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EDITORIAL
Bridging Stronger Connections Between LIS Research and Practice

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Editor-in-Chief

Research, in general, is conducted to disentangle problems and address theoretical and/or empirical gaps in a particular issue or subject matter. According to Creswell (2012), research is a "process of steps used to collect and analyze information to increase our understanding of a topic or issue", and these important steps are the following: "1. Pose a question, 2. Collect data to answer the question, and 3. Present an answer to the question" (p. 3). In library and information science (LIS), our research activities could be as pragmatic as evaluating and recommending strategies on how to improve reader services to attract more library patrons, or as conceptual as finding and exploring the underpinning philosophy of Philippine librarianship in connection to its post-colonial origin. Whether a research inquiry is methodically designed to be answered through quantitative, qualitative or mixed methods, the main goal of research is to come up with sound explanations to help people understand a certain phenomenon and offer reliable solutions or logical predictions to resolve problems.

As we want to find answers to our everyday problems in our work setting through developmental and action research, there has already been an ongoing call to establish or develop a body of theory on which to base our practices and to make us understand why we our doing these practices. For the longest time, performing library services and information work has become the core of our profession that is highly practical and service oriented. In one of the first discourses on librarianship as a profession, Pierce Butler (1951) asserted that "the modern library, then, has come into existence, spontaneously and almost inadvertently, by a cumulation of immediate empirical procedures, without anyone planning or foreseeing very far ahead" (p. 236). While grounding ourselves to practice is nothing but natural in a developing profession, Butler argued that along the way, "the intellectual content of librarianship has gradually emerged" and this is an essential part of the formation of the library system especially that "the librarians were becoming ever more aware of the larger significance of their office" (p. 236). Realizing the profession's evolving raison d'être forges the link between our acts as librarians and the underlying motivation and meaning of our past, current, and future undertakings.

Textbooks on research methods always illustrate the dichotomy as well as the harmony between theory and practice. They go hand in hand. A theory explains or attempts to explain relationships and occurrences of phenomena that drive our practice. With the multidisciplinary nature of LIS and its researchers, most of the studies done in our field are borrowing theories from the humanities and social sciences. While borrowing theories from other fields has been a common practice in LIS and in other disciplines, there have been observations from a number of LIS scholars that there is only a minimal talk about theory. Based on the study done on the use of theory in LIS research by Kumasi et al. (2013), most of our research are focused on *theory application* or employing a theory throughout the study to inform research design and data analysis, and *theory testing* where researchers empirically examine or validate an existing theory. Many researchers also have a habit of doing *theory dropping* wherein the discussion of theory is dropped after literature review and then it is not revisited or used later in the presentation or even in the analysis of findings. Some also do *theory repositioning*, where a theory is introduced either at the beginning or end of a study without proper citation or acknowledgement. Lastly, which is the most common practice being done by students, is *theory diversification*, where multiple theories are introduced but their relevance to the study and research problem are unclearly stated. With this minimal engagement in theory, research topics from the humanities, especially those dealing with information policy and history employ the most number of theories, and these are followed by social science papers that tackle information behavior and information and/or library management, and science papers that go into bibliometrics, information systems and

retrieval, and systems analysis and design (McKechnie & Pettigrew, 2002). The close link between theory and practice is being established through critical and reflective inquiries brought about by research, albeit nominally done or gradually executed. As stated earlier, we are participating in the continuous development of our professional practice, intellectual grounding and ethos. Part of this participation is realizing our purpose and recognizing that the implications of research are far-reaching. For example, we try to better understand our users and potential users before we design and implement new programs and standards in the library. In line with the usual survey of what they actually need and want, we are also trying to come to terms with the fundamental factors that affect how they conceive ideas, search, choose, use and share information—or their information behavior. Knowing this is also vital in evaluating information, identifying personal and collective biases and avoiding the dangers of misinformation and disinformation, which address other issues that are largely social and political.

In equipping the students and practitioners with the necessary research skills and appreciation, LIS education appears to have the most significant responsibility in doing so. LIS programs can help solve problems pertaining to research by imparting and enhancing research skills, and shaping the students' attitudes towards research (Connaway & Radford, 2017). In the Philippines, our LIS schools are trying to equip their students with substantial amount of research experience. As stipulated in CHED Memorandum Order No. 24, series of 2015 (Commission on Higher Education, 2015), graduates of LIS must know how to conduct research, and a thesis or research project should be a requirement for graduation. At the University of the Philippines School of Library and Information Studies (UP SLIS), our undergraduate and graduate students are required to do and finish their thesis or special projects (for graduate students). At present, there are already about 1,600 individual theses done both in the undergraduate and graduate levels. We have courses on research methods such as *Quantitative Research Methods in LIS*, and by 2020, we will start to offer *Qualitative Research Methods in LIS*. We also engage our students in research through mentorship and activities such as holding student research colloquia and encouraging them to write articles and participate in local and international conferences. Aside from requiring our students to do their research projects so that they could eventually graduate, the UP SLIS has been actively participating in conferences and international technical committees and academic organizations for further networking and collaboration. The UP SLIS is also the home of the oldest peer-reviewed academic journal in LIS in the Philippines, the *Journal of Philippine Librarianship (JPL)* that has become an open-access journal since 2007. It is also indexed in EBSCO and ProQuest since 2013. After 50 years, the JPL has turned over a new leaf this year, with a fresh new name and scope, the *Philippine Journal of Librarianship and Information Studies (PhJLIS)*. The efforts done by the UP SLIS may still not be as aggressive as our regional counterparts when it comes to research activities, but we are constantly doing our best for our students and for the entire LIS community.

The challenge now is to strengthen our culture and capabilities to do research, especially in LIS schools. We can start to focus on theory-building and explore the use of more varied research approaches and topics that are both conceptual and practical. While the responsibility should be equally shared with professional organizations for support, funding and incentives, the strong link between research and practice should start with LIS education. Research culture is not developed overnight, and it is more difficult to force it on the practitioners in their workplace if they only see it as an added burden to their day-to-day work. This may be a long and demanding process—but again, *we* are all participating in the development of our profession.

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ONLINE INTERCAMPUS COLLABORATIVE DATABASE OF LIBRARY AND INFORMATION SCIENCE THESES: DESIGN AND NEEDS ANALYSIS

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Abstract
This study presents the needs and design preferences of potential users, contributors, and administrators of a proposed Online Intercampus Collaborative Database of Library and Information Science Theses from various LIS academic institutions in the Philippines. With the use of survey questionnaires and interviews, findings show that there is a general positive agreement on the high need to establish such database. Both users and contributors generally report their significant need for ease of use and research utility. However, users are more inclined to full-text access than contributors. Both groups report a lower preference on online public access of the database. One of the academic institutions included in the study, the University of the Philippines Diliman, expresses full support on this project and its willingness to spearhead, manage, and facilitate the database. With the initial results of this study, further studies with more respondents, and actual design and implementation of this database are highly recommended to be done.

Keywords: academic libraries, union catalogue, database design, needs analysis, library and information science schools

Introduction

Research is one of the vital functions of the academe. More often than not, it serves as a requirement for a student to finish a research-driven university's academic program. In its most common configuration, academic research comes in the form of theses and dissertations from undergraduate students and graduates students, respectively. However, beyond academic requirements, these researches must be focused to achieve a quality that should be of relevance to nation-building ("The Future of Research Universities," 2007). As such, it is vital for researchers to have access to local literature.

Research work, however, is not without challenges. According to a recent study by Dadipoor et al. (2019), "the most prevalent barriers to research activities among researchers" was "limited access to information sources" (p. 1). This is further supported by older studies by Farzaneh et al. (2016) and

Abushouk et al. (2016). In the Philippines, "identification of researchable issue" and "collection and choice of related studies/theories as bases to support the study" (Bocar, 2013, pp. 4–5) were also identified as difficulties encountered by student-researchers. Cacdac (2014) also talked about how research in the Philippines are short-term in nature as they are neither carried over to further prospective research or utilized for the client's benefit, due to the lack of information of research.

Despite the generally increasing research output in the Philippines, due to the presence of specific field research centers, policies for research still needs changing and reforming (Cacdac, 2014). Academic research universities in the Philippines are a wealth of research resources as they produce and store research in their own repository. Often, however, these repositories, or even merely their catalogues, are only accessible through their own personal system. These researches reach a wider audience only when published in online subscription-based journals. If a researcher desires to have a glimpse of the research landscape, one must then consult each respective database separately, provided one is available.

One potential solution to aforementioned issues is the establishment of a union catalogue: "a catalogue that contains not only a listing of bibliographic records from more than one library, but also locations to identify holdings of the contributing libraries" (Feather & Sturges, 2003, p. 451). An online union catalogue has the potential to be indexed by search engines thus "facilitating discovery of, access to, and maximizing the value of disparate library collections" (Wakeling et al., 2017, p. 2167).

The union catalogue is not something novel. It has been in use to aggregate knowledge as early as 1956 with the publication of the National Union Catalogue, showing every significant title printed and acquired by American Libraries (Schwegmann, 1957). Later years would see its evolution from its simple purpose of centralized record, identification of availability, and location. There have been shifts into the concept of fusion catalogue where union member institutions provide different cataloguing data sets, and are blended together. And with the advent of technology comes the need for a web-based catalogue, "where direct and immediate access to the needed library materials is the priority" (Cheung & Lau, 2014, p. 98).

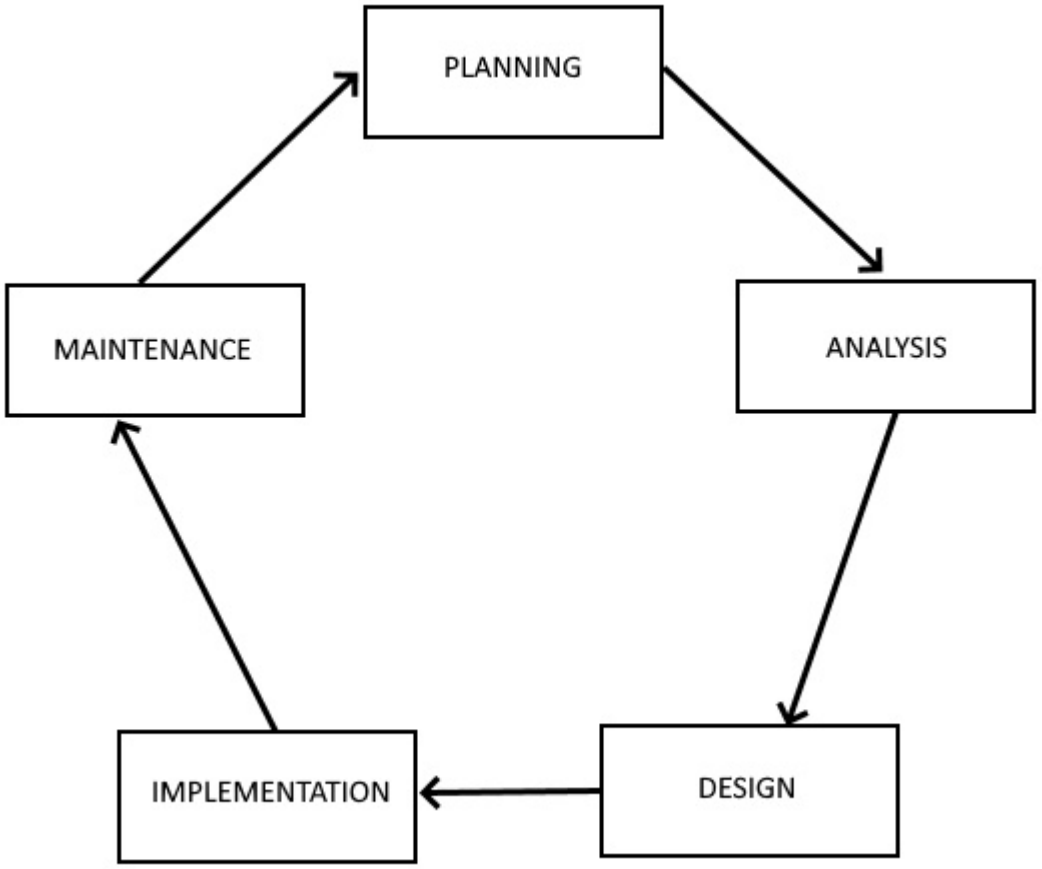
Chamberlain (2013) further notes that online union catalogues serve as an alternative in the global networked environment where users generally go towards search engines and social networks for their information needs. This can never be truer as in the case of the world's largest bibliographic database, a global union catalogue as it is, and that is the WorldCat.org, reported to have catered to more than 200 countries and territories (Wakeling et al., 2017). Despite this, WorldCat and search engine transactions do not necessarily translate to library connections, especially in the local context.

Local union catalogues, therefore, have a vital role to play in the progress of research by aggregating the local landscape. A centralized aggregation of local researches meets the "need to expose the vast wealth of library collections data produced" (Teets & Goldner, 2013, p. 436). A mixed approach of physical and virtual catalogues have proven successful in localized contexts (Boberić-Krstićev & Tešendić, 2015). Despite this, very little attention has been paid to union catalogues in the local context. Or perhaps what little attention is out of sight due to lack of ease of access. Further, for these aggregates to fulfil their potential, a clear understanding of the users' potential information needs and tasks to be done as they access these data (Allen, 1996). Within this context, this study aims to determine the information needs and design preferences for a potential online database with special focus on library and information science theses.

Theoretical and Conceptual Framework

A systems development life cycle (SDLC) is an outlined process composed of a number of steps used by the software industry in planning, designing, building, testing, and delivering information systems. SDLC delineates the steps as to provide for a system meeting or exceeding user expectations, based on

Figure 1
General SDLC Model



Note. Adapted from *Modern Systems Analysis and Design* (8th ed.) by J. S. Valacich, and J. F. George, 2017, Pearson Education. Copyright 2017 by Pearson Education.

