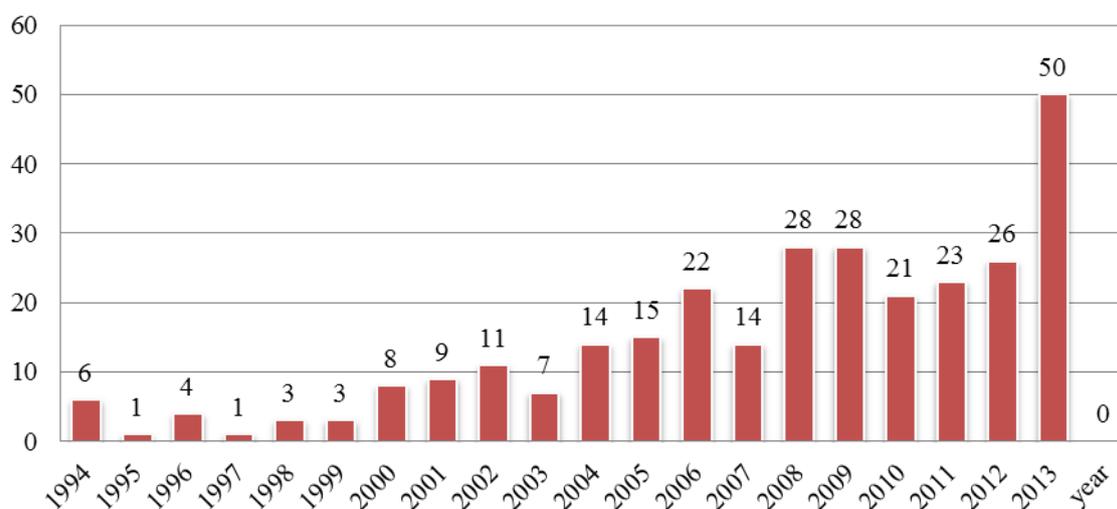


Fig. 1 Year-Wise Distribution of Research Papers

5. 2 Author Characteristics

Of the 367 entries, this study has identified 295 published works and paper presentations of 131 librarians who constitute the 1.8% of the total licensed Filipino librarians as of March 2014. The number of librarian-researchers as well as the publication of research findings was quite insignificant. An average of 2.18 publications/paper presentations per librarian studied was recorded. Almost half (48%) of the librarians have written one article in 1993-2013 where 27 were presented at international conferences and 24 were published in refereed journals. Surprisingly, the vast majority of authors (107, 81.7%) were practitioner-researchers (practicing librarians). Only 24 (18.2%) academics-researchers (LIS faculty) were found in this study. This number is not surprising given the low number of LIS faculty members in the country. Female authors who belong to 31-40 age groups were found to be more productive. Among the practitioner-researchers, permanent and full-time authors produced more research during the time frame of the study. Of the academics-researchers, female authors aged 41 years old and above who work in the National Capital Region were found to be more prolific.

5.3 Most Prolific Filipino Librarians

The most productive Filipino librarian is R. Punzalan who is an academics-researcher and has written 20 research papers with 17.66 credits wherein 16 papers were done by him and four were collaborative research (see Table 4). The second most prolific authors are L. David and M. Ramos with 18 research papers each. L. David is more of a solo-researcher while M. Ramos is more of a collaborative-researcher. Notice that M. Ramos' total credits is smaller than V. Totanes' credits. These values imply that the more single-authored papers the librarians have, the higher the credit they get. Of the top 10 prolific Filipino librarians, 35 are practitioner-researchers and five are academics-researchers. Among the academics-

researchers, R. Punzalan (1st), J. Buenrostro Jr. (2nd), R. Vallejo (3rd), V. Aguirre (4th) and J. Cabbab (5th) are the most productive authors.

