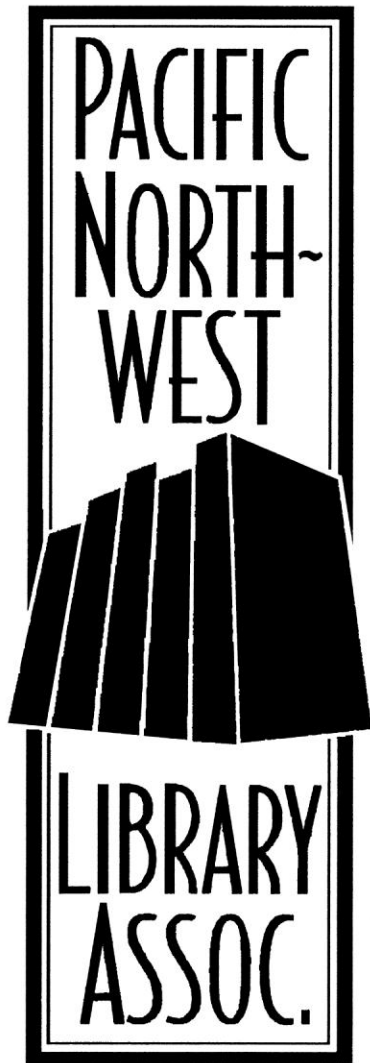


# PNLA QUARTERLY

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Volume 75, number 4 (Summer 2011)

Volume 75, number 4 (Summer 2011)

President's Message 3

From the Editor 4

### **Peer-Reviewed Articles**

Tashina Gunning. Metadata Creation at Institutional Repositories 5

O.I. Amusa, A.A. Salman. Use of Information by Bank Managers in Nigeria 18

Helen Nneka Eke. An Empirical Study of the Impact of NLA Conference Attendance on Librarians' Professional Development 26

Rev. Dr. Obiora Nwosu, Esoswo Francisca Ogbomo. ICT in Education: A Catalyst for Effective Use of Information 38

Gabriel Olatunde Onifade, Fehintola Nike Onifade, Akin Omotosho, Humprey Nwaogu. The Impact of Nigerian University Libraries in Accreditation of Academic Programmes: A Case Study 49

R.E. Ozioko, Uzoamaka Igwesi, Helen Nneka Eke. Generation and Dissemination of Local Content Using ICT for Sustainable Development 58

Adebayo Muritala Adegboire. University Faculty Use of Electronic Resources: A Review of the Recent Literature 65

M.O. Salaam, J.O. Fatokun. University Libraries and Faculty Members: Are We Doing Well Enough? A Case Study 76

### **Editor-Reviewed Articles**

Cedate Shultz. Cadavers or Corpses: Comparing User-Created Metadata 82

### **Instructions for authors**

The *PNLA Quarterly* publishes both peer-reviewed and high-quality non-peer reviewed articles. Please indicate whether you would like your article to go through blind peer review when you submit it.

Authors should include a 100-word biography and mailing address with their submissions. Submit feature articles of approximately 1,000-6,000 words on any topic in librarianship or a related field. Issue deadlines are

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October 1 (Winter)

January 1 (Spring)

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July 1 (Fall)

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October 1 (Fall)

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July 1 (Summer) for non-peer-reviewed content.

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# President's Message

## Michael Burris



On Wednesday June 29th, I attended a celebration of 100 years of library service in British Columbia. This year, the British Columbia Library Association celebrates its centenary. At that event, I was struck not only by the amazing history of dedicated service provided across the province for the past century, but also what an important role library staff from British Columbia have played in the development of PNLA. The establishment of BCLA came at an annual gathering of PNLA members. Past presidents of PNLA from BC have included such luminaries as John Ridington, Helen Gordon Stewart, W. Kaye Lamb and Samuel Rothstein.

That shared history and sense of community is what drew me to PNLA. Of course, it was originally a part of my position as BCLA Executive Director that led to my being "assigned" as BC's representative to the Board, but it was an assignment I lobbied for. I had known a number of PNLA members from my travels and was struck at what "true believers" they were in the need for a cross-border regional association such as PNLA. I too quickly became a true believer.

The issue for PNLA is that the roster of true believers is getting smaller each year and is not being replenished by new members who see value in an association that transcends borders and brings a unique perspective to the library association world. That is not to blame the people coming into the profession. Much has changed since even those days long ago when I became a librarian. To say that the way people share and connect has changed is a complete understatement. Also the way we work: contracts, on-call, part-time, mean that traditional professional development models are rapidly becoming outdated. Add this to what seems to be continual budget crises and you have a recipe for hard times for library associations. Some weather these rough times better than others. That is not due to a lack of effort. The PNLA Board has had numerous discussions both around the board table and with our state and provincial partners about how we can revitalize the association. We believe we have services of value, namely PNLA Leads, YRCA, the *Quarterly* and the annual conference.

As I have detailed in past writings, for those services of value to continue, we need to be able to count on revenue from a healthy conference. The 2010 joint conference with WLA lost money. We are working very hard to ensure a successful conference in Spokane next

month. If the 2011 conference does not result in substantial revenue, continuing to provide those other services will be very difficult. If we cannot continue to provide those services, the continued viability of PNLA is in question

The Board faces some tough decisions at its August meeting. Our discussions will include whether PNLA can continue on as a viable association. The Board had discussed changes to the conference to be implemented in 2013. Those changes were predicated on a strong Washington conference providing sufficient revenue to "see us through". As I mentioned earlier in this column, the Board strongly feels PNLA still has a niche in the crowded association market. We hope to report positive conference news this August at the conference.

## **From the Editor**

### **Mary Bolin**

We are looking forward to another outstanding annual conference as this issue is being published. I wish I could be there, especially because it is in Spokane, which was the big city to me and my family all the years we lived in Moscow, Idaho. I can't wait to publish the papers and presentations from this conference in the fall issue of the *Quarterly*.

Meanwhile, the summer issue has a great lineup of papers from North American and international authors. There are two papers that explore issues in metadata creation and sharing, and papers on a spectrum of topics that include library services for university faculty, the role of information in sustainable development, and the impact of conferences on professional development. It's a lot for us to think about and enjoy.

# Metadata Creation at Institutional Repositories

**Tashina Gunning**

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## Introduction

Developed largely due to the open access movement, institutional repositories collect the intellectual output of their organization's faculty, researchers, and often students. The records that make up these repositories range from journal publications and articles, research projects, and even material used to facilitate classroom learning. In many situations, the number and time of staff available to facilitate the process of submitting something to the repository limited. As a result, many institutions have self-submission or self-archiving policies in place. These policies put the responsibility on an outside individual, often the document's creator or a departmental liaison, to submit the document and create associated metadata.

In an earlier survey, the author explored self-archiving and metadata creation at institutional repositories, using four different institutions' self-archiving procedures as examples: Massachusetts Institute of Technology's DSpace@MIT, Case Western Reserve University's Digital Case, Brigham Young University's ScholarsArchive, and University of Maryland's DRUM. The survey examined who was responsible for creating metadata for items submitted, the availability of instructions or guidelines for self-archiving, the clarity and accessibility of those guidelines, especially for users whose experience with metadata may be limited, as well as other issues relevant to the process of submitting items and metadata to a repository. The survey did not make recommendations as to best practice in the process of metadata creation in self-archiving, but provided an overview of some of the approaches that institutional repositories are taking in the process.

## Institutional Repositories

### Definitions

Repositories manage ingest, storage, and retrieval of items deposited in them; those that are affiliated with a specific institution are known as institutional repositories. Raym Crow (2002) defines institutional repositories as "digital collections capturing and preserving the intellectual output of a single or multi-university community" (p. 4). Paul Genoni describes them as a means by which libraries can support the communication of the research output of universities and other research organizations (2004, p. 300).

According to the Scholarly Publishing and Academic Resources Council, "a digital institutional repository can be any collection of digital material hosted, owned or controlled, or disseminated by a college or university, irrespective of purpose or provenance" (Johnson, 2002). Other scholars explain that an institutional repository "is an information system, specifically a web-based database or repository of scholarly material which is institutionally

defined, and which makes that scholarly material widely accessible to the community using open access technologies and protocols" (Kennan & Wilson, 2006, p. 242).

## **Background**

Repositories were created for a variety of reasons, and are often closely associated with increasing costs of traditional publishing and the development of the open access movement. Scholarly peer-reviewed journals are crucial to the work of university faculty and other researchers. Unfortunately, the costs to universities and researchers for subscribing and maintaining access to these journals have become increasingly expensive, and as a result, access to them has become more restricted. Cost is not only an attribute of traditional scholarly publishing, but also of online and electronic publishing. Digital publishers closely control the costs to access their collections, and increasingly place restrictions on universities accessing them. The open access movement began largely as a result of the escalating costs and restrictions within academic publishing.

The OAIS (Open Archival Information System) reference model is a "conceptual framework for a generic archival system which is committed to a dual role of preserving and providing access to information" (Hockx-Yu, 2006, p. 7). OAIS is a network of people and institutions who have committed to the responsibility of preserving information and making it available to a designated community. Open access dramatically increases the number of potential users who would not otherwise have access to electronic journals. Furthermore, studies have found that open access articles have a greater research impact than those that are not freely available electronically (Kennan & Wilson, 2006).