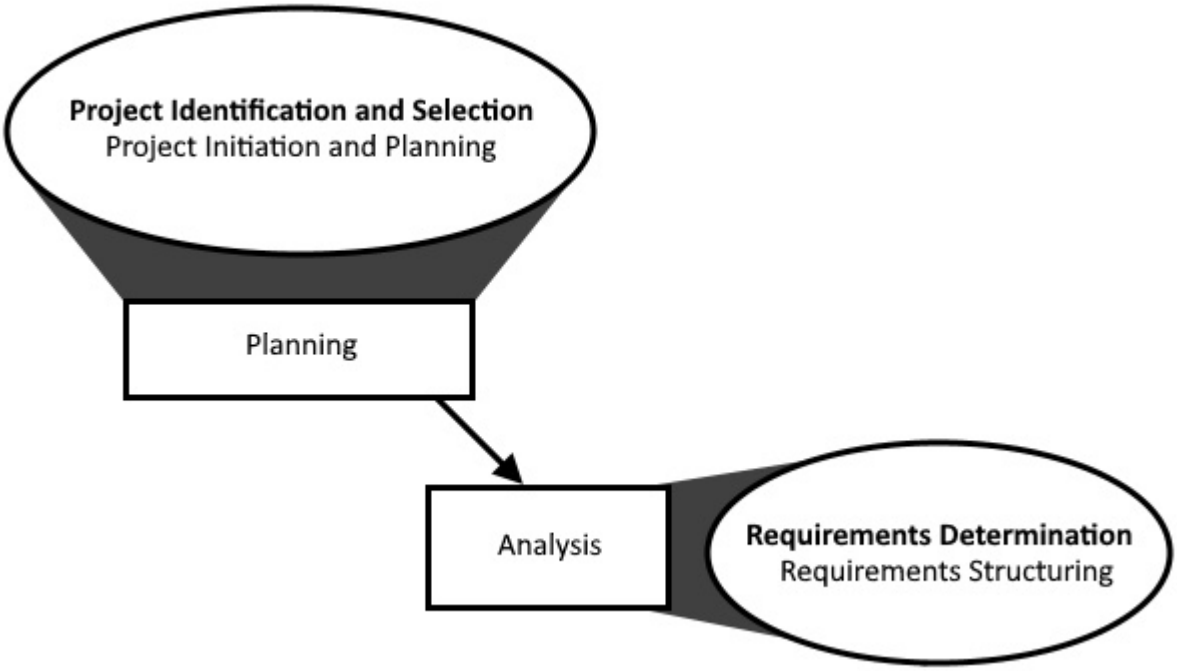
their requirements, by guiding the project in clearly defined phases ("Systems development life cycle," 2013). For the purpose of this study, the simplest general model of SDLC (Figure 1) is used.

Hoffer et al. (2008) mentioned that while the life cycle may appear to be sequentially ordered in set phases, it should be considered as circular in nature, with no pre-identified beginning or end. Any given SDLC may return to an earlier phase if necessary, and may begin anywhere, or done at the same time, depending on the program's need. The cycle, however, still depends on the existing product of the other cycles as its input. Thus, in the case of a new proposed software, one has no option but to begin with the planning phase. Specifically, this study focused with the first two steps: planning and analysis (see Figure 2).

Planning involves the identification, selection, and initiation of the project. This phase aims to answer the following concepts, contextualized in this study:

- Perceived and Real Needs, which is determined by the potential users' experiences;
- Existing Available Resources, which is determined by the institutions' assets: financial, manpower, and informational, among others;
- Current Organizational Environment, which is determined by the institutions' willingness to cooperate along with other factors including administration, legalities, and technology; and,
- Evaluation Criteria, which includes the above criteria along with those to be discussed under analysis (Valacich & George, 2017).

Figure 2
SLDC Phase 1 and 2



Note. Adapted from *Modern Systems Analysis and Design* (8th ed.) by J. S. Valacich, and J. F. George, 2017, Pearson Education. Copyright 2017 by Pearson Education.

During this phase, three important questions must be answered:

1. How much effort should be expended on the project initiation and planning process?
2. Who is responsible for performing the project initiation and planning process?
3. Why is project initiation and planning such a challenging activity? (Pressman, 2014)

Analysis involves Requirement Determination and Requirements Structuring. Requirement Determination collects "information on what the system should do from as many sources as possible." (Valacich & George, 2017, p. 216). This phase will also include the identification of what data and features the users would expect from the project, policies and guidelines affecting the project, and the source, volume, handling, and responsibility of data, among others. Requirement Determination involves methods including interviews, ocular observations, surveys, and document analysis, all of which are incorporated in the study's methodology.

In Requirement Structuring, information gathered in Requirement Determination are processed and translated for model representation. Requirements are graphically represented into functions or processes around the system, its environments, and the components within it. These graphical representations take the form of Data Flow Diagrams (DFD).

Objectives and Scope

Ample related literature is vital in any kind of research endeavors. Ideally, local literature should be consulted to determine current research landscape and to further improve past studies in the same setting. Thus, a centralized database for existing local literature would prove beneficial to researchers. Specifically, this study aims to propose an online collaborative database of existing theses in the library and information studies from academic institutions offering library and information science (LIS) programs. The actual need of such and desired features are determined from potential users. Design, potential cooperation,

and recommendations have also been consulted from potential member institutions. The resulting proof of necessity and proposed design may serve as a basis for the actual implementation of such a project.

This study focused on three academic institutions offering LIS, namely: University of the Philippines Diliman, University of Santo Tomas, and Centro Escolar University-Manila. The first step of the systems development life cycle—Waterfall Model is followed in this study, namely the Requirement Analysis. The resulting desired needs and recommendations is digested and outlined to serve as basis for subsequent steps of the model for potential future implementation.

Method

This study conducted needs analysis through survey questionnaires. This was done in order to invite users to report their actual needs and desired features. LIS students and library staff were provided questionnaires to answer. Both printed and online questionnaires were utilized in accordance with the institution's preference. Respondents were requested to elect for their preferred features and provide further comments and suggestions. Questionnaires for researcher users and library staff users were similar with an added section of administrative features for the latter group. Unstructured interviews were also done to determine the potential cooperation and recommendations of the academic institutions. Documents pertinent to the interview were also requested and provided to the author for further reference and analysis. The needs and desired features for both researchers and library staff users were both collected through survey questionnaires. As for the institutional cooperation and recommendations, the author paid attention to the insights shared by the institutions' administrative representatives.

ANALYSIS OF DATA

User Needs Analysis

Demographics

Printed survey questionnaires were provided to LIS students and alumni available for manual distribution, an online version of the same were also provided for ease of access. Both versions depended on the snowballing method of sampling. A total of 153 responses were collected from 13 different institution affiliations.

Research Needs

Frequency of using the internet for research, with a scale of 1 as never and 5 as always, is reported with an average score of 4.33, indicating prominent dependence of respondents to online sources.

Difficulty of locating relevant local literature, with a scale of 1 as very easy and 5 as very difficult, yielded an average score of 3.43, an above median difficulty experienced by the respondents.

As for the necessity of an online theses database, with 1 as not necessary at all and 5 as highly necessary, respondents provided an average score of 4.64 indicating respondents high need.

Design Needs

Potential users rated each potential feature on a scale of 1 to 5, 1 being the least desirable / not needed feature and 5 being the most desirable / highly needed feature. Results are summarized in Table 1.

Basic search features limited by title, author, subject, location, and year only received an average score of 3.61, 3.36, 3.61, 3.21, and 3.22, respectively. All of which deemed of above average necessity in contrast with the ability to search all fields provided with a high average score of 4.38.

Advanced search features were all also provided above average necessity with phrase searching at 3.88, root searching at 4.12, Boolean at 4.2, and combinations of the above at 4.31. This indicates potential users' familiarity with advance searching alternatives and assures potential efficient usage of the database.

As for the display options, all were given high scores, with location at 3.95 getting the lowest of them. The displays of title, author/adviser, date, and abstract

received 4.52, 4.19, 4.32, 4.27, and 4.4, respectively. It also bears special note that the display of full paper received a high average score of 4.04, indicating potential users' preference to full-text access, alongside giving importance to associated metadata.

As for accessibility, local access, campus access, user access, and public access received 4.03, 4.23, 4.46, and 3.82, respectively. Interestingly, Online Open Public Access received the lowest score among the alternatives, albeit having an above median score. In contrast, access through user specific access codes got the highest score. This may indicate underlying concerns from the users and may merit further study.

Bookmarking features all received high scores above 4 with record bookmarking at 4.23, bibliography creation at 4.08, and bookmark email sending at 4.07, which may indicate users' high need for ease of research utility.

It should also be noted that several respondents recommended, in the comment area, that the database provide a list of newly-added theses. Some sort of reader's advisory corner or a RSS-like subscription may be implemented to meet such necessity.

Contributor Needs Analysis

Demographics

Printed survey questionnaires were provided to librarians handling LIS collections available for manual distribution, an online version of the same were also provided for ease of access for other universities. Both versions depended on the snowballing method of sampling. Due to the limitations of the study and the number of librarians per institution, only a total of 4 respondents from 2 institutions were collected.

Research Needs

Frequency of using the internet for research, with a scale of 1 as never and 5 as always, is reported with an average score of 4.75, indicating prominent dependence of respondents to online sources.

Difficulty of locating relevant local literature, with a scale of 1 as very easy and 5 as very difficult, yielded an average score of 4.25, an above median difficulty experienced by the respondents.

As for the necessity of an online theses database, with 1 as not necessary at all and 5 as highly necessary, respondents provided an average score of 4.5 indicating respondents high need.

Design Needs

Potential contributors rated each potential feature in a scale of 1 to 5, 1 being the least desirable/not needed feature and 5 being the most desirable/highly needed feature. Results are summarized in Table 1.

Basic search features limited by title, author, subject, location, and year only received high average scores of 4.5, 4.5, 4.75, 4.25, and 4.5, respectively. While it is worth noting that the ability to search all fields received the highest necessity score of 5.

Advanced search features were all also provided above average necessity with phrase searching at 4.5, root searching at 4.75, Boolean at 5, and combinations of the above at 4.5. Again, this indicates potential contributors' familiarity with advance searching alternatives and assures potential efficient usage of the database.

As for the display options, displays of title, author/adviser, date, and abstract all received a score of 5. It also bears special note that only the display of full paper received a score of 4.75, which may indicate minor reluctance from the librarians and may merit further study.

As for accessibility, local access, campus access, user access, and public access received 3.5, 5, 4.25, and 2.25, respectively. It is of note that respondents provided the highest score of 5 to campus restricted access whilst consequently giving a below median score of 2.25 to online public access. Again, this may indicate underlying concerns from the librarians and may merit further study.

Bookmarking features all received high scores with

record bookmarking at 5, bibliography creation at 4.25, and bookmark email sending at 5

As for the management features, username assignment, online registration, personal profiles, and automatic backups all received the top score of 5. Categorization of access and easy-restore capabilities both received 4.75. Off-campus management got 4.5, while audit trails and record history both got 4. On the contrary, cross-campus editing received a below median score of 2.5, which may indicate contributors' desire for campus autonomy on entry access.

Submission features all also got high scores. Subject heading list and authority file additions both received a 4. Auto-setting of location was given 4.75. While real time updates, duplicate validation, full paper PDF conversion, record CSV import-export, and online help facility all yielded a perfect 5.

All report generating features, use statistics, staff performance output, and holdings summary, were all given a top score of 5.

It should also be noted that several respondents recommended, in the comment area, the inclusion of, and compliance to, data privacy in the database provision.

INSTITUTIONAL DIALOGUES

University of the Philippines Diliman

The University of the Philippines School of Library and Information Studies (UP SLIS) is the country's first and only Commission of Higher Education Center of Excellence for library science education. Its dean, Prof. Kathleen Lourdes Obille was interviewed for the purposes of this research.

Dean Obille (personal communication, April 11, 2019), reported that the UP SLIS Library holds all of the completed undergraduate and master theses of graduates since the 1960s. For redundancy, UP SLIS also holds softcopies in CDs and also provides CD copies to the UP Diliman University Library, whom they have a good relationship with. Further, the National Library of the Philippines is also given copies of the master dissertations. Everyone can access the thesis collection provided respective processes.

Dean Obille believes that we should already be doing the database already, as our thrust is to complete the landscape of Philippine librarianship. She believes that all of us are doing the same thing and that the database will help in completing the gaps in the landscape. As an example, it was mentioned that through a database someone from Visayas to see what else has not been done by those in Luzon and in Mindanao, providing a benchmark for future research. She believes that the database is only a matter of time as there is a need for documentation and monitoring of the changes in trends of LIS and LIS schools.

When quizzed about UP SLIS's interest in cooperating, Dean Obille answered "We should start, we can host". UP SLIS is willing to spearhead, establish, maintain, and facilitate the database and "just need to get people on board". As the integrated library system of UP Diliman University Library, iLib, is already capable of hosting full papers, Dean Obille also proposes the database provide full text papers, minus the datasets and personal profiles. She believes that there is not much resource needed besides hosting and manpower, and UP SLIS is willing to locate the funding necessary and will provide access to other schools to upload their own entries.

When asked about potential issues on full-text databases, she answered that there are no potential disadvantages. She believes that plagiarism is not an issue as by putting the full-text paper out there it also makes it easier to detect, and thus prevent, plagiarism.

As for the database design, she only wanted it, at minimum, be a full-text keyword searchable database. The interview concluded by her saying that the database's end goal is that so "we can write something from this" basing from the database contents as a "matter of putting things together".

Table 1

Summary of Feature Average Scores

Feature	Average Score Users	Average Score Contributors
I. Basic Search Features		
Limit search by title only	3.61	4.50
Limit search by author only	3.36	4.50
Limit search by subject only	3.61	4.75
Limit search by location only	3.21	4.25
Limit search by date/year only	3.22	4.50
Search all fields	4.38	5.00
II. Advanced Search Feature		
Include phrase searching (search for exact phrase)	3 88	4.50
Include truncation/root searching (searching index returns indexing, indexes, etc.)	4.12	4.75
Include Boolean searching (use of logical AND/OR/NOT)	4.20	5.00
Allow combing two or more search options	4.31	4.50
III. Display Options / Information Provided		
Display the title	4.52	5.00
Display all authors, including adviser	4.19	5.00
Display all subjects	4.32	5.00
Display date/year	4.27	5.00
Display location	3.95	5.00
Display abstract	4.40	5.00
Display full paper	4.04	4.75
IV. Accessibility		
Local Access (specified computers within library/campus)	4.03	3.50
Campus Access (computers connected to in—campus network)	4.23	5.00
ser Access (accessible to off—campus users thru access codes)	4.46	4.25
Public Access (accessible to everyone online)	3.82	2.25
V. Bookmarking Features		
Allow bookmarking of records (Add to Cart/Favorite List)	4.23	5.00
Include bibliography creation on bookmarked records	4.08	4.25
Include "send to email " option on bookmarked records	4.07	5.00
VI. Management and Security Features		
Each user assigned username/password	—	5.00
Allow users (staff/librarians) to add/edit records off—campus	—	4.50
Different user group categories with different access privilege (e.g. admin, encoder, editor/reviser)	—	4.75
Allow users to register online	—	5.00
Allow cross—campus source edits (e.g. Campus1 staff can edit entries by Campus2)	—	2.50
Include "audit trail" (all user actions such as adding, editing, deleting records will be logged)	—	4.00
Allow users to update their own profile (e.g. update of email, password)	—	5.00
Show information such as user who created and last edited a record	—	4.00
Do not delete records physically, only mark them as deleted for easy restore (i.e. Recycle Bin)	—	4.75
Automatically back—up date files on schedule	—	5.00
VII. Online Record Submission Features		
Search or browse built—in authority file for subject headings	—	4.00
Allow adding new entries to authority file	—	4.00
Automatically sets newly encoded record location to encoder's location (i.e. Campus 1, Campus 2, etc.)	—	4.75
Show new records and updates in "real time"	—	5.00
Validate and check for duplicate entries	—	5.00
Allow exporting/importing of .csv records	—	5.00
Allow auto—conversion of full paper to .pdf	—	5.00
Provide online help system to facilitate encoding/editing	—	5.00
VIII. Report Generation Capability		
Batch printing of records		5.00
Generate report for statistics of use		5.00
Generate report for staff performance output		5.00
Generate summary of holdings		5.00

University of Santo Tomas

The University of Santo Tomas (UST) Library and Information Science Department, under the College of Education, is a consistent top performer in the Librarian Licensure Examination given by the Professional Regulation Commission. The LIS program coordinator, Prof. Ma. Pri-Ann Tinipunan, was interviewed for the purposes of this research.