Table 4 Top 5 Most Productive Filipino Librarians

Rank	Name	Classification	No. of Research	No. of Credits	No. of Single Author	No. of Co-Authored Research
1	Punzalan, R.	Academics-Researcher	20	17.66	16	4
2	David, L.	Practitioner-Research/ Academics Researcher	18	15	13	5
2	Ramos, M.	Practitioner-Researcher	18	8.64	4	14
3	Totanes, V.	Practitioner-Researcher	11	11	11	0
4	Fresnido, A.	Practitioner-Researcher	10	8	6	4
5	Verzosa, F.	Practitioner-Researcher	9	9	9	0
5	Ramos-Eclevia, M.	Practitioner-Researcher	9	7.33	6	3

5.4 Most Studied LIS Fields

The librarian's research outputs were further categorized and analyzed using Zins' classification scheme (Aharony 2011). By analyzing the key topic of each research, Table 5 illustrates that the most researched LIS field is "Information Industry Economics and Management" which includes "comparative intelligence, databases, digital libraries, information industry market, information management, information manipulation, knowledge management, information centers and libraries management, collection management, electronic commerce" (Aharony 2011, p. 29). "User Studies" and "Information Technology" were also in the top three most studied LIS fields. Of the sub-topics under the "Information Industry Economics and Management," 11 research papers were about digital libraries, eight on collection evaluation, and eight on marketing and promotion. As shown in Figure 2, a consistent growth rate of research papers in the fields of "Information Industry Economics and Management," "Information Technology," "Information/Learning Society," and "Foundations of Information Science" in the last 20 years. Very few studies were conducted in the areas of "Diffusion Studies" and "Information Ethics and Law."

Table 5 Topic Wise Distribution of Research Papers

LIS Fields/Topics	No. of Research Papers	Percentage
Information Industry Economics and Management	158	43.8
User Studies	42	11.6
Information Technology	39	10.8
Information/Learning Society	38	10.5
Foundations of Information Science	35	9.7
Social Information Science	23	6.4
Data Organization and Retrieval	19	5.3
Information Ethics and Law	6	1.7
Diffusion Studies	1	0.3

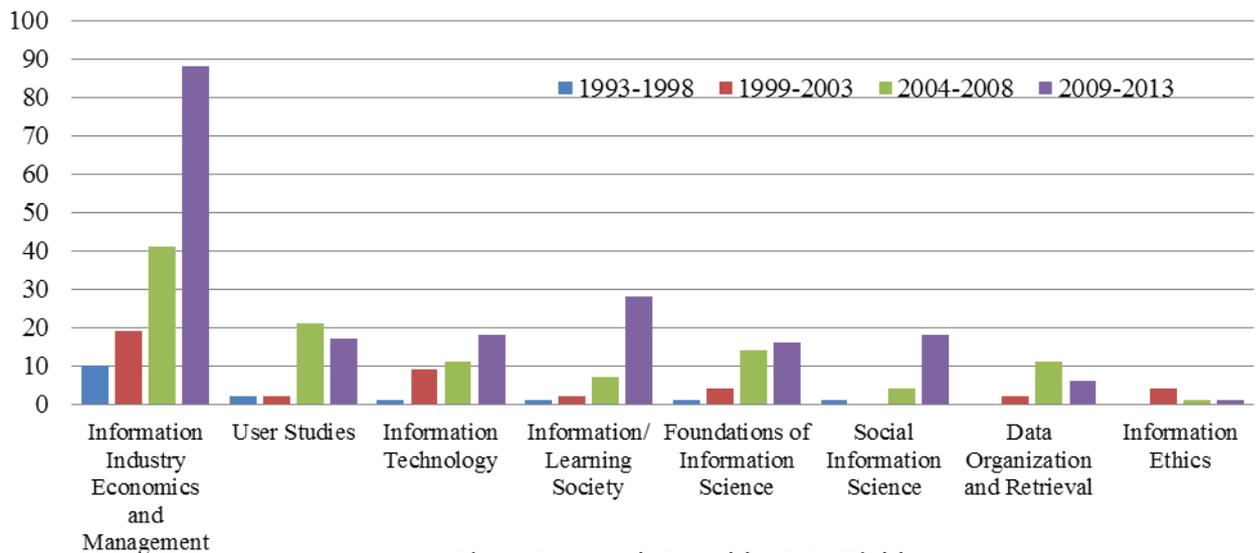


Fig. 2 Research Trend by LIS Fields

5.5 Extent of Research Collaboration

Collaborative researches among Filipino librarians and with foreign authors were also included in this study. Figures presented in Table 6 indicate that more than half of the identified researches were single authored. Consistent with findings of Ocholla, Ocholla and Onyancha (2012), collaborative research among Filipino librarians is also low. Of the collaboratively written papers, 51 were authored by two authors and 35 had three authors.