Institutional repositories play an extremely important role within the open access movement as they are a primary conduit for providing open access to their scholarly content. Crow (2002) explains that institutional repositories "provide a critical component in reformatting the system of scholarly communication – a component that expands access to research, reasserts control over scholarship by the academy, increases competition, and reduces the monopoly of power journals, and brings economic relief and heightened relevance to the institutions and libraries that support them" (p.4). Other important roles for institutional repositories include simplifying dissemination, highlighting the quality of an institution's intellectual capital, and developing new forms of scholarly communication (Yates, 2003).

## **Self-archiving**

Institutional repositories contain the intellectual output of their affiliated institutions. They can include the work of faculty, staff, students, and researchers. Hockx-Yu (2006) states that although many repositories are e-prints that provide open access to the scholarly work of an institution, their content should not include only e-prints, but also research data, learning material, image collections, and various other types of materials. Although material policies may differ from one repository to another, in general institutional repositories can collect a variety of materials including working papers, published papers, surveys, statistical reports, committee reports and memoranda, preprints, theses and dissertations, conference proceedings, grant applications, and technical documentation, among others (Genoni, 2004).

Self-archiving is a process in which the producer of the material is responsible for adding material to a repository and often creating the metadata to accompany it. Self-archiving is important for the repository in that "the usability of an institutional repository relies primarily on the amount of its content material, which becomes available through self-archiving of research outcomes by faculty authors" (Xia, 2007, p. 647). The benefits of self-

archiving for contributors include enhanced professional visibility driven by broader dissemination and increased use. Additionally, scholars have demonstrated that open access documents have appreciably higher citation rates than traditional published articles (Johnson, 2002). These are both benefits that undoubtedly encourage individuals to submit their work to their repository.

Despite the benefits for faculty members to self-archive their material, there is still significant resistance on the part of contributors and an overall low participation rate (Quinn, 2010). Institutions have adopted several strategies to promote self-archiving among their faculty. One strategy is the adoption of a liaison system by which a librarian or repository staff member works with an academic department to collect published material and deposits it into the repository for the faculty, students, and researchers.

Another more common strategy to encourage self-archiving is the implementation of mandates that require faculty members from specific departments or schools to deposit all of their publications in their affiliated repository. Hockx-Yu, in her profile of British institutional repositories and their policies, acknowledges that the trend of mandates is an international one (2006). Many institutions now require their faculty and students to deposit a copy of their scholarly work in the institution's repository. These mandates are controversial and do not ensure participation. Some faculty members feel that mandates are unfair and are concerned about damaging long-term relationships with publishers and minimizing the importance of their work. Many universities who do have mandates in place have struggled to get full cooperation from faculty and students. Despite the controversy surrounding them, many scholars, including Xia, emphasize the necessity of mandates, stating that "institutional repositories need a mandate policy to ensure success" (2007, p. 653).

Despite the benefits of self-archiving, particularly in terms of reducing the time and financial commitment of repository staff in the content submission process, there are some challenges that inevitably arise from it. Joint states that "the self-archiving academic offers resourcing via their good will and willingness to commit to the task of self-archiving as competently as possible. It is a welcome contribution, but it may not always be appropriate or perfectly effective" (2006, p. 83). Most contributors are not librarians and have not had formal cataloging training. Their submissions may not always be accurate or consistent. It is extremely important for the repository to guide contributors in the self-archiving process. Providing guidelines in terms of appropriate content, acceptable formats, and creating metadata is critical to the creation and management of an effective and successful repository.

## **Metadata**

The simplest and most common way to describe metadata is "data about data." Kurtz describes metadata as "an attempt to capture the contextual information surrounding a datum" (2010, p. 40). Metadata accompanies material that is submitted to repositories and serves a bibliographic function, making its associated material identifiable and searchable. Referring to the crucial role that metadata plays in a repository, Park and Tosaka state that "the core functions of bibliographic control in facilitating the discovery, identification, selection, and use of digital resources need by end users, not to mention the newer functions of administration, provenance, rights management, and preservation, depend on [metadata]" (2010, p. 710).

Metadata plays a crucial role in the functioning of individual repositories, and also networks of open access repositories. Interoperability refers to the ability of various systems and

organizations to be linked and to share data. Consistent and complete use of metadata in a repository help ensure its interoperability with other repositories, as well as its usefulness outside a local context. Yeates explains that interoperability strengthens "the long-term security of repositories generally, beyond any federation using a single technical platform" while allowing "dynamic cross-boundary communications services that nevertheless ever more tightly engage scholars in dissemination and exploitation of their work" (2003, p. 99).

Because of the crucial role that metadata plays in making the content of repositories discoverable and searchable not only within an individual repository, but also within a network of them, its creation is an extremely important step of the submission process. Guidelines for creating metadata in self-submission systems are fundamental in ensuring that at least a minimum level of consistency is maintained within a single repository's collection and across a network of repositories. Some institutions include extensive metadata creation guidelines to guide users as they submit documents. Even though it takes considerable, and therefore results in greater costs, other institutional repositories have actually committed to creating metadata for submissions (Howard, 2010). Despite the challenges of time and funding, it is suggested that there are benefits to staff members creating metadata for submitted materials. A study by Kurtz (2010) investigated three university repositories, one of which used librarians to archive metadata for contributed work, while the other two used other methods. All three universities used the same repository system, DSpace, but the one that used librarians to oversee the metadata process had the greatest accuracy and most complete records. Consistently, and not surprisingly, those contributor-generated metadata fields had the inconsistencies and lower quality metadata.

In terms of the metadata standards used by institutional repositories, a 2010 study by Park and Tosaka found that Dublin Core was the most frequently used non-MARC metadata scheme in the digital repositories that they profiled. Many repository systems, such as DSpace, base their metadata creation systems on Dublin Core, but may use more recognizable and understandable terms for contributors who are creating their own metadata. Other repositories have created their own metadata tags to be populated upon submission. No matter what approach is used, it is important that the procedure be carefully regulated and there be established policies decidedly in place.

Lastly, metadata creation is an important factor to be considered in the preservation of material within a repository. Hockx-Yu emphasizes that "much could be done to consider digital preservation from the outset, to involve the authors in contributing preservation metadata during the creation and ingest process and to embed digital preservation into the repositories work flow, which will ease the later preservation tasks" (2006, p. 11).

## **Project Description**

The research grew out of a strong interest in the policies repositories had in place regarding users creating their own metadata for their submissions, as well as guidelines and direction offered to these users. This interest led to a project that would not only provide practical experience creating metadata, but also provide more insight into the issues confronted by users creating metadata for repository submission.

Since the culminating project at San Jose State University's School of Library and Information Science (SJSU SLIS), an e-Portfolio, was completed while the project was underway, the e-Portfolio experience was incorporated into this project. Information about completed SLIS assignments had been recorded on spreadsheets to keep track of their subject matter and what SLIS competencies they addressed. This method was effective, but

the spreadsheets needed more information in order to make the the process of selecting appropriate evidentiary items for each required competency of the e-Portfolio easier. Better metadata could have provided guidance in selecting appropriate items for the e-Portfolio. Institutional repositories typically store the academic output of the institution, their content ranging from scholarly publications and learning tools, to course syllabi and student work. Considering the academic nature of the e-Portfolio items, creating metadata for them would provide an experience somewhat comparable to that of an individual self-archiving academic documents in an institutional repository.

A 2010 study by Park and Tosaka found that Dublin Core was the most frequently used non-MARC metadata scheme in the digital repositories they profiled, as MARC remains the most popular system within repositories. Many repository systems, such as DSpace, base their metadata on Dublin Core, but use more commonly recognizable and understandable terms for contributors creating their own metadata. Undoubtedly, one of the reasons for Dublin Core's popularity within institutional repositories is its accessibility to more casual users, especially when compared to the more granular, yet complicated, MARC system.

Dublin Core, created in 1995, is the most common non-MARC metadata system used in institutional repositories. Simple Dublin Core has fifteen elements that are repeatable within a single record, but are not required. Dublin Core was designed to make metadata more accessible to those who are not cataloging or library professionals. The primary benefit of using Dublin Core is that it is more easily understood by and accessible to more casual users. Even though it is easier to use than other metadata systems, Dublin Core is not effective at indicating the more detailed information captured by systems such as MARC. Often, repositories use a form of qualified Dublin Core and create additional elements or refine those in simple Dublin Core in order to provide more specificity.

As acknowledged by Yeates (2003), Hockx-Yu (2006), and Park and Tosaka (2010), metadata has the potential to play a role not just in information description, but also preservation, rights management, and administration. While considering the popularity and prevalence of Dublin Core within institutional repositories, the question arises of what information may be recorded by a more granular metadata scheme. The decision was made to create metadata records for the e-Portfolio evidentiary items in both Dublin Core and the more granular MODS, and then to compare the records. In addition to providing insight into the suitability of these two schemes for recording the metadata of academic items, the exercise also provides with practical metadata creation experience.

MODS (Metadata Object Description Schema) was created by the Library of Congress to bridge the gap between Dublin Core and MARC. MODS was created specifically to describe digital resources. Although some MARC elements were removed in its creation, MODS retains a high level of its granularity and much more MARC data than Dublin Core , and remains highly compatible with MARC21. Despite being more complex than Dublin Core, the text-based MODS elements were created to be easier to understand than MARC's numerical elements. With its similarities with MARC, MODS can be used to translate MARC records into XML in addition to being used to create original data records.