Prof. Tinipunan (personal communication, May 17, 2019), reported that the graduate theses and the undergraduate theses are handled separately. The graduate students are required to submit both printed and electronic copies of their studies to the UST Miguel de Benavides Library. Everyone can access the printed thesis collection provided respective processes, and photocopying limited to 15 pages only. Further, the electronic copies are accessible online through their Lorenzo platform, with proper log-in credentials. As for the undergraduate theses, these are collected not by the library but by the college itself. They are catalogued, in compliance with accreditation guidelines, but are not organized in the context of a library. While Prof. Tinipunan admitted that there is a challenge in organizing the undergraduate collection, there is a recurring project lead by the LIS department, with the help of LIS students and alumni volunteers. The undergraduate theses are housed in respective locations in their department and are accessible by everyone provided respective processing in coordination with the Dean. Further, Prof. Tinipunan admits she cannot speak for the library and recommends further inquiry with the chief librarian.

Prof. Tinipunan, on the significance of the online database, cited a scenario where her thesis students found difficulty in identifying related literatures. She believes that while they have databases, it is different if there is such literature that has already been written by others on the topic. She believes that access to these is significant to help students do their research.

When asked about UST College of Education's interest in cooperating, Prof. Tinipunan acknowledged that she cannot answer on behalf of the college, and will need coordination with the dean. However, she, in her position as LIS program coordinator, is willing to cooperate provided that the members are assured equal access.

For potential issues, she expressed concern over plagiarism, when consulted sources are not cited properly. She maintains that these papers are a product of hard work and that there is need to protect the intellectual property of the researchers. Plagiarism is therefore a potential issue that needs to be addressed.

Further, while she agrees on full-text access, Prof. Tinipunan reiterates apprehensions relating to intellectual property concerns. While she allows that full-text access be open to all member institutions provided proper log-in credentials, she proposes a paid subscription for access to non-members as a double purpose of additional security and as source of funding for sustainability. She also recommends further study of existing consortia to benchmark existing policies and adopt best sharing practices.

The creation and establishment was proposed to be a cooperative endeavor with representatives from member institutions. Maintenance, facilitation, and the location of server, however, she leaves to be determined and agreed upon by the member schools, with assigned key person, as per future agreements.

As for the design, she expects that it should be remote access, user-friendly interface, not too complicated, full-text access, and have safeguards to deal with potential plagiarism concerns.

Centro Escolar University Manila

The Centro Escolar University (CEU) Manila has also been consistently performing well with their LIS program under the School of Education, Liberal Arts, Music, and Social Work. The LIS program coordinator and library services department head, Prof. Salvacion Arlante (personal communication, November 18, 2019), along with her technical services section coordinator and LIS lecturer, Prof. Amaryliss Joson, were interviewed for the purposes of this research.

Prof. Joson assured that all thesis abstracts since from the program's formation up till the batch preceding the interview are all digitized. On the other hand, best researches and those published or presented in journals and seminars have their full text digitized. In terms of access, undergraduate students can only access the thesis abstracts. Graduate students and external researchers, however, can access the full text for room-use only, and provided pertinent fees and documentation for the latter.

With the current digitization status, both respondents agree that CEU is ready for consortiums and partnerships. Prof. Arlante is confident that with their digital archives of best research, CEU is ready to link.

Prof. Arlante sees no apparent advantage in consortiums and only sees its significance and its potential benefits. According to her, from her own digital diagram study, "the basis for academic institutions to expand their program […] is to expand networking capabilities and resource sharing". She notes, however, that institutions should be open to their own limitations as to come into proper agreements on the cooperative give-and-take relationship. This open communication, according to her, is the key to a successful research sharing consortium.

As it is, Prof. Arlante supports the resource sharing of theses, dissertations, and faculty papers. These consortiums, according to her, are venues to show the world over the quality of education and research one can give. Institutional repositories, she says, is a factor of quality and it shows one's status and quality. Thus, collaborations, like this study proposes, are venues to promote global visibility, marketing, and to promote capabilities and facilities.

The only issue that CEU noted is the potential concern on data privacy violation. As such, they expect the potential consortium to be wary and ensure the proper consent of everyone involved, including the thesis authors, respondents, students, and faculties, among others.

Prof. Joson and Prof. Arlante highly recommend coordination with the Philippine Association of Academic and Research Librarians, along with the Mendiola Consortium, and the University Belt Consortium. Further, while Prof. Arlante leaves the issue of consortium administration, budget, maintenance, and the likes to the future cooperative decision, she assures that CEU is ready and is willing to cooperate to their best extent.

For the design, they look forward to a "search engine style" of federated searching for easier access, with the database being searchable by any term in the abstract. They expect it to be user friendly and accessible as, according to them, "what use is a project that is hard to use?"

Conclusion

Regarding the need for the database, it can generally be concluded that the potential users, contributors, and member institutions all agree on the significance of its creation. As for the design, all features received consistent high average scores. Further, it can be noted that there is higher preference for features providing ease and accuracy of searching, and security.

Regarding potential members' cooperation, the three institutions interviewed all responded positively on the proposed database. Two agreed in potentially providing full-text access to the database, while one leaned on providing abstracts only. Despite this minor contention, as it is there are already at least three assured proponents when and if a database is implemented. It is however, worth noting, that the study was only able to execute institutional dialogues with three potential members.

As such, this research concludes that there is indeed a need, and potential support, for an online intercampus collaborative database of LIS theses. It is therefore recommended that actual design and implementation of the same should be considered. Further, dialogues with other LIS institutes should be attempted as prospective database collaborators.

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TRANSITIONING TO RDA: THE PHILIPPINE EXPERIENCE

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Abstract

This study describes the extent of implementation of RDA in the Philippines and determines the common problems encountered by libraries as they transition from AACR2 to RDA (Resource Description and Access). It also assesses the effectiveness of the training programs offered by the Philippine Association of Academic/Research Librarians, Inc., (PAARL) as well as the usefulness of the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries that was prepared and disseminated by PAARL. The respondents of this study include those who received the initial RDA training (Training of Trainers) in 2014 and those who attended RDA trainings sponsored by PAARL. In addition, all active members of PAARL are included as part of the survey since they are the ones most likely to be the recipients of the trainings cascaded down by those who attended the Training of Trainers. Results show that a significant number of libraries have now implemented the use of RDA in their respective libraries, most of whom received their training from PAARL. The most common problems encountered by those that implemented RDA include lack of consistency in the library catalogs, data quality control and compatibility with MARC records, and user familiarity. On the other hand, some libraries are unable to implement RDA because of the high cost of subscription to the RDA toolkit. According to the respondents, the trainings provided by PAARL and the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries are effective and useful.

Keywords: Resource Description and Access (RDA), cataloging standard, training, Philippine libraries, Philippine Association of Academic/Research Librarians, Inc., (PAARL)

Introduction

RDA (Resource Description and Access) is an international cataloging code that replaced ACCR2 (Anglo-American Cataloging Rules, 2nd edition) (Bianchini & Guerrini, 2009) and was developed by the Joint Steering Committee for Development of RDA (Kuhagen, 2011). It is a standard that is designed for the digital world, thus provides for a "comprehensive set of guidelines and instructions on resource description and access covering all types of contents and media." Scope and organization are the main difference between AACR2 and RDA which can be summarized into two: that "information should be recorded as found" and that terminologies be made understandable to all and not just to library people (Anhalt & Stewart, 2012).

Transitioning from AACR to RDA is not an easy task. In fact, even the Library of Congress which was one of the forerunners of RDA, did encounter a number of challenges along the way in their process of implementing RDA (Morris & Wiggins, 2016).

In the Philippines, it was the late Atty. Antonio M. Santos, then Director of the National Library of the Philippines (NLP) , who introduced RDA through the holding of a salon on the topic "What Now for RDA in the Philippines?". This event was held on July 23, 2012 at the Conference Room of the NLP. Invited participants composed of cataloging experts from selected academic libraries in Metro Manila. This paved the way to the establishment of the National Committee on Resource Description and Access (NCRDA) in the same year. The Committee was chaired by Mr. Ruben P. Marasigan, a faculty member of the Philippine Normal University. Hon. Corazon Nera from the Lyceum of the Philippines University and Mr. Rodolfo Tarlit, from the University of the Philippines served as Co-Chairs. Representatives from the following libraries constituted the members: Ateneo De Manila University Library, De La Salle University Library, University of Santo Tomas Library, Adamson University Library, Far Eastern University Library, and the De La Salle University-Dasmarinas Library, while the NLP served as the Secretariat. Said committee was tasked to come up with plans on the nationwide adoption of RDA. PAARL, on the other hand, spearheaded the implementation of the plans while funding was sought from the National Commission for Culture and the Arts (NCCA)-National Committee on Library and Information Services (NCLIS). Thus, the implementation of RDA in the Philippines can be regarded as a national and a collaborative effort.

The first RDA training-workshop organized by PAARL was held in August 2012 in Manila. In October of the same year, said training-workshop was replicated in Butuan City with the Caraga Librarians and Libraries Association, Inc. as organizer. This was a brave and bold move for the two library associations considering that although the invited trainers were expert catalogers, they themselves were still grappling with RDA at that time.

The feedback gathered from the attendees and the trainers themselves on the difficulty of interpreting the new cataloging standard, brought the organizers and the NCRDA to rethink about carrying on with the trainings in other regions of the country. To ensure the efficient transfer of skills, the NCRDA thought of conducting a training of trainers and invited no less than Barbara Tillett, Chief of the Cataloging Policy and Support Office of the Library of Congress in Washington, D.C., to fly to Manila to serve as trainer. The training of trainers jump-started in April 2013. Select catalogers, metadata specialists and head librarians coming from all over the country were invited to attend the training for free.

Six members of the NCRDA who are nationally-recognized cataloging experts and who likewise attended the training facilitated by Ms. Tillett were tasked to conduct a series of training-workshops held at different provinces in the country's three major islands—Luzon, Visayas, and Mindanao. One session in each of the three islands was held. The session for Luzon was held in Cavite (May 2013); the one for the Visayas was conducted in Cebu City (June 2013); while Davao City (April 2013) was the venue for Mindanao. All these sessions were partly subsidized by the National Commission for Culture and the Arts (NCCA), hence were provided to the librarians at a minimal training cost.

Aside from the nationally-recognized cataloging experts, other attendees of the training of trainers were also directed to cascade the training to their respective localities to ensure extensive implementation of RDA in the country. To ensure that the recipients of the training of trainers will abide by the directive, they were asked to sign a formal agreement.

After the training of trainers, the holding RDA training-workshops sponsored by other oragnizations and institutions soon followed. In May 2013, the DOST Science and Technology Information Network of the Philippines (DOST ScINET-Phil) organized an exclusive training-workshop for all its network libraries. The Philippine Normal University Library and Information Science Alumni Association

(PNULISAA), Inc. also offered a similar training–workshop in October 2013, which was likewise held in Manila. An exclusive RDA training was also conducted for the librarians of Adamson University in the latter part of October 2013. La Salle University in Ozamiz City also carried out an RDA training workshop for librarians based in Mindanao in August 2014. For those teaching cataloging, trainings were organized by the School of Library and Information Studies of the University of the Philippines (Santos, 2016).

As a follow-up to the series of trainings conducted in the three major islands of the country, public consultations were likewise organized by PAARL, aimed at identifying problems encountered by librarians all over the country, in the adoption of the new cataloging standard. The public consultations were coupled with RDA training-workshops. These public consultations and training-workshops were held in Bacolod (for the Visayas leg) in May 2014, Baguio (for Luzon) in June 2014, and General Santos City (for the Mindanao leg) in August 2014.

Results of the public consultations prompted PAARL to come up with the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries. This work is a concise manual containing basic RDA rules (complete with examples), which Filipino librarians can refer to in the absence of the RDA toolkit. It was prepared in partnership with members of the NCRDA and was meant to serve as a "substitute" to the toolkit as there were issues regarding the affordability of the toolkit that surfaced during the public consultations.

As it has been four years after the project was completed, PAARL deems it necessary to ascertain the impact of the training programs on the implementation of RDA in Philippine libraries and how it has helped build the capacity of Filipino catalogers/librarians on the use of the said cataloging standard. In addition, the Association also needs to find out the usefulness of the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries, which it prepared and released in 2014.

This study looked into the extent of implementation of RDA in the country and likewise determined the common problems encountered by libraries in the Philippines as they transitioned from AACR2 to RDA. Also, it assessed the usefullness of the training programs offered by PAARL and the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries that was prepared and disseminated by said Association. Specifically, it addressed the following questions:

1. To what extent has RDA been implemented in the country?
2. What were the common problems/issues encountered by Philippine libraries concerning the implementation of RDA?
3. How did Filipino catalogers and metadata professionals prepare for the implementation of RDA?
4. Were catalogers and metadata professionals able to attend RDA training programs, specifically those offered by PAARL?
5. How useful were the RDA trainings provided by PAARL?
6. How useful was the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries prepared and disseminated by PAARL to Filipino catalogers and metadata professionals?

The results of this study will be useful, specifically for PAARL, in planning for future directions (i.e. offering additional trainings or preparing learning modules, as necessary; planning for other activities, etc.), as far as the nationwide adoption of RDA is concerned.

Literature Review

The text of the new standard (RDA) was published in 2009 and was tested by three national libraries (the Library of Congress, the National Agriculture Library, and the National Library of Medicine) in the United States in 2010 (Kuhagen, 2011; Yosaka & Park, 2013). In 2013, the Library of Congress proceeded with the full implementation of RDA (Park & Tosaka, 2015). Libraries around the world soon followed. The journey of these libraries in

transitioning from AACR2 to RDA offered insights on the most common and likewise unique issues encountered by libraries across countries.