Table 6 Authorship Pattern of Publications

No. of Authors	No. of Publications/ Paper Presentations	Percentage
Single author	242	65.9
Two authors	51	13.9
Three authors	35	9.5
Four authors	27	7.4
Six authors	6	1.6
Five authors	6	1.6

As presented in Figure 3, the growth rate of research collaboration is likewise unstable. A total of 38 papers were collaboratively conducted in 2013. Furthermore, the average number of joint-authorship in 2006-2013 (8 years) is four times higher than those of in 1996-2005 (10 years). Most of the collaborative-authorships were done by librarians within the same institutions. It can be assumed that proximity and shared working environment favor collaboration among the authors. Only three authors have collaborated with foreign authors. Moreover, two authors did collaborations with non-librarian authors.

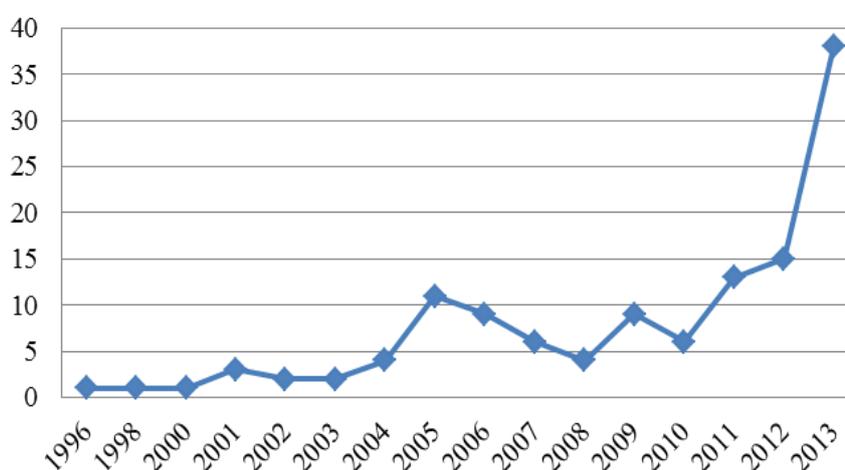


Fig. 3 Year-Wise Distribution of Research Collaboration

This study calculated the degree of collaboration (C) among Filipino librarians following the formula used by Sudhier & Priyalakshmi (2012): $C = \frac{N_m}{N_m + N_s}$ where N_m = Number of multi authored papers and N_s = Number of single authored papers. The value of degree of collaboration is a number between 0 and 1. The degree of collaboration as a whole is 0.34. This value indicates a low degree of collaboration among Filipino librarians in the current study. When the degree of collaboration was compared between the periods of 1994-2003 and 2004-2013, the value of C for 2004-2013 papers (0.33) is much higher than of the 1994-

2003 papers (0.17). Unfortunately, this study was not able to determine the possible reasons for low collaboration among authors currently being examined.

Conclusions

Regression analysis reveals that research confidence level is associated with Conduct Research (since completion of LIS degrees), Disseminate Research, Regularly Scan and Read Research, and LIS degree Prepared to Read/Understand and Conduct Original Research. The most studied LIS field is “Information Industry Economics and Management.” The degree of collaboration among the authors is low. Although Filipino librarians are generally confident in performing the various steps in a research project, they also felt the need for more training on how to enhance their research skills.

The analysis of papers of Filipino librarians shows that there is no predictable trend of research growth between 1993 and 2013. This study has found that the contributions of practitioner-researchers are higher than academics-researchers. Findings revealed that research outputs are heavy on the Information Industry Economics and Management; more studies can be done in the other LIS fields particularly in Foundations of Information Science, Social Information Science, Data Organization and Retrieval, Information Ethics and Law, and Diffusion Studies.

The number of librarian-researchers as well as the publication of research findings was quite insignificant. This study recommends the creation of a digital repository for Filipino librarians’ research outputs. Regardless of the findings of the study, it would do well for the librarian to engage in research, and to be updated in the research literature of the field, not just for the benefit of the patrons but for professional development as well.

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