Even without formal cataloging training, individuals self-archiving documents within an institutional repository are likely to understand the language used by MODS (Dulock & Cronin, 2009). The MODS hierarchy allows for very rich description of documents and the system was designed to work well with METS (Metadata Encoding and Transmission Standard), which is important in terms of administrative, preservation, and rights management. Furthermore, MODS provides records with highly structured data, whereas simple Dublin Core is flat. In spite of their differences, MODS and Dublin Core share

similarities, including the fact that both are text-based metadata systems, as well as being compatible with XML.

Ten items were chosen for MODS and Dublin Core metadata. The ten items had many different subjects and other characteristics, to ensure unique and varying metadata. Most were assignments completed by one individual, although some were done in groups. Formats included Word documents, Excel spreadsheets, and an html file. Some items were related to each other. For instance, one is a spreadsheet with multiple pages and another, an essay. Together these formed a Personal Digital Curation Project for a preservation and digital assets management course.

After selecting the ten items, the basic metadata, including the title, corresponding course, and a brief description, was obtained from the spreadsheets. For many of the records, it was necessary to scan through the actual document in order to complete the metadata. The MODS records were then completed first, as they were the more detailed and extensive records, and it was anticipated that the Dublin Core records could be completed using the MODS records. The Library of Congress MODS User Guidelines were used to create the MODS records. Both MODS and Dublin Core records began with a blank template that included all possible elements and sub-elements, as well as attributes appropriate to the nature of academic work.

The Dublin Core records used the document "Using Dublin Core – The Elements" from the Dublin Core website. The MODS records were used as the basis for creating the Dublin Core records. This method worked for many of the elements, including title, creator, and subject. For the Dublin Core element description, the MODS element Abstract was used. Contributor was left blank in all records, and Coverage was seldom used. The element Source was used for the SLIS competency the item was provided evidence for. The MODS element Location was used for this purpose.

Related items were indicated in Dublin Core by the element Relation and in MODS by Related Item.

## **Product**

The product is a total of ten MODS and ten Dublin Core records for ten e-Portfolio items. Both sets of records were created as XML documents using the XML software authoring program Oxygen. Two examples are included in the Appendix

## **Reflections on the Project**

Not surprisingly, many of the elements in the Dublin Core and MODS records were consistent from one record to another. Elements relating to the document's title, author, date, and type can easily be mapped between the two metadata systems. Other elements, such as MODS' target audience, table of contents, and aspects of its physical description, did not have clear Dublin Core equivalents.

One of the more challenging records, both in MODS and Dublin Core, was the HTML file for a Web page. Although this item may be somewhat unusual in terms of the types of records typically found in institutional repositories, it was nonetheless important to create metadata for it. Institutional repositories accept a wide variety of documents and formats, and the addition an HTML file is certainly a real possibility. Despite the challenge of creating metadata for this unique format, the the experience of working with non-traditional documents was valuable. Perhaps not surprisingly, an archival finding aid was the easiest to

create metadata for. By design, finding aids present their users with a brief, functional, and detailed overview of the item they represent. Much metadata information about a finding aid, such as the subject, the date it was processed or created, and the name of the document's author can be determined by glancing over the finding aid's front page.

Creating the Dublin Core metadata presented more challenges than using MODS. Creating Dublin Core records required trying to put large amounts of information in a limited set of elements. Dublin Core's simplicity can sometimes work against it. There is relevant information that is simply not captured effectively by simple Dublin Core when compared to more extensive metadata systems.

Some Dublin Core element categories are ambiguous. Elements such as coverage and relation, particularly when detailed examples and descriptions are not provided, can be interpreted by users in a wide variety of ways. Users who are truly vested in the metadata creation process and committed to completing metadata records as extensively as possible may add large amounts of information during the metadata creation process. Having a robust and descriptive record is certainly not a problem, so long as the information is both accurate and relevant. In surveying a number of institutional repositories that use DSpace and therefore Dublin Core, researchers have found significant patterns of inconsistencies within certain element fields (Costanza et al., p 156).

MODS, by breaking down elements into sub-elements and creating a hierarchical record structure, takes some of the ambiguity out of broad element categories. For instance, MODS Physical Description element, along with its sub-elements, provides creators with more detailed guidance than Dublin Core's format. Another benefit to using MODS is the Related Item element, which gives users the ability to explicitly link metadata records together. While Dublin Core's Relation element does this to an extent, the more substantial Related Item can provide users with the ability to include descriptive metadata about the related item itself, and can actually include an entire MODS record within that element.

Furthermore, even though MODS is a descriptive metadata system, there are aspects of it that serve purposes beyond mere description. The physical description element contains content similar to what one would find within the PREMIS metadata system, which serves a preservation purpose. Recording information about the represented document's size, its table of contents, its format and extent, and its digital origin, among other traits, metadata has the capacity to act as a check-sum of sorts. If the metadata record indicates that a document is 67KB, but the document is actually 38KB, or an item indicated in the table of contents is not present in the actual document, the document's integrity may have been compromised. Obviously, the use of MODS records will not meet all of the preservation and administration needs of an institutional repository, but it certainly has the power to indicate more than simple Dublin Core, especially if combined with other metadata systems such as PREMIS.

Despite the popularity of Dublin Core, MARC remains the most popular metadata system among digital repositories (Chapman et al., 2009). Even though it does not retain all of the information held by a MARC record, crosswalking information from MARC to MODS retains a significant portion of it. As discussed by Chapman et al. (2009), institutional repositories do transfer existing metadata into new systems. Should an institutional repository decide to transfer existing MARC records into a new system, more original metadata will be retained by transferring them to MODS.

Dublin Core's simplicity has the potential to hinder metadata creation within an institutional repository setting. This concern is shared by Park and Tosaka, who say that Dublin Core's "semantic overlaps and ambiguities are by far the two most critical factors causing difficulty

in the correct application of the DC metadata scheme. Another issue is that DC metadata semantics are overly broad; this may engender inconsistency in the application of the standard across digital repositories" (pp. 707-708).

As Park and Tosaka (2010) stress, institutional repositories should consider a number of issues when selecting which metadata system to use. When surveying institutional repositories about their metadata selections, the most common considerations were the types of resources needing metadata, the target users and audience of the resources, as well as the subject matter of the resources. Institutional repositories should also consider how metadata structures will affect their interoperability among other repositories. Dunsire states that "community agreement on a single metadata structure richer than unqualified DC is likely to be hampered because there is wide variation in the scope of resources to be described within a local repository, leading to divergent functional requirements between the institution and the community" (2008, p. 53). Consistency in metadata systems is an issue that must be addressed by institutional repositories as they make policies and decisions that will have an effect on not only their own collections, but those of other institutions they may be linked to.

Regardless of an institutional repository's choice of metadata system, it is essential to provide guidance to users during the self-archiving process (McCallum, 2004). These "guidelines seem to be fundamental in ensuring a minimum level of consistency in resource description within a collection and across distributed digital repositories" (Park and Tosaka, 2010, p. 711). The MODS Guidelines from the Library of Congress made the task of creating MODS records less complicated, because detailed descriptions of each element, sub-element, and attribute were listed alongside examples of accurate MODS records. While not offering quite as many examples as the MODS user guide, the Dublin Core user guide also offered examples of appropriate ways to describe elements. Having a number of examples to reference when creating records makes the process easier, and increases the accuracy and completeness of the record.

## **Conclusion**

Although requiring a document's author to create metadata for it during the self-archiving process is not a perfect process, it remains a plausible way of generating metadata. There is research on improving current methods to aid in automatic metadata creation (Burk, et. al., 2007). Automatic metadata creation methods include text mining and machine learning techniques. The development of assistive tools for use by metadata creators is encouraging, but is currently not a viable option for institutional repositories with self-archiving policies. Even as these technologies continue to develop, it is "unlikely these methods can be used for fully automated metadata generation, as automated extracted values, to date, have been useful but insufficiently consistent to be used without human intervention" (Burk, et. al., 2007).

Unfortunately one cannot force users to create accurate and thorough metadata records. Even if a metadata system is user-friendly and provides descriptive guidelines, there is still no way to ensure it will be implemented appropriately by institutional repository users self-archiving their work. The process of creating records for e-Portfolio items raised the question of whether it was better to have an incomplete MODS record or an incomplete Dublin Core record. Since MODS is more extensive and rich to begin with, is its value greater, even in an incomplete or inaccurate form, than a comparable Dublin Core record? There is no one answer to that question, but this project and current research add evidence that may provide an answer in the future.

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## Appendix

MODS and Dublin Core Records

DC: Class 240

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## **Use of Information by Bank Managers in Nigeria**

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### **Introduction**

The people in business organization are crucial to the success or otherwise of the organization. They carry out the administrative and economic functions and services of organizations. Olaiya (2003) emphasizes the relevance of human resources to organizations, stating that:

The human resource or manpower is vital to organizations and industrialization because it takes a few years to construct a factory or set up a business project, it take much longer to develop its manpower.