In Iran, for example, its National Library ascertained how existing bibliographic records can be integrated into RDA by examining how well the records coordinate with the said standard. Eighty-eight percent (88%) of the records examined showed to be conforming well with RDA (Pazooki et al., 2014).

In Turkey, only 10 libraries have implemented RDA and they confirmed having experienced difficulties in the transition process. Other concerns which likewise surfaced were the failure to implement RDA on the national level; lack of local best practices to benchmark on; interoperability issues among of libraries; inadequacies of library systems; language problems; and, the lack of national policies (Çakmak, 2018).

In Israel, academic libraries have gathered together in preparation for the adoption of RDA—a move that they consider inevitable as they have since been following the American standard. Concerns regarding the new rule on material designation arose as they anticipate difficulty in identifying media type with the pre-RDA records (Goldsmith & Adler, 2014).

Kent State University Libraries (KSUL) in Ohio, being an early adopter of RDA, faced a number challenges. Lack of administrative support, training and documentation issues, the formulation of procedures fit for local consumption, were only some of the problems encountered in the process of implementing the new standard. Working together to educate themselves and each other made them focused not only by understanding the "how" of RDA but also the "why." With the staff's positive attitude towards RDA, they were able to manage the challenges and successfully converted their cataloging processes following RDA (Maurer & Panchyshyn, 2014).

The implementation of RDA in Canada highlighted the differences between the English and French Canada experiences. The English Canada training was not centralized. Trainings were either organized by some ad hoc groups while others train on their own making do with resources made available on the Net. In French Canada, however, trainings were organized by French-speaking cataloging community and were delivered in French. There is very little peer involvement, though. Nevertheless, both communities agreed that there is a need to develop the capabilities of stakeholders to allow them to produce online training materials (Cross et al., 2014).

China, on the other hand, is working on the localization of RDA but is progressing slowly. Training, however, is being carried out gradually. While Chinese librarians do not detest the adoption of RDA, slight differences in their attitudes were noted. Language issue, especially for non-English speakers, emerged to be the major concern (Luo et al., 2014).

In the Republic of Korea, Do, Oh, and Lee (2015) compared RDA to both Anglo-American Cataloguing Rules 2nd edition (AACR2) and the Machine Readable Cataloguing (MARC) data formats. Results validated the usability of RDA in terms of five usability metrics such as search usefulness, search efficiency, general search satisfaction, satisfaction for search functionalities, and system convenience. In addition, it was found out that the significant difference between the systems was the satisfaction on the suitability of the search categories.

The issue of learning both RDA and AACR2 was examined by Lisius (2015) probing whether there really is a need to continue learning both, or if learning RDA alone will suffice for the catalogers of the future. The study concluded that, while the need to learn both codes may decline in the future, learning these alongside with one another, at present, remain important.

In the Philippines, initial attempts to find out the status of the implementation of RDA have been carried out as early as 2012. Obille (2012), for example looked into the efforts of different stakeholders such as library organizations, library schools and selected libraries in the country on implementing RDA. The readiness of librarians

based in Mindanao, on the other hand, was ascertained by Acedera (2014). Results of the study showed that librarians who underwent training on RDA were confident that they would be able to implement RDA in their respective libraries. However, the high cost of the RDA toolkit presented to be a problem. Another study conducted by Santos (2016) investigated on the implementation status of RDA in the country and found out that librarians based in Metro Manila and nearby cities/provinces showed significant progress as far as the implementation of the new cataloging standard is concerned. Those in the Visayas and Mindanao, though, showed to lag behind.

This study provides insights on the similarities and differences of the Philippine libraries' experiences with those of other libraries in other countries in their course of transitioning to RDA.

Method

Quantitative descriptive research was employed through the conduct of an online survey. The survey instrument was adapted from the questionnaires of Cullen (2016) and Park and Tosaka (2015), which looked into the issues of the implementation of RDA in Ireland and the United States, respectively. It consisted of four sections—1) about your library; 2) implementation status; 3) transition/implementation issues; and 4) training; and takes about 10 minutes to complete.

As the questionnaire was tailored to Filipino catalogers, pilot testing was carried out with the help of catalogers from one big academic library based in Manila. As results of the study will be used by PAARL, members of the 2018 Board were also requested to review the questionnaire. Comments and suggestions gathered from these two groups served as bases for revisions. Items that turned out to be ambiguous and/or highly technical were either revised, simplified or totally deleted.

The respondents consisted of those who received the initial RDA training (Training of Trainers) in 2014 and those who attended RDA trainings sponsored by PAARL. In addition, all active members of PAARL were also included as part of the survey since they are the ones most likely to be the recipients of the trainings cascaded down by those who attended the training of trainers.

The survey was sent to a total of 526 email addresses provided by the secretary and the Chair of the Membership Committee of the 2018 PAARL Board. It was conducted for a period of one month, that is, from July 9 to August 9, 2018.

The total number of responses collected was 72; the majority (88.90%) were from academic libraries while the rest were either from the National Library of the Philippines, public, school and special libraries. A big number (59.70%) were from the NCR and CALABARZON (Region 4) (13.90%). Although there were very few (some, just one) representations from other regions, all were represented.

RESULTS

Status of RDA Implementation/Adoption

Majority (76.40%) of those who were surveyed have already implemented the use of RDA in their respective libraries, where a significant number are based in the National Capital Region (NCR) (see Table 1). This is most likely because a great number of respondents also came from the NCR. However, respondents from 10 other regions of the country (mostly in Mindanao and the Visayas) have likewise started with the implementation of RDA, but the number showed to be very limited.

Implementation period peaked in 2014 to 2015 although some have started earlier, that is, just immediately after the Library of Congress began its full implementation in 2013. Adherence to international standards and the capability of the current integrated library systems (ILS) were the primary reasons why the respondents decided to adopt RDA. Most (70.58%) of those who have not implemented yet the use of RDA, though, plan to carry on with its implementation.

The cost of subscription to the RDA toolkit was the primary reason why some libraries were unable to implement RDA. Moreover, they are still waiting for

Table 1
Extent of Implementation

Region	No. of Respondents	%
National Capital Region (NCR)	32	58.18
CALABARZON (Region IV-A)	8	14.55
Central Visayas (Region VII)	4	7.27
Bicol Region (Region V)	2	3.64
Cagayan Valley (Region II)	2	3.64
Northern Mindanao (Region X)	2	3.64
Cordillera Administrative Region (CAR) (Region XIV)	1	1.82
Davao Region (Region XI)	1	1.82
Ilocos Region (Region I)	1	1.82
MIMAROPA (Region IV-B)	1	1.82
Socksargen (Region XII)	1	1.82
Grand Total	55	100.00

evidence on how RDA will work for other organizations. As some of the existing library systems being used do not support RDA, some libraries cannot implement RDA even if they wanted to because this will likewise mean replacing their current ILS.

Filipino librarians, in their initial encounter with RDA, think that it can provide transparency to users as it applies the take-what-you see principle and have discontinued the use of Latin words and abbreviations. They also believe that RDA will improve discovery and that it will likewise provide clearer authority records with the addition of new elements. Most (70.00%) of those who have implemented RDA see no significant impact in their local cataloging operations despite the fact that they did encounter problems like lack of consistency in the library catalogs, data quality control and compatibility with MARC records. They also did face problems with user familiarity, in the beginning.

For catalogers, however, RDA means improved discovery experience for library users and well-formed library metadata for the future. The enhancements in data standards and library technology have, for them, also led to more efficient cataloging.

RDA Trainings

Most (84.70%) of the respondents have attended RDA trainings and majority (80.00%) of them received their training from PAARL. Consequently, 90.00% of those who attended the PAARL trainings were able to successfully implement RDA in their respective libraries.

The RDA trainings, in general (i.e., those given by PAARL and those by other associations and institutions) showed to be very useful to the respondents (57.40% considered the trainings useful to a great extent and 24.60% said it is much useful). PAARL trainings in particular were considered by the respondents to be very useful garnering a mean average of 4.18.

Trainings for librarians and copy catalogers in the respective institutions of the respondents usually lasted from 1 to 4 days. The length of time allotted for the training was regarded by 56.70% of the surveyed librarians to be just right; that is, exactly as how they planned it to be. Some (21.70%) spent

more time than they planned for, while others (21.70%) devoted less amount of time than what they originally intended to. Trainings were usually conducted by either nationally recognized experts (27.30%); in-house trainers (25.80%); or original catalogers (22.70%). As expected, 63.30% encountered problems in the course of the training. The unavailability of RDA toolkit (51.1%) and the lack of expertise appeared (48.90%) to be the most common problems. Resistance to change was likewise encountered by 46.80% of the respondents.

Those who were trained find the in-person trainings/workshops sponsored by library associations to be the most effective means of learning RDA. Peer learning (learn-as-you-go approach and hands-on practices) and in-house local training opportunities also proved to be effective. This implies that both formal and informal trainings are useful and valuable.

Less than half (45.70%) of the respondents confirmed that they or their superior or staff have provided trainings/workshops on RDA, majority of whom were only able to provide one training/workshop.

The Cataloging Policy Statements and RDA Guidelines for Philippine Libraries was prepared by PAARL specifically for those who cannot afford to buy the printed RDA toolkit or subscribe to its online version. As such, it contains simplified versions of the basic rules contained in the toolkit which should be able to provide instructions on how to do descriptive cataloging of common library materials (books, theses, and audiovisual resources) using RDA. Results of the survey showed that there is wide dissemination, having been received by 78.30% of the respondents. Its usefulness, however, was rated 3.8 (mean average) meaning they were able to use it but not to the extent to which it was originally meant to be, that is, a condensed and simplified version of the toolkit.

Most of the respondents (77.80%) expressed the need for PAARL to conduct more training-workshops on RDA, which they further re-affirmed when asked about their thoughts and other comments. Likewise, they would want the following materials to be made available to them: training modules (70.80%); online tutorials (65.30%); and, a condensed manual highlighting the significant changes between AACR2 and RDA.

DISCUSSION

A number of issues and concerns arising from the implementation of RDA proved to be universal.

Cost, particularly the affordability of trainings (Cross et al., 2014; Park & Tosaka, 2015), was an issue experienced by even first world countries like Canada and the United States. Foreseeing that this would be a major concern for Filipino librarians, PAARL provided free and subsidized training-workshops. Despite this, cost persisted to be an issue as most of the libraries that have not adopted RDA are unable to afford the subscription to the RDA toolkit or even its printed version. Budget posed to be a problem for both first and third world countries.

Technical issues particularly compatibility of the current ILS to RDA (Çakmak, 2018; Luo et al., 2014) was a problem experienced by Turkey, China and the Philippines. Such problem may only be solved by upgrading the system (if it is in-house developed) or by totally replacing the system. Both of which will again lead to additional cost.

Librarian's attitudinal problems, specifically resistance to change or the attitude of doubt (Luo et al., 2014) demonstrated to be common between China and the Philippines. Adopting RDA means adopting to change; and change brings about ambiguity or the feeling of uncertainty which, in this case, is most likely brought about by the need to relearn (Nakhoda & Tajik, 2017) or retool oneself to be able to understand and use the new cataloging standard.

The lack of expertise (Luo et al., 2014) is a problem that the Philippines and China experienced as they transitioned to RDA. Since RDA was a project initiated in the US through the collaborative effort of the Library of Congress and two other national libraries such as the National Agricultural Library

and National Library of Medicine, experts would likewise be coming from these group of librarians. As such, less is expected of librarians from Asia (being very far away from the US) to be able to readily possess the needed competencies/expertise that would enable these countries to move swiftly forward with the adoption of RDA. The initiative of PAARL to bring to the Philippines Barbara Tillett, the Chief of the Cataloging Policy and Support Office of the Library of Congress, is indeed an impressive move in ensuring that the country is able to develop experts the soonest possible time.

Since the problems that surfaced in the course of transitioning to RDA are common, practices, resolutions, preferences and beliefs also appeared to be common between nations. For Israel, China, and the Philippines cooperation is key (Goldsmith & Adler, 2014; Luo et al., 2014) to the successful implementation of RDA. The coming together of academic libraries in Israel, the library community in China, and the partnership of a library association with the government in the Philippines have indeed facilitated the process of transitioning to RDA of these countries. Similarities were likewise noted on how catalogers from Canada see RDA as a way towards a more efficient cataloging process (Goldsmith & Adler, 2014) in the same way that Filipino catalogers do. Formal (face-to-face/personal) trainings surfaced to be the most preferred mode of training based on the critical review conducted by Yosaka and Park (2013), and the Filipino librarians are no different from librarians all over the world. The same with the Philippines, librarians in the US regard informal training ("learn-as-you-go" peer learning) as the most efficient way of acquiring skills on the use of RDA (Park & Tosaka, 2015). The use of online training resources (Sanner, 2012; Yosaka & Park, 2013), though, appears to offer great opportunity for librarians who would want to undergo training in the future or for those who would want to review or take up refresher courses.

The experience of the Philippines in the implementation/adoption of RDA is no different from the experiences of other nations. Countries that are therefore still in the stage of planning for the adoption of RDA are urged to look into the common problems encountered by those who went ahead and how they were able to address the problem so they would be able to avoid the same mistakes and transition smoothly and swiftly.

Conclusion and Recommendations for Future Research

In terms of implementing RDA, the Philippines is now in the midway. This, for PAARL, means that it still has to get in touch with the remaining half of the country specifically those in the Mindanao and selected provinces in the Visayas and a few more provinces in Luzon.

The training-workshops conducted by PAARL proved to be successful as far as the NCR is concerned. Although the association exerted effort on providing identical training-workshops (i.e., in terms of content and number of sessions (one session per major island)) to librarians in the Visayas and Mindanao, it demonstrated to be very limited. Furthermore, it seemed to have failed to attract attendees who have the potential of becoming trainers themselves, who could have provided follow-up trainings, as necessary. Considering that distance and training cost are expected to pose a problem in these areas, this should have been tagged as a priority for PAARL.

The respondents also do not see the Cataloging Policy Statements and RDA Guidelines for Philippine Libraries as a tool which they could use in the absence of the RDA toolkit hence has remained to believe that they cannot implement RDA without the toolkit. This, therefore, goes to show that while the guidelines were widely distributed, its use was not maximized to the fullest.

Due to the limited number of respondents from the Visayas and Mindanao who agreed to participate in this survey, a follow-up study covering the widest area possible is recommended preferably after the conduct of the additional face-to-face training-workshops and the online tutorials are made available. This will enable PAARL to more accurately ascertain the degree to which they have covered the

country in terms of training and how such would impact the implementation of RDA in the country.

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ASSESS, CALCULATE, RE-EVALUATE, EDUCATE (ACRE): A RISK ASSESSMENT FRAMEWORK FOR UST MIGUEL DE BENAVIDES LIBRARY

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Abstract
This study identifies the natural and man-made risks that the University of Santo Tomas (UST) Miguel de Benavides Library in Manila, Philippines is currently facing. Being the oldest existing university in Asia, its library holds materials with historical and cultural significance. For the protection of these materials, the authors did on-site visit, policy review and staff interview. Based on the findings and assessment, the authors proposed a risk assessment framework for the library.

Keywords: *risk assessment, library collection, quality assurance, Assess, Calculate, Re-Evaluate, Educate (ACRE)*

Background

The University of Santo Tomas (UST), being the oldest existing university in Asia witnessed almost all types of disasters. The evidential, historical, cultural and symbolic documents of the university's 407 years of existence are currently housed in its library. The UST University Library, also known as the UST Miguel de Benavides Library, was named after its founder Fr. Miguel de Benavides O.P. and was founded in the early 17th century when the Dominicans contributed books essential for priesthood and other sciences education. At present, it has 16 sections that house different types of collection, serving and addressing the information needs of the whole Thomasian community (University of Santo Tomas, 2016). As for the preservation and protection of these materials, the UST Library, in coordination with the UST Crisis Management Committee, has an established emergency plan. However, the library disaster plan

and risk assessment program have not been done or updated for decades already

The Philippines is identified as one of the riskiest and most disaster-prone countries in the world (Kostigen, 2015). In 2009, Tropical Storm Ondoy (International name: Ketsana) produced a remarkable and record-breaking amount of rainfall in a single day that resulted in massive flooding, especially in Manila, Philippines and its nearby towns (Zuellig, 2009). In this disaster, floodwater flowed like a raging river; submerging low-lying places (Act for Libraries, 2017). In 2013, super typhoon Yolanda (International name: Haiyan) caused catastrophic and deadliest destruction in Visayas, particularly in Samar and Leyte. Starting from 2012 to 2014, Habagat (southwest monsoon) also brought rainfall and massive flooding. These natural disasters posed threats both to human lives and cultural heritage. For instance, referred to as "The Great Flood" by the Thomasian community, the Typhoon Ondoy in 2009 put the whole UST campus in deep water. It was the was worst in the last 40 years of the university's existence. There was a strong flow of water coming from the drainage canal, andsome leaks in a few areas were also spotted. There was minimal flooding in the Main Library, but the two branch libraries, the Ecclesiastical Library and the Grade School Library were submerged in water, with the latter having approximately 600 damaged books (Majuelo, 2009).

Within this context of protecting the library and its materials from various possible risks, the need to do risk assessment arises. The Council on Library and Information Resources (2014) defines risk assessment as the identification and analysis of internal and external risks relevant to the achievement of objectives. Prideaux (2007) noted that, it is necessary to identify risks and have a systematic review of premises and activities that have the potential to cause harm and damage to people and resources. Completion of risk assessment ensures that hazards, risks, and the methods for controlling risks are properly documented and can be used to communicate this information to relevant stakeholders. Library managers should always remember that a single risk can have multiple effects: additional costs, delays, penalties and reducing the quality of services. Boin and Lodge (2016) emphasized that a well-set up library includes assessing and prioritizing the hazards and risks. With these risks and the need to mitigate them, this paper identifies and assesses the potential natural and man-made risks and how the UST Library can address them.

Table 1
Qualifiers and Quantifiers to Risk Assessment Factors

Quantitative Values	Qualitative Values	Probability of Occurrence	Effect on Collection	Recovery Time	Financial Impact
1	Low	Once per century	1% of collection	One week to one month	PHP 100,000 or less
2	Medium	Once per decade	50% of collection	More than one month but less than six months	More than PHP 100,000 but less than PHP 500,000
3	High	Once per year	90% of collection	More than six months to one year No idea with mitigation	More than PHP 500,000
0	—	—	—	No idea with mitigation	—

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Table 2
Relative Rating

Quantitative Values	Qualitative Values	Probability of Occurrence
1-9	Low	Risks that must be eliminated or significantly reduced
10-18	Medium	Risks that need to be monitored, mitigation plan must be in place to reduce risk
19-27	High	Requires less attention but not to be totally ignored

Methods

To meet the study's objective, the methods done were in two phases: Phase I included on-site visit, facility and library assessment, policy review and semi-structured staff interview. The interview with the staff allowed direct observation which enabled the study's proponents to put behavior in context and make it more understandable. According to Gay (2009), the advantages of observation include: researcher has first-hand information, he/she can record information as observed, unusual aspects can be noticed during observation, and it is useful for exploring topics that participants may feel uncomfortable to discuss. A consultation meeting was first conducted with the chief librarian of UST to review existing and available data, information materials, and other risk assessment plans and templates. On the succeeding visits, the librarians participated in the staff interview.

Phase II included the use of a survey questionnaire as an assessment tool. It was developed using Beth Patkus' (2003) Self-survey Guide on Assessing Library's Preservation Needs, Smithsonian National Postal Museum's Identified Agents of Deterioration and University of California Library Collections Risk Model. With the use of qualifiers and quantifiers (see Table 1), such as Probability of Occurrence, Effect on Collection, Recovery Time and Financial Impact, the level of sensitization of library managers on disaster preparedness, response and recovery, examination and identification of library risks/ threats, and level of staff sensitization on disaster issues and concerns were covered

A simple mathematical formula was then used to calculate for the relative rating to determine the risk that was likely to occur and with the greatest impact. The following formula and description of values were used:

RELATIVE RATING = Probability of occurrence X the sum of impact, (i.e. effect on collection + recovery time + financial impact).

Once risks' relative ratings are computed, qualitative values from University of California Library Collections Risk Model (2009) Low, Medium, High can be assigned. The maximum possible value to be derived from risk rating is 27. Since there are 3 qualitative values, a simple division will be performed to get the range for each risk rating: 27/3 = 9 (See Table 2).

Findings, Conclusion, and Recommendation

The most common risks associated with libraries and collections are fire, light, moisture, bug infestations, theft, vandalism and power surges that can destroy library's digital / electronic collections (Polastron, 2007). Phase I of this research included on-site visit and assessment of UST Miguel de Benavides Library's preparedness to the identified risks. The following facilities, equipment and practices were observed:

Table 3
Relative Rating of Risk Events Caused by Natural Disasters

Risk Event	Probable Cause	Relative Rating
Building collapse	Earthquake / Explosion	16.7
Flood	Storm / Heavy rains	11.8
Fire	Lightning / Earthquake effect / Explosion	11.7
Mold	Poor storage / Humidity issues	9.9
Chemical spills	Gas leaks	3.3

- CCTVs in the building to address theft and vandalism risks
- Ventilation and air conditioning to address light damage risks
- Secured doors to address fire and theft risks
- Alarm systems, emergency lights and fire extinguishers to address fire and power surges risks. More specifically, the Library has 213 smoke detectors, 34 bells, 2 heat detectors, 35 strobe lights and 1 fire alarm control panel.
- Authorization and security to address theft and vandalism risks

It was also observed that only one of the sixteen sections in the library, the Antonio Vivencio del

Table 4
Relative Rating of Risk Events caused by Man-Made Disasters

Risk Event	Probable Cause	Relative Rating
Collapse of shelves	Overloading of shelves	19.7
Insects, Termites, Rodents	Food / Infected items / Poor storage	10.7
Mold	Fluctuations in humidity caused by neglect	9.9
Fire	Arson / Faulty wiring	9
Light	Overexposure to natural or artificial light	8.2
Flood	Faulty plumbing / Leaky roof	7
Theft	Inadequate security	6.6
Vandalism	Inadequate security	6.1
Chemical spills	Improper storage and/or use of chemicals	3.7

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Rosario UST Heritage Library, has dust accumulation and humidifier to prevent light, bug infestation and moisture damage risks. Moreover, the Head Librarian also confirmed that humidity is regularly monitored and maintained.

Among the identified risk events caused by natural disasters, three garnered Medium rating (Quantitative Values of 10-18), and the highest are: building collapse, flood and fire (See Table 3).

Among the identified risk events caused by man-made disasters, one garnered High rating (Quantitative Values of 19-27): collapse of shelves while insects, termites and rodents garnered Medium rating (Quantitative Values of 10-18) (see Table 4).

Given their high probability of occurrence as assessed by respondents, two natural disasters were identified to be the highest risks to the library (see Figure 1). One is earthquake or explosion. UST Miguel de Benavides Library is located in Metro Manila. It should be noted that a study done by the Philippine Institute of Volcanology and Seismology (PHIVOLCS) showed that an earthquake of at least 7.2 magnitude from the West Valley Fault could devastate Metro Manila (Santos, 2014). University officials noted that should the magnitude 7.2 earthquake hit Metro Manila, apparent damages could be expected. But according to the interviews with the respondents, buildings inside the UST campus would not give in to earthquake as they were built to endure earthquakes as strong as magnitude 8.0. The UST Miguel de Benavides Library building was inaugurated on October 29, 1989 and the authors and the librarians of UST hope that similar to the UST Main Building, which endured four major earthquakes in 1937, 1968, 1970 and 1990, it can also withstand a major earthquake.

The other natural risk identified to be of highest threat to the library is storm or heavy rains which can cause devastating floods (see Figure 1). UST Miguel de Benavides Library is located in one of Manila's flood-prone areas. Dubbed as the "Great Flood," Tropical storm Ondoy in 2009 was considered as the

Figure 1

Natural Risks: Probability of Occurrence and Effect on Collection

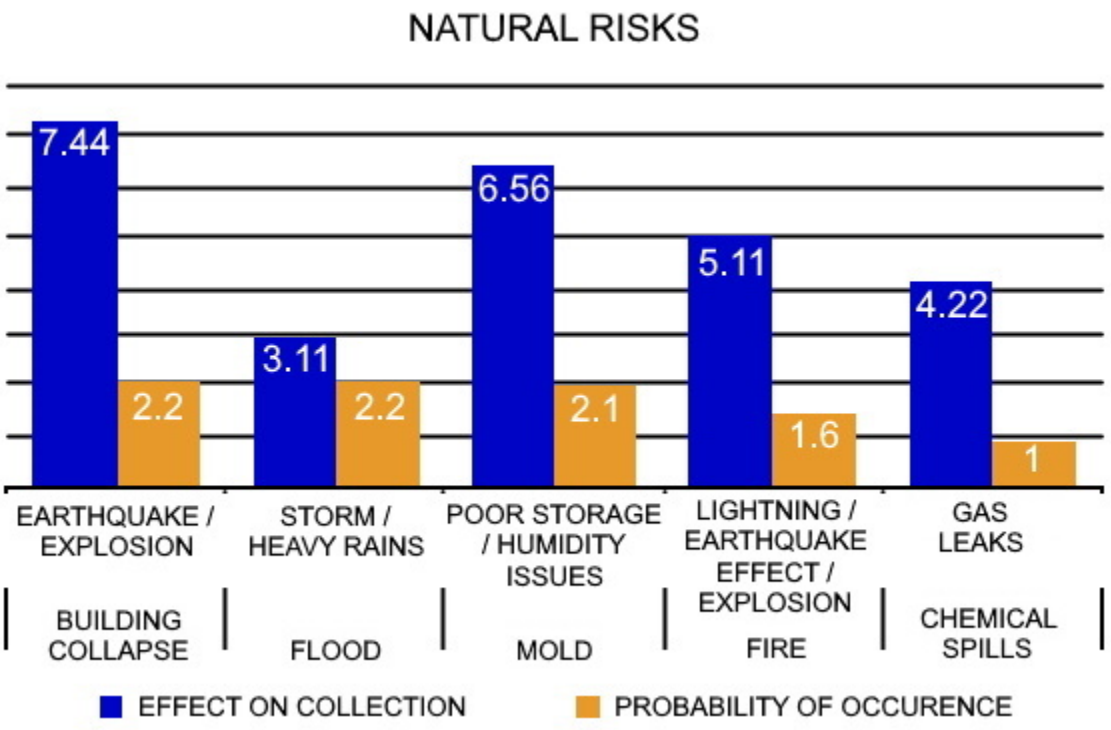
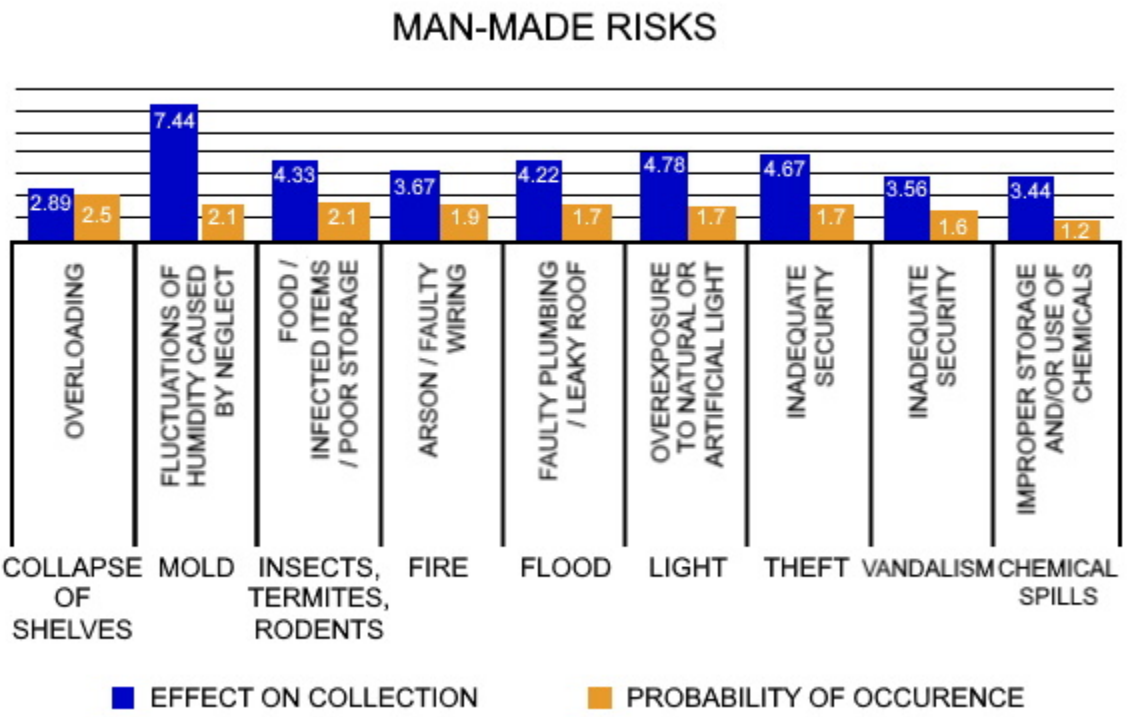


Figure 2
Man-Made Risks: Probability of Occurrence and Effect on Collection

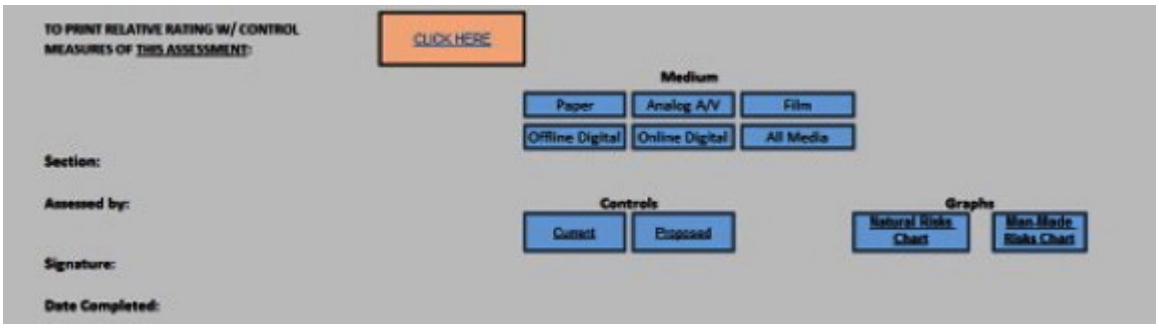


worst in the last 40 years. There was minimal flooding in the UST Miguel de Benavides Library, but the two branch libraries, namely, the Ecclesiastical Faculties and the Grade School Libraries were badly affected (Majuelo, 2009).