Banks are a necessary tool for enhancing economic activities and promoting national economic growth and development. Their responsibilities centre on the provision of financial services such as acceptance of savings and provision of credits and loans. Essang and Olayide (1994) describe a bank as:

"A monetary institution owned by either government or private businessman for the purpose of profit making. In pursuit of the profit, banks perform a number of functions, one of which is the acceptance of deposit from the public which are in turn given as credit to individuals and organizations that apply for them."

Banks strive toward maximization of resources and realization of optimum profits. To ensure success, they continuously engage in planning, restructuring, re-organization, and aggressive marketing. Human resources, especially at the management levels, are usually involved in executing these tasks. Managerial personnel in banks are expected to be skillful in business planning and maximization of resources, and to possess appreciable skill in career management in order to promote the image and profit profile of their respective banks. Furthermore, they need the skills to be able to identify and use necessary information that can positively affect the growth of their banks.

Banks contribute to societal growth and development by creating employment opportunities, supporting business and entrepreneurial development, and providing opportunities for self-actualization. A part of their profits is set aside to carry out developmental projects within the communities where banks operate. Realizing the importance of human resources in the effective functioning of banks, this study seeks to investigate information preference and use among the managers of banks in Nigeria.

Specifically, this study has the following objectives:

- To describe the use of information resources by bank managers;
- To list information resources frequently used by bank managers;
- To examine the influence of information technology on bank managers' information preference and use;
- To identify the formats of information that bank managers prefer;
- To describe the influence of information use on the productivity of the bank managers; and
- To identify impediments to regular and efficient use of information resources.

The study provides insight into the information needs and information-seeking behavior of bank managers. The study will be a meaningful addition to the literature on banks and banking industry in Nigeria, and by extension to the literature of library and information science.

## **Review of Related Literature**

Making use of information is an important part of coping with challenges faced by employees. These include communicative and cognitive activities like seeking, avoiding, providing appraising and interpreting information. Employees' information preferences and use vary over the course of their jobs along with the availability and quality of information. Vickery and Vickery (1987) see preference as a basic concept in information studies, but one that is difficult to define. Information preferences of bank managers may differ from those in other fields. The source of information, content, medium and language of communication, time and nature of information can influence information preference.

Interest in the information sought, authenticity of the source, motives and past experiences in similar content affect information preference (Vickery and Vickery, 1987). Information preference and use of bank managers can be determined by the following factors:

- Content: The form in which the information is understandable to bank managers.
- Medium and Format: Bank managers are busy, and may have little or no time to flip through books. They may prefer information in an easily-understandable medium or format.
- Schedule: Information preference is a function of time. Bank managers have no time to leave their jobs in search of information.

### **Banks and Banking in Nigeria**

Ekanem (2003) looks at the banking industry in Nigeria and concludes that the industry has been closely associated with changes in the economy. He concludes that the banking industry in Nigeria has expanded rapidly in the last decade, with total productivity rising sharply. Nnanna (2001) observes that bank credit is important for the take-off and efficient performance of any enterprise, small or large, because it requires funds for its capitalization, working capital, and rehabilitation, as well as for the creation of new investments. Nzotta (2003) reiterates that bank credit influences the level of economic activity in any country.

Dauda (2007) assesses the role, size, and contribution of the community banking system in Nigeria's development process from 1992 to date. She evaluated the extent to which community banks (now microfinance banks) have performed their developmental roles at the grass root level using the following criteria:

- Inculcation of good banking habits
- Deposit generation and savings mobilization
- Granting loans and advances
- Development of real sector
- Development of non-productive activities

Dauda (2007) concludes that the Nigerian community banking system is growing in terms of size, but it is still unable to create sustainable livelihoods that are productive enough to afford poor households an escape route from poverty. Soetan and Aiyegbusi (2003) examine the impact of community banks on the credit habits of women. Their findings indicate that there has been an upsurge in good credit of all respondents since the banks have been introduced. This was attributed to the banks' relatively low and flexible requirements for loan procurement.

### **Nigerian Banks and ICT**

The Internet offers an incredible and unprecedented communication and transactions for banks. All banks operating in Nigeria are now Internet-connected. This has allowed them to advance their objectives of creating new ideas, new product lines, and expand markets. Ekanem (2003) observed that:

The Internet, starting as a new medium for communication and information, it has quickly metamorphosed into a medium of learning and transactions. As such, its initial impact in the banking industry in Nigeria has been on increasing productivity.

Ishaq (2002) states that the full promise of the digital revolution is in the blossoming of creativity. The development of new creative capacities should be the challenge of all personnel and banking organizations. With universal access and an Internet-literate workforce, the digital revolution can be the engine of growth in the banking industry and economy as a whole. He concludes:

In the Nigerian banking industry, the efficiency and ingenuity that separate Nigerian banks from their counterparts in the advanced nations of the world are being bridged. It is advisable that all banks should maintain and improve on their internet connectivity. These vital links result in a new and potent avenue for exchange of ideas, expedition of transaction and foster worldwide collaboration in the industry.

### **Research Methodology and Population of the Study**

This study uses survey research to investigate the information preference and use of bank managers in Nigeria. There are 25 banks operating in Nigeria. These banks emerged after the recapitalization exercise ordered by the Central Bank of Nigeria (CBN) in 2005. The order requested each bank to have at least N25bn minimum capital base. These banks are:

- Access Bank Plc
- Skye Bank Plc
- Stanbic IBTC Bank Plc
- United Bank For Africa Plc
- Union Bank Nigeria Plc
- Unity Bank Plc
- Wema Bank Plc
- Zenith Bank Plc
- Equatorial Trust Bank Plc
- Universal Trust Bank
- Spring Bank Plc
- Sterling Bank Plc
- Nigeria International Bank
- Standard Chartered Bank
- Platinum Habib Bank Plc
- Afribank Nigeria plc
- Diamond Bank Plc
- Ecobank Nigeria Plc
- Fidelity Bank Plc
- First Bank of Nigeria Plc
- First City Monument Bank Plc
- First Inland Bank Plc
- Guaranty Trust Bank Plc
- Intercontinental Bank Plc
- Oceanic Bank International

The geographical spread of these banks and relatively large size of the country make it difficult to administer the questionnaire to all the branches of the 25 banks. It was necessary to choose a sample. Lagos State and the Federal Capital territory, Abuja have the largest concentration of the banks. Headquarters and major branches of the banks are located in Lagos and Abuja. As such, this study is limited to the managers of banks at their respective headquarters in Lagos State and Abuja. Managers in various departments in the banks constitute the respondents.

## Questionnaire and Data Analysis

A questionnaire is the main instrument employed to gather data for this study. The questionnaire is divided into three sections: Demography, Information Preference, and Information Use. Three hundred copies of the questionnaire were administered to the respondents of the banks in Lagos and FCT, Abuja Headquarters and regional branches. Twelve copies of the questionnaire were earmarked for each of the twenty-four banks. Copies of the questionnaire for each of the banks were randomly given to the various managers found in the banks to complete. The researchers in company of ten research assistants visited each of the bank headquarters to personally administer the questionnaire. The data obtained through the questionnaire were analyzed using frequency grade tabulation, and other statistical factors.

## Data Analysis and Discussions

All 300 copies were completed and returned. Analysis of the completed questionnaires indicates that 178 respondents (59%), are male, and 122 (41%) are female. Their age range is 31-50. The largest group of respondents are between 36 and 40.

The respondents cut across all the major departments in banks. See table I below.

Table I: Distribution of Respondents by Department

Departments	Frequency	%
Bank Operations	82	27
Treasury & Involvement	19	06
Branch Managers	85	28
Foreign Exchange	28	09
Audit and Control	29	10
Administration and personnel management	57	19
Total	300	100

The respondents' years of job experience are appreciable. See Table II below.

Table II: Distribution of Respondents by Job Experience

Years of Experience	Frequency	%
6 – 10 years	92	31
11 – 15 years	141	47
16 – 20 years	67	22
Total	300	100

Research question one seeks to find out what respondents use information resources for. Respondents were allowed to choose more than one response.

Table III: Bank Managers Information Needs

Information Needs	Frequency	%
Job Performance	300	100
Self development and advancement	300	100
Health and health related issues	193	64
Political, social, and economic matters	181	60
Continue education: conference and seminars	105	35
Travels, tourism and leisure	97	32

In the course of satisfying these information needs, bank managers largely make use of serial publications, textbooks, news bulletins, and reference sources. None of the respondents consult grey literature. See the table below.

Table IV: Information Sources Frequently consulted by Bank Managers

Information Source	Frequency	%
Journals/newspapers	158	52
Textbooks	74	25
Bulletins	21	7
Reference sources	47	16
Grey literature (Reports etc)	-	-
Total	300	100

Information technology has a remarkable influence on information preference and use. A large majority of the respondents confirm this (91%).

Table V: Influence of Information Technology on the Bank Managers

Responses	Frequency	%
Very Significant	273	91
Significant	27	09
Less Significant	-	-
Not Significant	-	-
No response	-	-
Total	300	100

Table VI: Information Format Preference of Bank Managers

Information Format	Frequency	%
Print	21	07
Electronic	219	73
Print and Electronic	60	20
No response	-	-
Total	300	100

Research question number 5 seeks to find out the relevance of information use to bank managers' productivity. More than half consider information use very significant to their productivity. See the table below.