Among these natural risks, earthquake or explosion is identified to have the most significant impact to the Library (see Figure 1).

As assessed by the respondents, overloading of shelves which can cause collapse has the highest probability of occurrence among identified man-made risks (see Figure 2). The UST Miguel de Benavides Library has no recorded incident of major shelving collapse due to overloading. In majority of the sections, the open-shelf system whereby users have direct access to the collection is adopted. The Library Administration acknowledges that a non-

Figure 3
Interface of the Interactive File of the Tool, University of California Library Collections Risk Model



Cabbuag, J. G. & Pascua, S. M. (2019). Assess, Calculate, Re-evaluate, Educate (ACRE): risk assessment framework for UST Miguel De Benavides Library. *Philippine Journal of Librarianship and Information Studies, 39* (2), 25-36.

structural hazard including unsecured or unbraced library shelving or failure to practice shelf asymmetry, that is, having too many or heavier books on one side can cause collapse. The previous Library Administration had consulted with trained professionals to examine and suggest a method to properly reinforce library shelving. It is hoped that the current Library Administration will also do the same.

Although collapse of shelves has the highest probability of occurrence, the respondents identified mold infestation to have the most significant impact to the Library (see Figure 2). The respondents acknowledged that since risk assessment is not done regularly and only the head of Antonio Vivencio del Rosario UST Heritage Library has formal training on preservation and conservation, she is the only one who understands very well the significance of regular maintenance and monitoring of light, temperature and humidity.

When risks are identified, and their effects are realized, destructive impacts can be reduced. It is suggested that risk assessment be done at least once a year, during one of the Library's research break weeks. It is recommended that it must be done one at a time and follow the steps according to **ACRE**.

Assess

Vital areas of each section's collection should be identified. It is important to prioritize collection because it will help responders identify protection needs and guide salvage efforts after the disaster. By identifying highest priority assets, responders will not lose valuable time and resources saving low value items. It is suggested that the following questions be considered in prioritizing collection and creating salvage priority list:

- Can the items be replaced? If yes, would the cost of replacement be more than the cost of restoring them?
- How would loss of the items impact the University's mission?
- Will the items require immediate attention because of composition (vellum, water-soluble inks, coated paper, etc)?

See Appendix A for a sample Collection Salvage Priority Template / Form. Priority 1 items are packed first unless they are not in danger or if it is impossible or too dangerous to access them. They are prioritized for post-disaster mitigation or proactive conservation methods. Collection Salvage Priority should be marked on the floor maps, ensuring that they are known and understood.

Calculate

As this study focuses on paper-based collection, it is suggested that calculation be made on other forms of media. The concept of University of California Library Collections Risk Model, an interactive file for easier calculation of probability of occurrence and effect of identified risks can be adopted. This tool will allow users to evaluate risks to collections. Results can be used later to help library managers set priorities for implementation of controls. The tool can be downloaded through this link: https://goo.gl/fuMSJB. See Figure 3 for the sample interface of the interactive file of the tool University of California Library Collections Risk Model.

Re-Evaluate

Using the Prevention and Preparedness Measure Form (See Appendix B), it is suggested that a preparedness review of the library be conducted.

Educate

Even the best, well-written library disaster plan and most up-to-date phone list will be greatly compromised if the staff members are not properly trained on how to implement the plan and perform the steps immediately after the disaster. Training on response for collection damage is critical for testing procedures, looking for problems, and discussing solutions. Training will build confidence among the librarians and staff, and can bring success to the disaster response and recovery activities. It is important to note that the library disaster plan is never absolute and has to be reviewed and updated regularly. To better utilize ACRE, a RACI (Responsible, Accountable, Consulted, and Informed) Chart is recommended. This chart can help the experts, librarians and staff know and do their responsibilities in assessing and responding to

the various risks and dangers. See Table 5 for the RACI Chart created for this study.

To continuously improve the library, it is hoped that ACRE be utilized in order to determine and note some other additional risks and controls in the library. Risk assessment should be performed regularly, at least annually by head librarians of each section. This is to ensure the inclusion of best practices and improved procedures.

Table 5
RACI Matrix

Tasks	Building Experts	UST Crisis Mgmt.	Prefect of Libraries	Chief Librarian	Section Heads	Partners and Sponsors	Preservation Experts
On-site assessment, library preparedness review	R/C	A	I	I			
Identification of collection salvage priority		I	I	A	R	I	I
Assess risks to collection			I	A	R	I	C
Response for collection damage			I	A	R	I	R/C
First aid training		A/R	I	I	I	I	
Identification of best practices and improved procedures			I	A	R	I	C
Staff training			I	A	R	I	C

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Appendix A

Collection Salvage Priority Form

SECTION: Humanities

Collection	Priority 1	Priority 2
Nick Joaquin Personal Collection	X	
Biographies / Autobiographies		X
Photography	X	

Appendix B

Prevention and Preparedness Measure Form

Items to be checked	Person responsible	OK	Should take action
Building (for structural problems)			
Termite or insect problems			
Ceiling (for cracks, leaks, etc)			
Walls (for cracks or seepage)			
Windows and ventilators			
Toilets, sinks or water coolers			
Electrical wiring (is not loose)			
CCTV (functionality)			
Fire alarms, smoke detectors and fire sprinkler			
Humidifier			
DATE CHECKED:			

A STUDY ON THE PERCEPTION OF FILIPINO LIBRARIANS ON INNOVATION

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Abstract
Innovation is a word librarians and information professionals use as a go-to solution when they try to justify their value to its parent organization. They talk about high-tech libraries and innovative services like learning commons, makerspaces, online databases, and at the center of these changes are the innovative librarians. However, there is seemingly a disconnect between perceptions and implementations, thus prompting a back to basics investigation on the concept itself and how it is understood by Filipino librarians.

This study offers insights into what Filipino librarians mean when they refer to the word "innovation." By exploring the concept of innovation, we may have an idea of the intention, commitment, direction, and importance of innovation in the strategic future of our libraries and information centers, thus painting a picture of Filipino librarians and their idea of the word "innovation" and how it reflected in their organizations.

Surveyed for this study are librarians from all over the Philippines and their definition and perception of what words, definitions, services, and programs they consider as technological and innovative.

Keywords: *innovation, librarians, information professionals*

Introduction

Visiting the websites of some iSchool members reveals the word "innovation" in their degree and certificate programs. Syracuse University, for example, has a Certificate of Advanced Study (CAS) in Information Innovation (Syracuse University, 2011). University of California, Davis Campus has The Center — Center for Science and Innovation Studies (University of California, Davis, 2000) while the University of North Carolina at Chapel Hill has its Social Innovation Initiative (University of North Carolina at Chapel Hill, 2012). Library associations here in the Philippines use the word "innovation" in the title or in the objective of seminars and workshops they host in recent years. In 2017, the Philippine Librarians Association, Inc. (PLAI) conducted a *Seminar on Innovations in Library Technology, Communication, Resources, and Services* (Philippine Librarians Association, Inc., 2017) while the theme of the last PLAI Congress was Inclusive. Innovative. Interconnected (Philippine Librarians Association, Inc., 2019). The Philippine Association of Academic and Research Librarians, Inc. bestows its annual *Academic or Research Librarian of the Year Award* to

librarians who demonstrated "Planning and implementing an innovative or a high-impact library program for an academic/research library" and its Outstanding Library Program of the Year Award to libraries that have "…a strong impact on the library community, be innovative, sustainable and may be replicated to other library communities, or institutions" (Philippine Association of Academic and Research Librarians, Inc., 2019).

Making organizational changes within libraries and information centers because of pervasive technology is the current trend. Lakos and Phipps (2004) would put it:

> *Libraries are challenged to be nimble, innovative, responsive, proactive, and, most of all, able to demonstrate their value. Libraries must be able to measure their outcomes and systematically make technology, budget allocation, service, and policy decisions based on a range of data—needs assessment data, customer evaluation data, stakeholder expectation data, and internal process and organizational effectiveness data. (pp. 346–347)*

Adopting technology into organizational culture is no easy feat. A review of the literature is full of cautionary tales of failed attempts due to varying factors. What is clear is that innovation is the lifeblood for any organization to stay relevant.

> *It is evident from current environmental indicators that organizations need to utilize two tools skillfully in order to create customer value: innovation and strategy. While the strategy can exist without innovation, it is unlikely that effective innovation can occur without the use of strategy. For organization leaders, the challenge is threefold: develop the ability to create value-added innovative services on a continuous basis; utilize strategy to make decisions about innovations; and deliver innovative services to the customer. (Deiss, 2004, p. 17).*

The enthusiastic use of the term "innovative" merits the question: What do we mean we say something is innovative? What ideas, actions, changes, programs, services, and accomplishments would count as innovative? This study explored these questions by giving the respondents different definitions and concepts and let them associate these with the idea of being innovative. By extension, this study provides an alternative way of knowing the strategic directions of libraries in the Philippines. As mentioned by previous studies, the extent of how an organization is open to innovation is associated with how open they adopt new technologies. Therefore, we can anticipate the technological changes to be pursued or adopted by librarians and information professionals in the Philippines. This way, this study will contribute to the literature on how to operationalize innovativeness. Lastly, this study aims to point libraries and information centers to technological changes worth investing in. Through this study, the question regarding which technological innovations are critical and worth pursuing are identified through the consensus of the respondents.

Review of Related Literature

Since its inception in 1962, the theory of diffusion of innovation has been the main framework by many disciplines to describe how early a certain group of people adopt new technology to innovate existing products and services. Although applied in many fields, only a handful of studies have applied it in the library and information science (Russell & Hoag, 2004). With the millennial generation, the digital natives, slowly starting to assume the managerial roles in libraries and information centers, this study is primed to investigate (1) the new perception of what is innovative, (2) the shift in attitude towards innovation, and (3) the openness of this new generation of librarians in terms of innovation

Defining Innovation

When we think of innovative organizations, we think of Google, Apple, and Tesla. These organizations have put innovation at the core of their organizational culture. Coincidently, they are also technology companies. Therefore, it only makes sense to start the investigation of defining innovation in this sector.

In 2011, General Electric commissioned a worldwide survey of 2,800 senior business executives directly

Table 1
How Business Defines Innovation

Definitions elements	Top choice	Total mentions
The implementation of new processes, products, organizational changes or marketing changes	35%	47%
An environment/culture that embraces positive change, creativity and continuous improvement	27%	42%
Research and development, new intellectual property (IP), and inventions	17%	41%
Staying ahead in the market and being a market leader	12%	32%
Solutions that benefit society and societal outcomes (including environmental outcomes)	9%	29%
None of the aspects above is close to my personal definition of innovation	1%	10%

Note. From GE Global Innovation Barometer: Global Research Report (General Electric, 2012).

involved in the innovation strategy or process within their company to define innovation. As shown in Figure 1, the respondents failed to reach a consensus.

What was clear is that the respondents gravitate towards the words "new" and "change." The same sentiment is seen throughout the literature. Daft (1978), Damanpour (1996), and Rogers (2003) defined "innovation" as the introduction of new products, services, technologies, or administrative practice. An organization can also be seen as innovative if it consistently makes significant improvements to the concepts mentioned. Rogers (2003) even identified five characteristics of innovation in his work *Diffusion of Innovation:*

- **Relative advantage** is the degree to which an innovation is perceived as better than the idea it supersedes.
- **Compatibility** is the degree to which an innovation is perceived as being consistent with the existing values, past experiences, and needs of potential adopters. An idea that is incompatible with the values and norms of a social system will not be adopted as rapidly as an innovation that is compatible.
- **Complexity** is the degree to which an innovation is perceived as difficult to understand and use.
- **Trialability** is the degree to which an innovation may be experimented with on a limited basis. New ideas that can be tried on the installment plan will generally be adopted more quickly than innovations that are not divisible.
- **Observability** is the degree to which the results of an innovation are visible to others. The easier it is for individuals to see the results of an innovation, the more likely they are to adopt

According to Rogers (2003), so long as an organization's innovation possesses these characteristics with a high degree, their innovation will be easier adopted compared to other innovations.

Library's Perception of Innovation

The majority of the research regarding the innovativeness of library and information centers tend to focus on the patrons rather than the librarians themselves. Most of these studies examine the readiness of the library users to adopt new technology in preparation for acquiring a related technology. Some studies that focus on the librarians' innovativeness discuss how these innovations will affect their jobs and rarely discusses their attitude and perception of innovation in general.

Musmann (1982), one of the only few research regarding library innovation, focused on libraries'

organizational structure and the technological environment as the main driving force for having an innovative organizational culture. According to his study, libraries view technology as a deterrent that has a negative impact on reading. To librarians, the book represented the embodiment of knowledge and thought, and technological diversions did not bode well for the health of society. He described libraries as rigid structures and that eliminating its "machine bureaucracy" as the greatest innovation a library can adopt. The same sentiment was shared by Clayton (1997). In his book, he observed rigidly defined job classifications in which ritualistic and unimaginative behavior that eventually hinders innovative changes in Australian academic libraries. Howard (1981) tested this relationship and concluded that higher centralization, one of the characteristics of rigid organizations, leads to lower rates of innovation.