Table VII: Perceived Relevance of Information Use on Bank Managers' Productivity

Responses	Frequency	%
Very significant	158	55
Fairly significant	40	13
Significant	80	27
Not significant	15	5
Total	300	100

These findings are further subject to chi-square statistical analysis thus:

Parameter	Observed N	Expected N	Chi-Square	Productivity	Remark
Very significant	165	75.0	172.66	0.00	Significant
Fairly significant	40	75.0			
Significant	80	75.0			
Not significant	15	75.0			
Total	300	300			

The chi-square analysis shows the impact of information use on productivities of bank managers. The analysis shows that 165 respondents are of the opinion that information use has a very significant effect on their productivity; 40 responded that information use has a fairly significant effect on their productivity; 90 believe that information use has a significant effect on their productivity; and the remaining 15 are of the opinion that information has no effect on their productivity. The chi-square value of 172.666, whose probability is close to zero, shows statistically that information use has a very significant effect on productivity. However, there are impediments to the bank manager's regular and efficient use of information resources. Research question 6 seeks to discover these impediments.

These impediments as identified by the respondents, in order of seriousness, are:

- Lack of time to consult information resources due to tight work schedules in banks (168 respondents; 56%).
- Paucity of desired information sources both in electronic and print formats (34 respondents; 11%)
- Absence/inadequate library and information facilities in the banks (20 respondents; 7%).
- Heavy reliance on information from news media through radio, and television sets available in the managers offices (16 respondents; 4%)

### Conclusion and Recommendations

The data lead us to conclude that bank managers have definite information preferences and needs. They prefer electronic information formats. This is due to the advantages of the resources and the tight work schedules of the bank managers. The bank managers'

information needs are job-related, and they consider the use of information relevant and significant to their productivity.

There are impediments to the bank managers' efficient use of information sources and facilities available to them. Topmost among these impediments are lack of time to consult information sources due to tight work schedule, and lack of access to electronic resources through the banks.

Arising from these conclusions, the following recommendations are offered:

- Bank management in Nigeria should recognize the rights of their managers and other personnel to information that can enhance their productivity and self development. Hence, adequate provisions should be made for library and information services for the benefits of their personnel at all levels.
- Since all the banks in Nigeria have acquired and deployed ICT for their operations and services, electronic information resources and make such resources available to their personnel through their respective networks.
- Specialized information services such as Current Awareness Services (CAS), and Selective Dissemination of Information (SDI) can be provided by the bank managements to provide for information needs of their personnel.
- Bank managers should be encouraged to use information resources in order to improve their productivity. This can be done through provision of facilities to access electronic information resources (laptops, etc.) at reduced prices, payment of allowance to buy textbooks, serials, etc. This will benefit both the banks and the managers.

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# **An Empirical Study of the Impact of NLA Conference Attendance on Librarians' Professional Development**

**Helen Nneka Eke**

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## **Introduction**

Among the most important events that professional event managers organize are conferences. There are a variety of gatherings, from researchers who meet to discuss scientific results to sales people who are training. Conferences are filled with presentations which are followed by discussion. The difference between a conference and a workshop is the number of attendees involved. A large meeting is usually called a conference, while a smaller one is termed a workshop. Conferences may be called seminars, which are usually smaller groups of delegates, or symposiums – a conference or meeting to discuss a particular subject. One thing is instrumental to them all: communication.

The Nigerian Library Association (NLA) annual conference is a typical academic conference. The NLA website says that the association started as a division of the West African Library Association (WALA). The second out of the six objectives of NLA is to safeguard and promote the professional interests of librarians. One fundamental interest is professional development, which refers to skills and knowledge attained for both personal development and career advancement. The NLA organizes an annual conference intended to allow for the convergence of all librarians, student librarians, library practitioners, book vendors, publishers, and friends of the association. At this conference, issues are raised and discussed during the paper presentations and the Annual General Meeting, which occurs at least twice during the conference. Vega and Connel (2009) note that "conference attendance is a requirement for the career advancement of many librarians, particularly those who work in colleges or universities."

## **NLA in Brief**

As earlier stated, the association under study is one meant to bring together, all Nigerian practicing and intended librarians, book vendors, publishers, and friends of the libraries. The association website (<http://www.nla-ng.org/aboutus.html>) states that the objectives of NLA are:

- To unite persons interested in Libraries, Librarianship and Information services;
- To safeguard and promote the professional interests of librarians;
- To promote the establishment and development of libraries and information centres;
- To watch legislation affecting libraries and assist in the promotion of such legislation as may be considered necessary for the establishment, regulation and management of libraries within Nigeria;
- To promote and encourage bibliographical study, research and library cooperation and;
- To do all lawful things as are incidental and conducive to the attainment of the above objectives.

NLA began in 1962 as a division of the West African Library Association (WALA). The NLA website has it that WALA was established in 1954 as an offshoot of a UNESCO Seminar on the Development of Public Libraries in Africa, held at Ibadan in 1953. With the political independence from colonial rule of Anglophone West African countries in the late 1950s and early 1960s, WALA national divisions transformed into national library associations of their respective countries. This led to the birth of NLA in 1962.

Since then, 39 NLA conferences have taken place and have been well-attended. People attend conferences as a requirement for career advancement and many other reasons, which are discussed in this paper.

## **Literature Review**

A literature review on the impact of conference attendance on professional development identified few articles. Tmaszewski and MacDonald (2006) observe that librarians attend library conferences for professional development and continuing education, to learn about new trends, new technologies, and to build a professional network. They further remark that the American Library Association (ALA), Special Libraries Association (SLA), and the Association of College and Research Libraries (ACRL) conferences provide essential tools for growth in the profession.

Most articles consulted focused on general benefits of conference attendance, such as discussed in Crum (2008). Tmaszewski and MacDonald (2009), also note Pavilna (2009), Natarajan (2008), Alaimo (2008), Abram (2008), Morse (2008), Morese (2008), and Pesko (2006). These articles deal with the benefits of attending conferences and the conclusion that people attend conferences for professional development, including knowledge exchange, peer-to-peer communication, and technology updates (Tmaszewski and MacDonald, 2006).

## **Library Conference Attendance**

There are different ways to attend conferences. Not only do people attend physically, there is also virtual conferencing, especially in this age where the computer is used to facilitate events. Tomaszewski and MacDonald (2009) give examples of discussions relevant to this trend, which include Bell and Shank (2006), Farkas (2006), and Cakir (2002). All these forms of conference attendances are in a bid to achieve a purpose some of which are:

**Collaboration:** Collaboration opportunities come primarily through networking and secondarily through attending specific events (Tysick, 2002). People meet at conferences in order to locate researchers they can work with. Conference centres offer grounds for researchers of like interest to meet and agree on topics about which to write. As stated by

Tysick (2002) in Tomaszewski and MacDonald (2009), "conferences are a fertile ground for socializing, which in turn leads to building friendships based on common interests. One thing leads to another and you find yourself discussing a collaboration project with a scholar or fellow librarians."

Networking: Another great benefit of attending conferences is to meet with colleagues in the same profession. Networking is human-to-human interactions that spur action. Olubola (2007) states that "the themes of the conferences and workshops more often than not provide a platform for delegates to exchange views, share experiences, learn from best practices, and develop sustainable network with colleagues outside the country".

Motivation: Motivation comes from listening and interacting with senior colleagues in same field. When the more experienced librarians are presenting papers or giving a talk, the newer ones listen. The years of experience of senior colleagues help motivate newer librarians to strive to reach farther. Tysick (2002) wrote that, "immersing yourself in a discipline that you have a connection to, either through academic or work-related experience, is energizing....Without renewed motivation you may become stagnant and even alienated from the discipline you support".

Collection development: Conferences give librarians a chance to interact with vendors. Lyons (2007) ponders the question of librarians attending conferences not oriented to the collection subject areas. According to Tysick (2002), "when [faculty and students] learn that the library has thought it important to send a librarian to 'their' conference, they begin to realize the library is genuinely interested in their needs."

All these reasons for attending conferences involve professional development.

### **Review of Related Empirical Studies**

Ngamson and Beck (2000) examined motivation, inhibitors, and facilitators of association members in attending international conferences. A survey questionnaire was used to measure the importance of those factors in influencing the subjects during the conference attendance decision process. The study revealed that opportunities for travel to overseas destinations, outdoor recreation, business or political activities, change of pace, networking, and education were important factors which motivated the respondents in attending international conferences. Perceived risks of safety, inconvenience, and unfamiliarity with overseas destinations, distance, time, money, health problems, and possible security problems of overseas destinations inhibit people from attending conferences. The respondents considered deals on overseas travel packages, opportunities to do activities with family at overseas destinations, and costs covered by their employer as important factors that facilitate their attendance at international conferences.

Adomi, Alakpodia, and Akporhonor (2006) surveyed patterns of conference attendance among LIS professionals in Nigeria. Findings revealed that the respondents attend a variety of conferences, although a majority attend the NLA National Conferences only occasionally; most of them attend conferences in order to keep up-to-date with developments in the profession; most of them obtain conference information from websites; the main factors which determine conference attendance are the reputation of the organizers and early notification of conference date and venue; conference attendance results in improved productivity in the organization; lack of organizational funding for conference attendance is a problem for most of the respondents. In general, the results indicate that, for most

respondents and their employing organizations, participating in conferences produces real benefits.