The Philippine Library Community's Perception of Innovation

If libraries in the Philippines are faithful to the precepts of the profession, it is only logical for librarians to embody the spirit of innovation. This way, our profession will remain relevant and steadfast through the test of time. As noted by Riggs (1997):

Technology has been one of the primary, if not the

Table 2

Job Listings for Librarians with Reference to Innovation

Position	Reference to innovation	Words / Phrases in the advertisement related to innovation
Librarian Treston International College	The college mentors within an inclusive and caring community that celebrates global-mindedness, fosters innovation, and provides opportunities for professional growth and development with a purpose.	Inclusive, Growth
Librarian Lorenzo Ruiz de Manila School	Continuously strive for transformative education that is innovative, dynamic, and globally responsive.	Transform, Dynamic, Responsive
School Librarian Center for Culinary Arts, Manila (CCA-Manila)	INNOVATION (We believe that creativity and the desire to constantly improve and find new ways of doing things is essential the development of our students and the culinary industry as a whole)	Creativity, Improve, Development
Consultant (Content Management) - KMIS Department of Trade and Industry – Government	DTI is responsible for realizing the country's goal of globally competitive and innovative industry and services sector that contribute to inclusive growth and employment generation	Competitive, Inclusive, Growth
Digital Library Officer CE-Logic	CE-Logic commits itself to becoming the premiere provider of world-class and integrity-based educational online products and innovative solutions for academic and professional institutions	World-class, Solutions

Note. Data from Jobstreet.com (Jobstreet.com, 2020).

> *primary, factor(s) enabling the library to move forward in quantum leaps. Time cycles have been dramatically reduced . . . and numerous examples of added value are witnessed daily by library users all because of advancements in technology. Unquestionably, the revolution in library services has been driven by evolving technology. (p. 4)*

To determine the extent by which libraries in the Philippines give value to innovation, the researcher browsed through a popular job posting website (*https://www.jobstreet.com.ph/*) to check if the word innovation is included in their job advertisements. This indirect method culled out words from the job advertisements that are associated with the word innovation.

Another indirect method of looking for words associated with innovation is by collecting award citations given by different library associations to librarians, libraries, and library programs. By examining citations that include the word innovation, we can now identify characteristics that are deemed innovative by the library community (Vaughan, 2013). In his report, he also examined the published strategic goals of different academic libraries that contained the word innovation and matched it with the library programs and services established in response to reaching the said goals. This, in effect, gives an idea of what an innovative program or service is, from the point of view of libraries and information organizations.

Methodology

This study adopted an exploratory research design since there are only a few studies to refer to or rely upon on the topic at hand. By doing so, the researcher sets the groundwork in profiling the Filipino librarian in terms of how they perceive innovation.

The target respondents for this study are the attendees of the Philippine Library Association Inc. National Congress last November 22-25, 2016, in Davao City. The researcher identified this as an optimal venue, as this is the largest annual gathering of librarians in the Philippines. This gives the research a good geographical and functional representation of librarians in the Philippines. The researcher also used the PLAI Regional Facebook pages as supplementary tools to disseminate the survey. This way, librarians who were not part of the congress were still covered by the study.

The selected librarians received an online survey (http://research.upslis.info) based on a study of Jason Vaughan (2013) attached to an email detailing:

- The nature of the study
- Request for consent
- A non-disclosure agreement on the identity of the respondent
- An incentive

Questions focused on the definition of innovation (including thoughts on words often associated with the term), how fast they adopt a particular technology, factors helping to inform whether to proceed with a technology-based innovation, thoughts on existing technologies, and perceptions on whether such technologies were "innovative," and how decision-makers support or encourage innovation within the library.

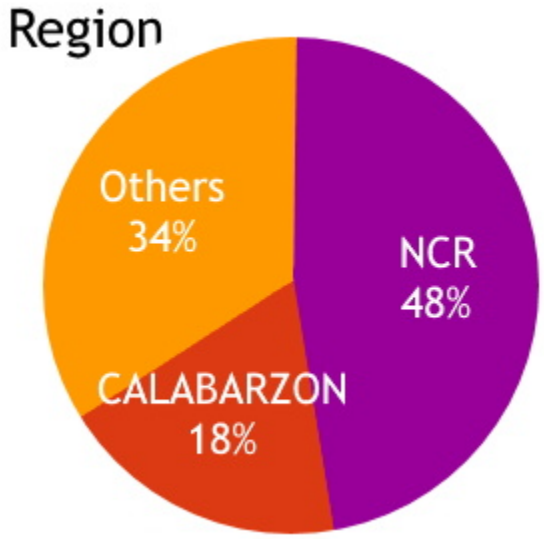
One hundred participants of the PLAI National Congress were randomly selected to be respondents for the study via email survey. A total of 40 responses were received. An FB post in different PLAI regional FB pages soliciting participants provided an additional 96 answers producing a sample size of 136 librarians.

Data gathered were tabulated for analysis and interpretation to produce trends and inferences about the population.

Findings

Most of the respondents came from Metro Manila (66) and the CALABARZON region (24), while the remaining 46 respondents were spread from other regions. This distribution of respondents is to be expected since it reflects the more or less the actual distribution of librarians that attends the PLAI National Congress.

Figure 1
Distribution of Respondents by Region



When asked, "how long have you been a librarian?" the distribution of responses are showing a skewness to the right. The researcher was hoping for skewness to the left that would indicate a higher probability of respondents having a managerial role in their organization. This characteristic was critical since it would mean that sentiments collected in this study are strategic visions in terms of their library's technological innovation direction since they would be in positions to make them happen sooner than later.

Gary Hamel (2002, as cited in Schnell, 2008) notes, "The bottleneck within an organization that ultimately throttles innovation is almost always located at the top. Organizations are trained to look to the top for clues about where it's going" (para. 3). Patterson et al. (2009) list top factors or catalysts for innovation, including "managers' support and openness to innovation," "leaders modeling behaviors that encourage innovation," and "senior leadership's development of an innovation strategy and related priorities" (p. 31). Jantz (2012) notes, "strategy, organizational structure, and the innovative climate are largely established and controlled by the leadership of an organization." He continues, "although compelling arguments are suggesting that organizational innovation can flourish despite, or independently of leadership, it makes a difference—and perhaps a big difference for nonprofit organizations such as research libraries" (p. 4).

The age distribution shown in Figure 2 has a strong association with Figure 3 when asked about their attitude in adopting new technology. Given that the

Figure 2
Distribution of Respondents Years of Service in a Library or Information Center

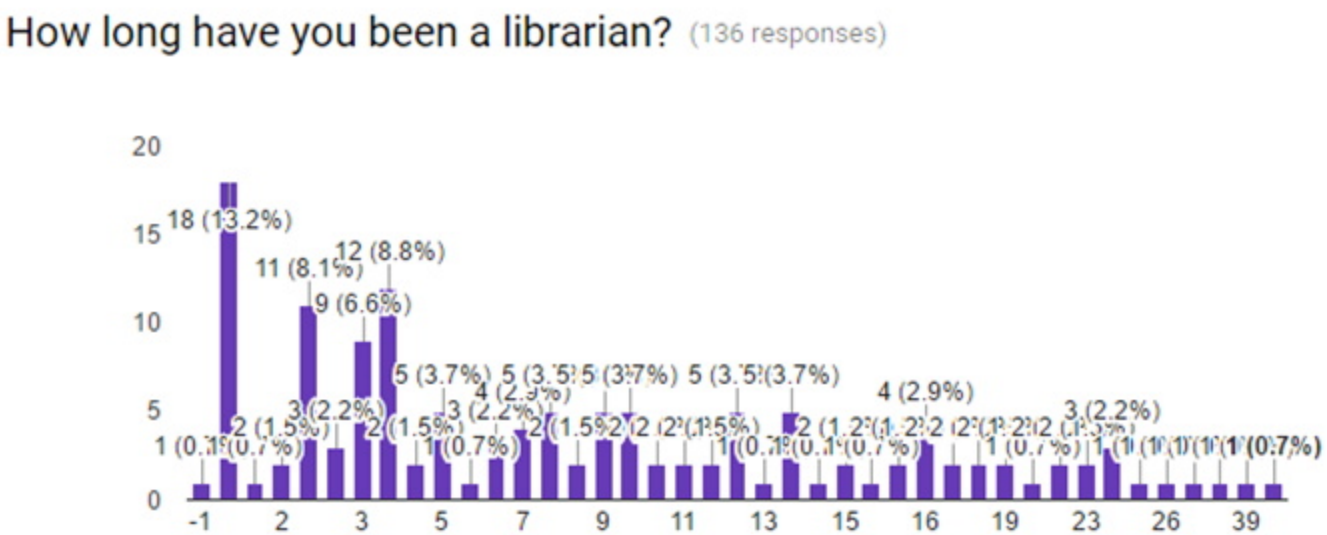
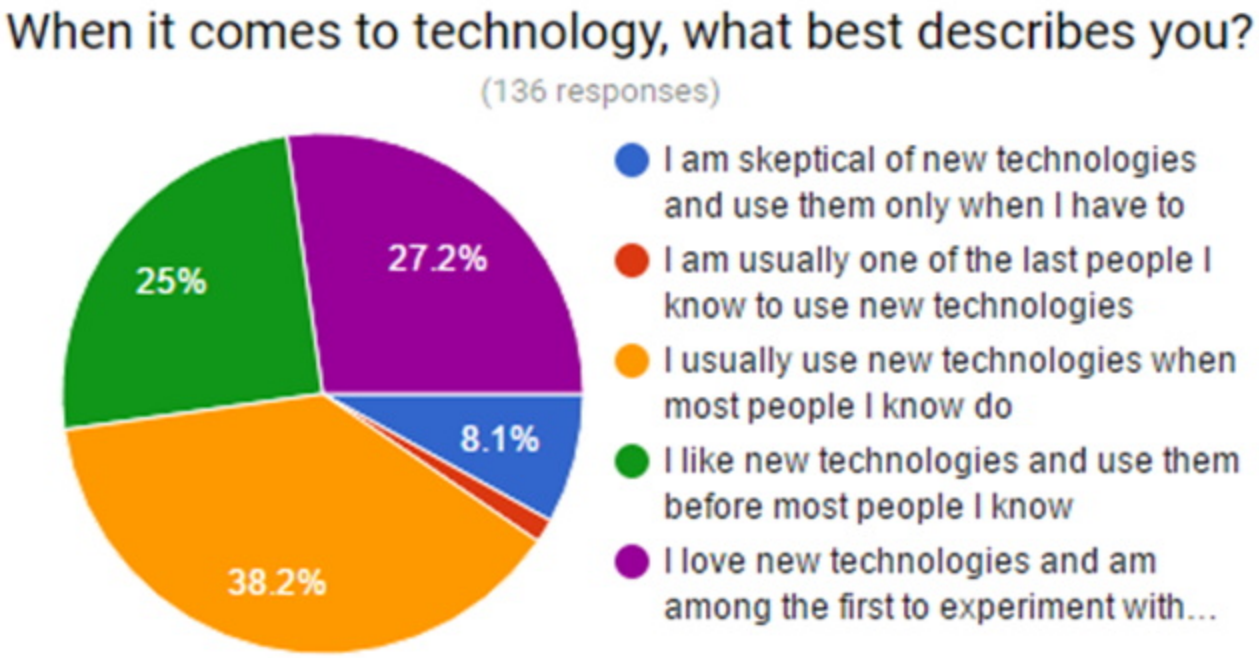


Figure 3
Distribution of Respondents in terms of Attitude Toward Adopting New Innovations



respondents are relatively young, the distribution of this figure is to be expected. This would also put the majority of the respondents in the Innovators, Early Adopters, and Early Majority category of Roger's Innovation Adoption Curve. This result is consistent with the conclusions of Heidi Blackburn (2011):

> *In conclusion, Millennial librarians are the innovators and early adopters through which technology is diffused into libraries, and this paper has applied the lens of diffusion of innovations and the stages of adoption as outlined by Roger Everett to these actions. Through their unique technology-driven characteristics and personality traits, these librarians are more likely to become change agents or surrogate buyers for their libraries as part of the innovation process. They can bring about the adoption of new technology in their respective organizations through the stages of diffusion. (p. 675)*

Word Associated with Innovation

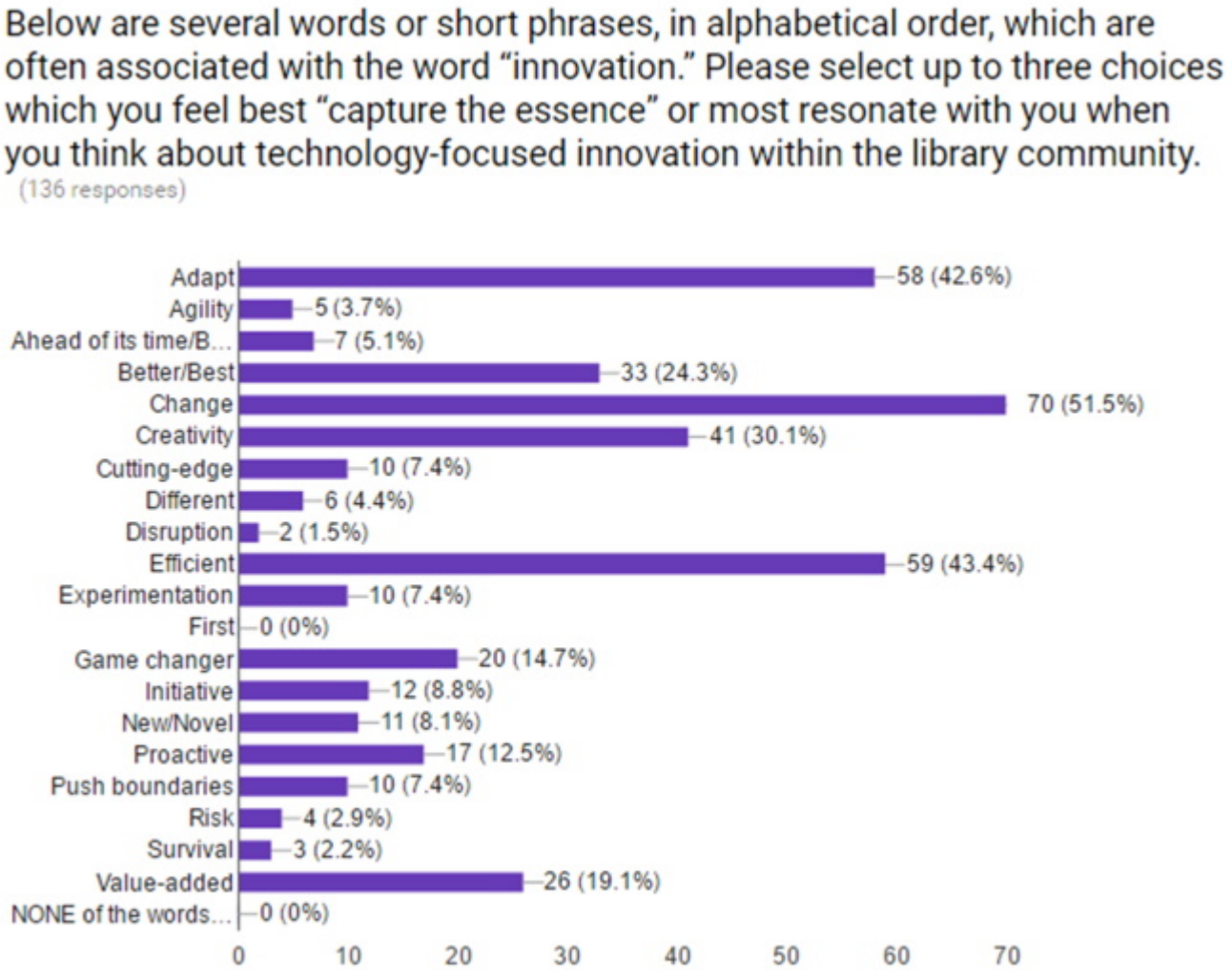
Figure 4 presents all word choices that were selected as words associated with innovation. The most frequently chosen words and phrases were Change, Efficient, Adapt. The least selected words and phrases were First, Disruption, Survival. From this, we can infer that the perception of information professionals with the word innovation is substantially different in context from technology managers.