Rotkin (2008) reports on a professional development fund survey. Of those responding, almost three-quarters (73%) said they had spent money out of pocket to support attendance at professional meetings or for other professional development activities. Of those responding, almost two-thirds (64%) said they had decided not to attend otherwise important or appropriate conferences or not to pursue other job-related professional development opportunities because of the lack of available sufficient professional development funding.

Yoo and Chon (2008) developed a measurement scale to examine factors affecting convention participation decision-making. Five underlying dimensions of convention participation decision-making were labeled: (a) destination stimuli, (b) professional and social networking opportunities, (c) educational opportunities, (d) safety and health situation, and (e) travelability. The implications of the scale are discussed for future research as well as convention marketing strategy.

Vega and Connell (2009) tried to determine why professional librarians attend conferences and to consider their attitudes toward various conference offerings and whether conference attendance is important to their careers. The study found the main reason the respondents attended conferences which was to achieve professional rejuvenation (56%) and networking (40%).

More recently, Yoo and Zhao (2010) validated previous studies. Four determinants were identified (networking, destination, travelability, education), which are in line with the factors suggested in the literature.

### **Problems Associated with Conference Attendance**

Before an individual embarks on a conference journey, there is a decision-making process. The factors hindering conference attendance by librarians as identified by the researcher and other researchers are:

**Cost of participation:** According to Ramirez, Laing and Weiler (nd.), cost is important to the convention attendance decision (Mair & Thompson, 2009; Oppermann & Chon, 1997; Rittichainuwat, et al., 2001; Yoo & Chon, 2008; Yoo & Zhao, 2010; Zhang, et al., 2007). Rittichainuwat, et al. (2001) suggest that both affordability and availability of time are considered under the cost factor. Cost of participation in a conference includes cost of registration, transportation, accommodation, and food.

**Lack of sponsorship:** If a librarian is not sponsored to the national conference, which might be expensive, it discourages the person from attending. Sponsorship could come from the institution where the librarian serves or from NLA as a means of encouraging people to be active members of the association. Ramirez, et al. (n.d.), say that, "in some cases, a company offers a limited number of places for their employees to attend a convention and many may apply for this support which can often become competitive between colleagues."

**Lack of interest:** Lack of interest in a conference might be due to stale programme, poor quality, unattractive conference venue, poor quality of invited keynote speakers, lack of

rapport among association members, poor quality of food and accommodation provided, lack of social activities, unavailability of conference resources for purchase.

Unacceptance of Submitted Papers: Papers for NLA are accepted primarily because of quality. When some papers are rejected and others are accepted, those whose papers were rejected may not wish to attend the conference.

Lack of awareness: Some librarians say that they do not hear about the NLA annual conference/AGM and the call for papers. They do not have an opportunity to submit a paper and this may negatively affect their decision to attend the conference.

### **Statement of the Problem**

Librarians attend conferences that relate to their profession, but some librarians attend conferences, especially the NLA conference, without a clear objective. The question posed by this study is: why do librarians attend NLA conferences?

### **Research Questions**

The study aimed to answer the following questions:

- How often do librarians attend NLA conferences? [frequency of attendance]
- Why do librarians attend NLA conferences? [reasons for attending]
- What benefits are derived from these conferences? [benefits derived]
- What problems hinder librarians from attending NLA conferences? [problems faced]
- What strategies could be adopted in ameliorating these problems? [solutions]

### **Population and Sample**

More than 700 people attended the 48th National Conference/AGM of NLA, held at International Conference Centre, Abuja, from 18th – 23rd July 2010. Those attendees are the population for the study. A sample of 200 was chosen. Data was collected using a questionnaire. A total of 185 copies were retrieved and found usable, a 92.5% response rate.

### **Methodology**

The quantitative and qualitative data gathered from the survey were analyzed using percentages, frequencies, and means, where applicable. The quantitative items on the questionnaire were: gender, age, years of professional experience as a librarian, rank, and frequency of NLA conference attendance. For qualitative analysis, A four-point Likert scale was used to determine mean scores of respondents' perception of issues raised. The values assigned to the different scaling statements were as follows:

SA - Strongly Agree 4

A - Agree 3

D - Disagree 2

SD - Strongly Disagree 1

On a 4-point Likert scale, the cut-off point was obtained by adding the values in the scale (1+2+3+4=10) and dividing by 4 to obtain a mean of 2.50 (10/4). Any item rated 2.51 and above was regarded as positive, while any from 2.5 and below was regarded as negative. The scores given to any item were computed by adding the values of the ratings by the respondents. The means were computed from the sum of the value points and divided by the number of the responses. The formula that was used in calculating the means was  $X = \sum x/n$ .

Where: X = Mean

x = Value

n = number of responses

$\sum x$  = sum of values.

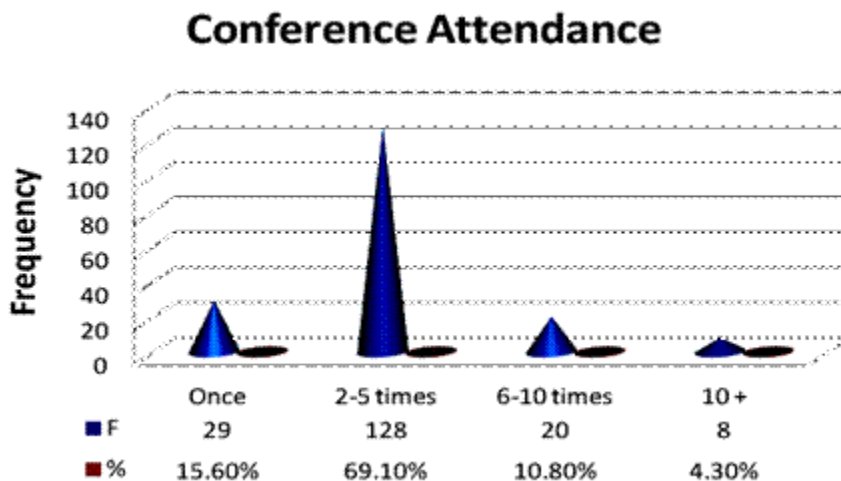
### Analysis

Data for each research question was analyzed in order to ease comprehension of respondents' responses.

Research Question 1: How often do librarians attend NLA conferences?

Data in this respect were collected using questionnaire item 2 and the analyses are shown in chart1:

Chart 1: Number of times respondents have attended NLA since inception



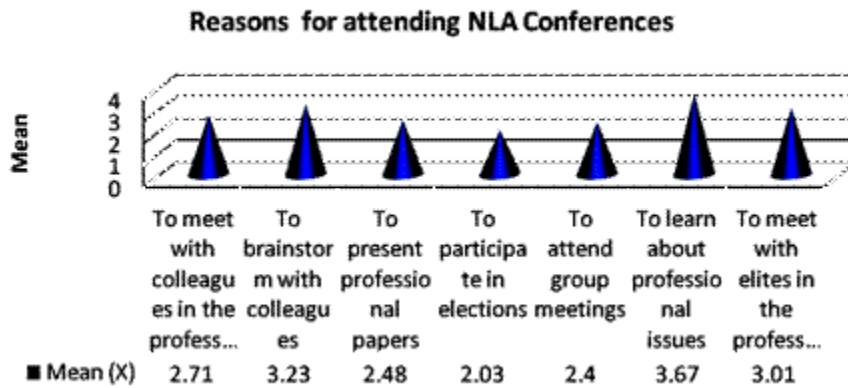
F = Frequency % = percentage

Data in chart 1 reveals that many of the librarians (128) have attended NLA conference 2-5 times (69.1%) and only few (8) have attended more than 10 times (4.3%). Those with more experience in the profession have attended more than ten times, especially academic librarians. Newer librarians are most of those who have attended once (15.6%).

Research Question 2: Why do librarians attend NLA conferences?

This second research question was answered using questionnaire item 3. See chart 2:

Chart 2: Reasons why librarians attend NLA conferences



Drawn from chart 2, the result presented indicates that four ratings are above the criterion mean of 2.5. From the responses given, most librarians (3.67) attend NLA to learn about professional issues. That is, issues that pertain to the profession which may relate to the professional development of the individual. Responses on "to brainstorm with colleagues" were rated 3.23 which is another good reason why librarians attend NLA conferences as they indicated. It is seen also that librarians attend conferences to meet with colleagues (3.23) and elites (3.01) in the profession. The least of the reasons why librarians attend NLA conferences is "to participate in elections" (2.03), and to attend group meetings (2.4).

Research Question 3: What benefits are derived from these conferences?

Chart 3 was used to represent data received and analyzed on research question 3:



Chart 3: Benefits derived from attending NLA conferences

From chart 3, it is seen that benefits librarians derive from attending NLA conferences in order of ranking are: "to learn new occurrences in the profession (4.05)", "to update existing knowledge (3.72)", "to learn how to serve clients better (3.51)", "to learn how to write scholarly papers (3.50)", and "to learn how to speak in public (3.45)".

Research Question 4: What problems hinder librarians from attending NLA conferences?

Data received was analyzed and represented in chart 4:

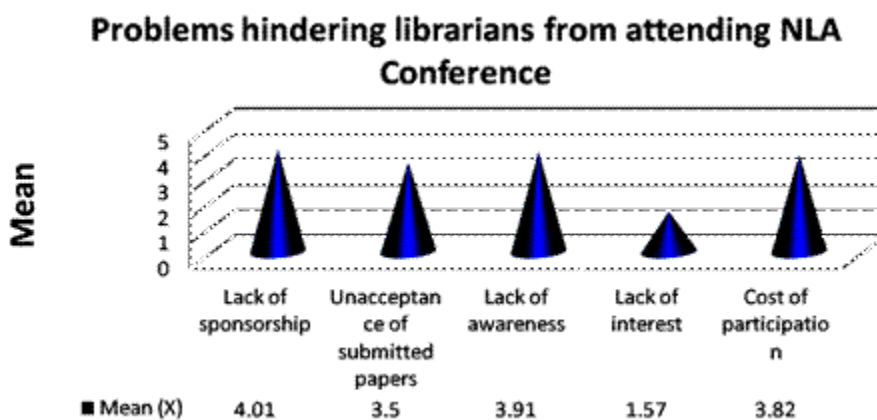


Chart 4: Problems hindering librarians from attending NLA Conference

Chart 4 explains vividly that the major problem hindering librarians from attending NLA conference is "lack of sponsorship" (4.01). Another notable problem is "lack of awareness" (3.91), followed by "cost of participation" (3.82). Some librarians claimed "unacceptance of submitted papers" (3.5) poses a threat while "lack of interest" (1.57) was the least problem remarked.

Research Question 5: What strategies could be adopted in ameliorating these problems?

Chart 5 represents the analysis of research question 5:

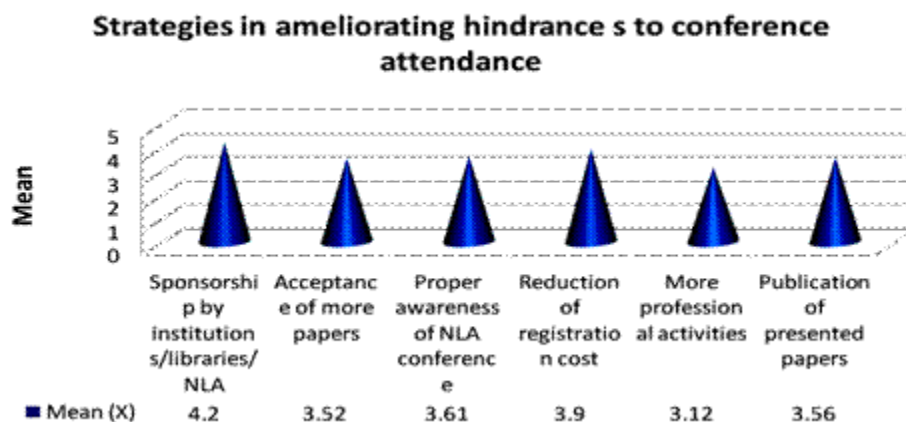


Chart 5: Strategies in ameliorating conference attendance hindrance factors

The data presented in chart 5 interprets the responses of librarians towards strategies in ameliorating hindrances to conference attendance. The major point identified by the respondents is "sponsorship by institutions/libraries/NLA" (4.2). Respondents also noted "reduction of registration cost" (3.9) and "proper awareness of NLA conference" (3.61) as good strategies, followed by "publication of presented papers" (3.56), "acceptance of more papers" (3.52) , and "more professional activities" (3.12).

### **Discussion of Findings**

Most librarians attend the NLA conference to learn about professional issues and to brainstorm with colleagues and elites in the profession. This is in line with Yoo and Chon's (2008) finding that professional and social networking opportunities are one of the five underlying dimensions of convention participation decision-making. In addition, Adomi, et al. (2006) surveyed patterns of conference attendance among LIS professionals in Nigeria, and their findings revealed that most NLA conferees attend the conference in order to keep up-to-date with developments in the profession. Vega and Connel (2009) also noted that conference attendance is a requirement for the career advancement of many librarians, particularly those who work in colleges or universities. According to Ramirez, et al. (n.d.), another important driver of association convention decisions identified by existing studies is educational opportunities (Grant & Weaver, 1996; Mair & Thompson, 2009; Ngamson & Beck, 2000; Oppermann & Chon, 1997; Rittichainuwat, et al., 2001; Severt, et al., 2007; Yoo & Chon, 2008; Yoo & Zhao, 2010; Zhang, et al., 2007). Ramirez, et al (nd) stated further that the "educational" factor has also been referred to in other studies as encompassing personal and professional development, career enhancement, the desire to learn, keeping up with changes in the profession/field, updating knowledge, hearing eminent speakers and learning new skills (Oppermann & Chon, 1997).

With regard to the benefits derived from attending NLA annual conferences, a majority of the respondents indicated that they learn about new occurrences in the profession and update their knowledge. These major benefits are yet in line with the findings of Adomi, et al. (2006), whose study revealed that most NLA conferees attend the conference in order to keep up-to-date with developments in the profession.

The analysis done on the problems hindering librarians from attending NLA annual conference reveals that the major problems are lack of sponsorship, lack of awareness, cost of participation, non-acceptance of papers, and lack of interest. Ramirez, et al. (n.d.) supports this, noting that, "in some cases, a company offers a limited number of places for their employees to attend a convention and many may apply for this support which can often become competitive between colleagues." Cost of registration is also a threat to conference attendance (Mair & Thompson, 2009; Oppermann & Chon, 1997; Rittichainuwat, et al., 2001; Yoo & Chon, 2008; Yoo & Zhao, 2010; Zhang, et al., 2007).

Research question 5 sought strategies to alleviate conference attendance hindrance factors. Chart 5 shows the points identified by the respondent, including sponsorship by institutions/libraries/NLA, reduction of registration cost, and creating proper awareness of NLA conference.

### **Conclusion and Recommendations**

Based on the findings of the study, the following recommendations were made:

- Librarians are urged to attend the NLA annual conference to learn more about professional issues and to brainstorm with colleagues and elites in the profession, as this is a major reason noted by most of the respondents.
- Librarians should note the benefits derived in attending NLA annual conference as identified by the respondents. There should be provision by institutions/ libraries and NLA for sponsoring librarians to attend the annual conference. These bodies should encourage librarians to attend conferences pertaining to their profession by making financial provisions available to them so they can attend and be active members of their profession. It is worthy of note that the Nigerian Library Association has made provisions for prizes which have been established to be competed for annually (sourced from <http://www.nla-ng.org/nlaawards.html>):
- The Award for Young Library and Information Professionals (yLIPs) – instituted by NLA in 2006 and includes full sponsorship to the annual national conference;
- NLA Award for Innovation in Libraries ;
- The E. B. Bankole Librarian of the Year – Endowed by a former President of the NLA, Alhaji Mauzu H. Wali in 2001, this carries a prize of twenty thousand naira (N20,000.00);
- Dr. James O. Daniel Award for the Most Innovative Library-Based ICT Project of the Year – was instituted in 2006 and carries a prize of twenty thousand naira (N20,000.00) and a plaque;
- T.M. Salisu Award for the Most Published Librarian – instituted in 2008 and carries a cash prize of twenty thousand naira (N20,000.00) and a plaque;
- Dr. Mrs Rose Bini Okiy Award for the Most Innovative Librarian in the use of Information for Creation of Awareness of HIV/AIDS Pandemic – initiated by the 2nd VP of the NLA in 2009. It carries a plaque and a cash prize of twenty thousand naira (N20,000.00) ;
- The forms for the awards could be obtained from the NLA website. This is a pace which all library associations should set in order to encourage librarians to attend library conferences where cost of participation is assessed as high by the participants.
- In addition, the NLA conference committee should endeavour to be accepting more papers and split the conference sessions into lead paper presentations and discussion groups as opposed to the ongoing tradition where only few papers are accepted for presentation in a large annual gathering of elites. This action will encourage mentoring instead of giving chance to only the good ones to present papers.
- There should be activities that will stir up interest in librarians to be attending NLA annual conference meetings, and it is the responsibility of the conference organizers and the executive members of the association to ensure this. Factors like poor choice of conference venue, stale programmes, poor feeding and accommodation, poor caliber of invited keynote speakers and guests, etc can kill the interest of librarians in attending subsequent meetings.
- There should be adequate awareness creation of each upcoming NLA conference, not only via the online forums platform (nla-online-forum@yahoogroups.com; nlanewlibrarian@yahoogroups.com; and nlalittcentral@yahoogroups.com), but through letters to institutions and paid-up members or any category of member. This will keep everybody informed about upcoming conferences.
- Efforts should be made where possible, to reduce registration cost of the conference as this is a major problem faced by most librarians in attending NLA conference.

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# ICT in Education: A Catalyst for Effective Use of Information

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## Introduction

Educational systems around the world are under increasing pressure to use the new information and communication technologies (ICTs) (UNESCO, 2002 as cited by Yuen, Lee, Law & Chan (2008)). The premise that ICT is important for bringing changes to classroom teaching and learning is the basis for this pressure. These skills include the ability to become lifelong learners within a context of collaborative inquiry and the ability to work and learn from experts and peers in a connected global community (Law, Pelgrum & Plomp, 2008).

The information society demands a workforce that can use technology as a tool to increase productivity and creativity. This involves identifying reliable sources of information, effectively accessing these sources of information, synthesizing and communicating that information to colleagues and associates (Alibi, 2004). Information is a key resource for undergraduate teaching, learning, research, and publishing. This brings the need for effective methods of information processing and transmission (Hawkins, 1998).