When asked for justifications on why the respondents selected the aforementioned words from the choices, the respondents also offered other words that were not listed in the choices. Table 3 lists down some of the answers given.

The next survey question listed six definitions for the word innovation and asked respondents to choose up to three that seemed to resonate most with them when thinking about technology-focused innovation. Figure 5 summarizes the responses.

All responses to this question were selected at least 12 times, but two, in particular, were selected most often.

Figure 4
Summary of "Innovation" Word Association



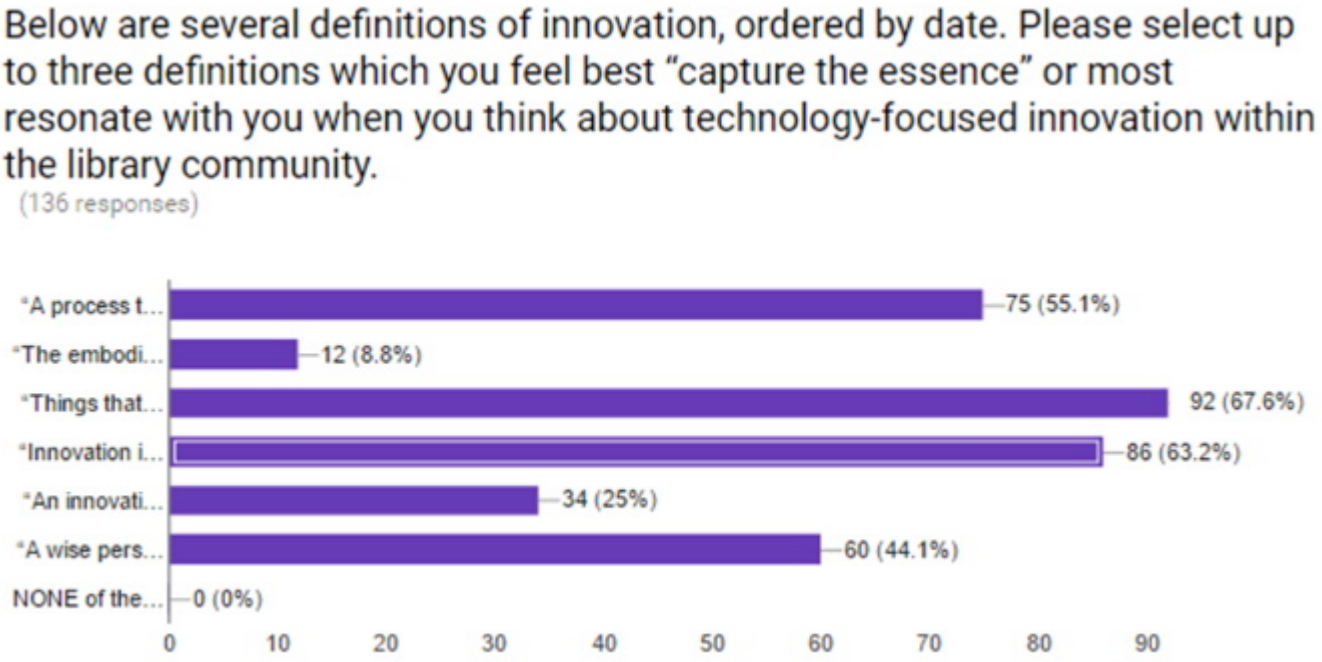
Things that change the way we can do what we want to do; [things that] have added value to our daily lives . . . new, desired, or needed services that add value for university faculty, students, and other scholars . . . Innovation is more significantly about what our target audience can do—about the increased capacity of library users to do what they want and need to do in the way that most benefits their productivity, pleasure, and excellence . . . Facilitating the work of our primary constituents in ways that are new and useful to them. (Deiss, Kathryn. "Innovation and Strategy: Risk and Choice in Shaping User-Centered Libraries." Library Trends, Vol 53:1, Summer 2004, pp 18-19)

Innovation is the multi-stage process whereby organizations transform ideas into new/ improved products, service or processes, in order to advance, compete and differentiate themselves successfully in their marketplace. (Baregheh, Anahita, et al. "Towards a Multidisciplinary Definition of Innovation." Management Decision, Vol 47:8, 2009, p 1334)

Table 3
Respondents Own Perception of Innovation

Comments / Supplement Answers	Theme
• When there is an innovation, especially if introduced to a particular process (e.g., Organization's procedures/ processes), it will change the whole process or maybe an aspect of the process. It is a different process that should be experimented or tested if it will make the existing process more efficient. • I believe that innovations come from the need to change for the better. • Other phrases will include "reengineering" and "breakthroughs." • Innovation is the process of creating new ideas or works of art. It is a careful investigation/experimentation into something new which can be useful or helpful among people for their personal and everyday living. This innovation can be an advancement for change which can help the betterment of a certain process. • When adopting technology in a library, it is a risk because of a rapid transition in managing the library from a traditional to technology-based services, but it is also a challenge to maintain efficient library services and enhance its resources adaptable to the current library trends. • Innovation is about exploring how existing processes can be improved or even done completely differently • Innovation is meant to address changes that happen, especially if the past technology is not enough or is unable to provide solutions to present issues. It requires creativity to be able to come up with technology that is progressive and, at the same time user-friendly and, if possible, fun to use since libraries are not only about the librarians but more importantly, it is about the customers. However, the desire to address change and being creative is not enough; technology must also be efficient. There is nothing more frustrating to librarians and customers as the technology that fails to deliver its promise. • Technology-focuses innovation in the library community should contribute to a better change in the delivery of services and information products within our libraries or how our libraries work. It should provide added value to what we presently have. • We have to adapt to the use of new technology in order to be relevant. The only permanent thing in this world is change- so we have to change some of the important library operations in order to answer the call of the times.	**Agent of Change and Development**
• Creativity, Efficiency, and Pro-activity are the terms that best describe innovation is because most technologies today are created by unexpected ingenuity, surprisingly adaptive to a certain community's needs, and promote other relevant technologies in the future. • We needed to adapt to innovations to improve the efficiency of services offered and to add value to the contribution of libraries in the enhancement of study skills among learners.	**A Solution to an Existing Problem**

Figure 5
Summary of Responses Regarding the Preference of Innovation Definition



A similarity in both of these top responses is that they specifically mention how innovation is about change that ultimately improves services to customers and improves patron experience. The second definition meanwhile highlights the fact that we need innovation to avoid obsolesces in the current information economy.

The next question (Table 4) was the longest question in the survey. It provided thirty-two items (hardware, software, or combinations thereof) that could be considered innovative and asked respondents to rate how innovative they thought each particular item was.

Conclusion and Recommendation

To answer the main question of this study, "What do librarians mean when they speak about "innovation" in the Philippine library community?" a particular trend emerges among the opinion among librarians when evaluating what is innovative or what can pass as technological innovation. Based on the findings, the following theme comes in to focus, which are:

- Newness;
- The origin of the innovation (within libraries or outside libraries);
- Whether something is applied differently and uniquely in a library setting versus its use and application outside the library environment;
- Whether it's an incremental or fundamental change;
- The adoption rate among other libraries; and
- The match of the innovation to the local clientele of that library director's environment.

There are other factors that can influence the perception—and definition—of technological innovation in libraries. Whether it was an individual or many respondents marking a drafted choice for a question, or whether something was suggested in one

Table 4

Respondent Rating of Innovative Items

Innovative Items	NI	MI	DI	NA
Library presence within a virtual environment (e.g., Second Life) or a social media venue (e.g., Facebook, Twitter, Pinterest, Flickr)	5	31	98	2
Reference service beyond face to face or email reference interactions (e.g., virtual delivery of services—video reference, instant messaging, texting, etc.)	1	22	110	1
Creation of web-based multimedia (audio, video) instruction sessions, library tours, FAQs, etc.	1	27	106	0
Gaming/gamification of something library-related (e.g., a game that helps students learn call numbers and book locations in the library)	4	44	79	7
Hackerspaces/Makerspaces (Wikipedia: "Hackerspaces can be viewed as open community labs incorporating elements of machine shops, workshops and/or studios where hackers can come together to share resources and knowledge to build and make things." http://en.wikipedia.org/ wiki/Hackerspace; retrieved March 19, 2013). Such places could include items like a 3D printer and/or other sophisticated and controlled tools, which help build a completed physical object or representation from electronic data.	3	44	64	23
Espresso Book Machine	6	35	80	13
Authentication/authorization system allowing for off campus access to library or campus licensed information resources (e.g., a proxy server, a VPN, a single sign-on solution allowing remote access, etc.)	4	28	99	3
Mobile Library App (e.g., iOS or Android app—a program as opposed to a website) related to some service, function, or information resource associated with the library, whether for users at large or a particular group of library clientele	2	20	111	1
Mobile library website (a site specifically designed and discrete from a primary library website)	4	37	91	2
Migrating library-related applications which were once traditionally physically hosted at the library or campus into the cloud environment (e.g., Amazon Web Services/Elastic Compute Cloud)	6	34	88	6
Web Scale Discovery services which index content to a far greater degree than a traditional OPAC—to the article or item level (e.g., Serials Solutions Summon, Ebsco Discovery Service, Ex Libris Primo Central)	4	25	97	8
New "library services platforms" engineered to replace the more traditional integrated library system (e.g., OCLC Worldshare Management Services; Serials Solutions InTota)	3	30	91	10
Use of open-source software to support a library service or function (e.g., using Drupal or another open-source content management system for the library website; an open-source ILS; an open-source ERM; etc.)	6	22	99	7
Use of QR Codes for some library function or service (e.g., to link a physical item to a digital equivalent; to help users navigate library stacks, etc.)	2	30	93	9
Using augmented reality in an application/ interface related to a library service or created by library staff (e.g., the Wolfwalk app from NCSU, http://www.lib.ncsu.edu/dli/projects/wolfwalk)	1	35	86	12
Circulation of mobile devices to library patrons (e.g., laptops/tablets/Kindles /etc.)	10	38	80	6
Use of APIs to enhance a service or information resource at the library (e.g., to pull and display external book covers in a library catalog; to pull and display bibliographic metadata from external sources into a library catalog record display; etc.)	3	34	91	6
A wireless network providing coverage to the majority or entirety of a library	8	23	101	2
Engagement and assistance with campus faculty in the publication/discovery of faculty scholarship (e.g., hosting an institutional repository; providing broker/liaison services to help faculty use an online publishing digital press; etc.)	6	44	80	4
Use of blogs, wikis, and/or RSS feeds for part or all of a library's primary website.	13	27	83	3
A patron-driven acquisition platform for physical monographs and/or ebooks involving technology infrastructure (e.g., such a system may have virtual records in a library catalog, which a patron can request the library acquire)	3	33	93	5
Use of RFID (e.g., for tracking/circulating monographs and/or other library assets)	7	18	104	5
Use of digital signage/wayfinding within your library (displaying items such as library maps, schedules, daily events, special notices, etc.)	13	27	91	3
Use of an online e-commerce system, accepting payments (e.g., credit card, PayPal) for one or more services/functions at your library (e.g., payment of fines; payment for photo reproductions; etc.)	11	31	81	11
Use of smartboard technology in some area of the library (e.g., group study room; meeting room; instruction room), which allows students or librarians to interact with onscreen information in different ways (e.g., mark up documents to show other members in a group)	3	20	105	6
Extensive integration of library related information/ resources into an enterprise course/learning management system	5	30	94	5
Use of video conferencing for purposes such as virtual committee meetings, interactions with vendors, patron instruction sessions, etc. (e.g., Cisco Webex; Skype; etc.)	5	34	91	4
Implementation and use of VoIP and the capabilities it provides (e.g., voicemail forwarded to email accounts; collapsing the traditional phone network into the single data network; etc.)	6	41	77	10
Use of tablets/iPads among library staff, in support of library operations/other work-related productivity	11	27	93	3
Extensive use of web analytics to better understand how patrons are using and interacting with the library website, and to inform a future website design	3	26	99	6
Use of recommendation capabilities/features which library patrons interact with to help inform other users of the same system. Example: allowing library patrons to rank/recommend items found in library discovery systems (e.g., library catalog, library digital collections system)	7	35	89	3

or more of the free text comments, all of the above items, to a lesser or greater degree, seem to relate to the concept of innovation and the degree to which something is perceived as innovative.

If there is one thing this study hopes to achieve, it's to reemphasized the need for focus, strategy, and direction:

> *"As libraries position themselves as important partners within their institutions, . . . they cannot continue to spend a lot of time on activities that replicate what is being done elsewhere and do not create real value for their institutions. Strategy is about making choices that increase impact. It is about moving resources to where there is most benefit, and finding the right level at which things should be done." (Dempsey, 2012, p. 204)*

For nonprofits with limited resources—whether monetary, staffing, or simply time and competing priorities—these words seem critical when thinking about innovation—whether in the decision to pursue an idea at the very start, or years later when looking back and trying to assess.

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