ICT includes communication devices or applications, encompassing: radio, television, cellular phones, networks, software, and satellite systems, as well as the various services and applications associated with video conferencing and distance learning. Tinio (2002) notes that ICTs are powerful enabling tools for educational change and reform. When used appropriately, different ICTs help expand access to education, strengthen the relevance of education to the workplace, and raise educational quality by creating an active process connected to real life.

Cuban (1986) noted that in recent years there has been a groundswell of interest in how computers and the Internet can best be harnessed to improve the efficiency and effectiveness of education at all levels and in both formal and non-formal settings. But ICTs are more than just these technologies; older technologies such as the telephone, radio and television, although now given less attention, have a longer and richer history as instructional tools. For instance, radio and television have for over forty years been used for open and distance learning, although print remains the cheapest, most accessible and therefore most dominant delivery mechanism in both developed and developing countries. Potashnik and Capper (2002) also indicated that the use of computers and the Internet is still in its infancy in developing countries, if these are used at all, due to limited infrastructure and the attendant high costs of access. Moreover, different technologies are

typically used in combination rather than as the sole delivery mechanism. For instance, the Kothmale Community Radio Internet uses both radio broadcasts and computer and Internet technologies to facilitate the sharing of information and provide educational opportunities in a rural community in Sri Lanka (Taghioff, 2001). Also, Tinio (2002) observed that the Open University of the United Kingdom (UKOU), established in 1969 as the first educational institution in the world wholly dedicated to open and distance learning, still relies heavily on print-based materials supplemented by radio, television and, in recent years, online programming. Additionally, Tinio further noted that the Indira Gandhi National Open University in India combines the use of print, recorded audio and video, broadcast radio and television, and audio conferencing technologies.

Haddad and Draxier (2002) indicated that ICT contributed to effective learning through expanding access, promoting efficiency, improving the quality of learning and improving management systems. According to Obeng (2004), ICT is now regarded as a utility such as water and electricity and hence has become a major role in education, learning and research in general, agriculture, health, commerce and even in poverty alleviation by generating or creating new jobs and investment opportunities. ICT is an indispensable part of the contemporary world. The field of education has certainly been affected by the penetrating influence of ICT worldwide and in particular developed countries. ICT has made an impact on the quality and quantity of teaching, learning and research in the tradition and/or distance education institutions using it (Kwacha, 2007). According to Ololube, Ubogu and Ossai (2007), the introduction of ICT usage, integration and diffusion has initiated a new age in educational methodologies, thus it has radically changed traditional method of information delivery and usage patterns in the domain as well as offering contemporary learning experience for both instructors and students.

The evolution of ICT into universities clearly changes the way education is conducted. Not only is it possible to work with distance learning and achieve a closer collaboration between different universities, but also paving the way for a new pedagogical approach where there is unparalleled ability to spread knowledge and disseminate information. The pace of change brought about by new technologies has had a significant effect on the way people live, work and play worldwide. New and emerging technologies challenge traditional process of information use and dissemination and the ways information is managed. Easy worldwide communication provides instant access to a vast array of data, challenge assimilation and assessment skills, rapid communication plus increased access to ICT at home, work and in educational establishment.

For developing countries, ICTs have the potential for increasing access to and improving the relevance and quality of education. It thus represents a potentially equalizing strategy for developing countries. ICTs greatly facilitate the acquisition and absorption of knowledge, offering developing countries unprecedented opportunities to enhance educational systems, improve policy formulation and execution, and widen the range of opportunities for business and the poor. One of the greatest hardships endured by the poor, and by many others who live in the poorest countries, is their sense of isolation. The new communications technologies promise to reduce that sense of isolation and to open access to knowledge in ways unimaginable not long ago (World Bank, 1998). Tinio (2002) however, noted that the reality of the Digital Divide the gap between those who have access to and control of technology and those who do not means that the introduction and integration of ICTs at different levels and in various types of education will be a most challenging undertaking. Failure to meet the challenge would mean a further widening of the knowledge gap and the deepening of existing economic and social inequalities.

ICTs are advances in technologies that provide a rich global resources and collaborative environment for dissemination of ICT literacy materials, interactive discussions, research information and international exchange of ideas which are critical for advancing meaningful educational initiatives, training high skilled labour force, and understanding issues related to economic development. ICTs highlight innovative effort and partnerships and promote ICTs literacy and facilitate interaction between all sectors of a national economy including external spheres.

According to Nwachukwu (1994) as cited in Hawkins (1998) ICTs are indispensable and have been accepted as part of the contemporary world especially in the industrialized society. Also, Yusuf (2005) indicated that cultures and societies are adjusted to meet the challenge of the knowledge age. The pervasiveness of ICT has brought about rapid change in technology, social, political and global economic transformation. It is widely acknowledged that ICTs can be used to improve the quality of teaching and learning in any tertiary institution. The prevalence and rapid development of ICTs has transformed human society from the information technology age to the age of knowledge. In fact ICTs are becoming natural part of man's daily life, thus the use in education by staff and students is becoming a necessity. Certainly, the present and future academic global community will utilize ICTs to a higher degree. This has made it imperative that undergraduates not only need to use ICTs, but they need to become comfortable with using them. This is to ensure that they participate fully in life of the contemporary information age and also to use it to accomplish their everyday task (Yusuf, 2005).

David (2005) said that students become more aware about how to learn when using ICT because they must interact with computer. ICT has also changed the relationship between students and lecturers and has made it open and intimate. The idea of sharing knowledge and the capability of using new sources for learning are enhanced by using ICTs. ICTs have also helped undergraduates in better communication and access to information. This is due to the fact that there is a national policy supporting ICTs in schools, lecturers and students will then fall closer to the rest of the world. ICT has enhanced students (undergraduates) curiosity and motivation that in turn has forced the lecturers to seek more knowledge. The competences learnt by using ICTs will prepare undergraduates better for further education and in future work. In spite of the benefits derived from the use of ICTs, Nigerians are at a pathetic disadvantage over their counterparts elsewhere. The problem is inevitable but if academic institutions fully adopt the use of ICTs in higher institutions of learning, then goals will be achieved within a short period of time. For the goal of effective use of information by undergraduates to be achieved, the benefits that are derived from ICT usage must be made known so that undergraduates specifically and the society at large can be aware.

In view of this study, the following research questions have been formulated to ascertain how ICT could/have be a catalyst to effective use of information by undergraduates.

- What types of ICTs are available to undergraduates for use in Delta State University?
- To what extent do undergraduates make use of ICT?
- What are the reasons for undergraduates' use of ICT in education?
- What are the problems undergraduates face with the use of ICT?
- What are the solutions proffered to the problems undergraduates face with the use of ICT?

## Literature Review

ICT is an accepted acronym of the word information communication technology. It is a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information (Blurton, 1999). This means that ICT helps in the storage and management of information. Ayo (2001) also defined ICT as the use of computer systems and telecommunications equipments in information processing. ICT as described by Scott (2002) encompasses a range of applications, communications and technologies which aid information retrieval and research communication and administration. These include: Internet access, electronic mail, CD-ROMS, telephone, on line databases, library services and fax machines. It has become a global phenomenon of great importance and concern in all aspects of human endeavour, spanning across education, governance, business, labour, market, shares, productivity, trade, agriculture, commerce and others.

Tinio (2002) indicated that ICTs are a potentially powerful tool for extending educational opportunities, both formal and non-formal, to previously underserved constituencies scattered, and rural populations, groups traditionally excluded from education due to cultural or social reasons such as ethnic minorities, girls and women, persons with disabilities, and the elderly, as well as all others who for reasons of cost or because of time constraints are unable to enroll on campus. Tinio further noted that ICT can expand access to education in the following ways:

- Anytime, anywhere: One defining feature of ICTs is their ability to transcend time and space. ICTs make possible asynchronous learning, or learning characterized by a time lag between the delivery of instruction and its reception by learners. Online course materials, for example, may be accessed 24 hours a day, 7 days a week. ICT-based educational delivery (e.g., educational programming broadcast over radio or television) also dispenses with the need for all learners and the instructor to be in one physical location. Additionally, certain types of ICTs, such as teleconferencing technologies, enable instruction to be received simultaneously by multiple, geographically dispersed learners (i.e., synchronous learning).
- Access to remote learning resources: Teachers and learners no longer have to rely solely on printed books and other materials in physical media housed in libraries, and available in limited quantities for their educational needs. With the Internet and the World Wide Web, a wealth of learning materials in almost every subject and in a variety of media can now be accessed from anywhere at any time of the day and by an unlimited number of people. This is particularly significant for many schools in developing countries, and even some in developed countries, that have limited and outdated library resources. ICTs also facilitate access to resource persons- mentors, experts, researchers, professionals, business leaders, and peers all over the world.
- Improving the quality of education and training is a critical issue, particularly at a time of educational expansion: ICTs can enhance the quality of education in several ways; by increasing learner motivation and engagement, by facilitating the acquisition of basic skills, and by enhancing teacher training (Haddad & Jurich, 2002). ICTs are also transformational tools which, when used appropriately, can promote the shift to a learner-centered environment.
- Motivating to learn: ICTs such as videos, television and multimedia computer software that combine text, sound, and colorful, moving images can be used to provide challenging and authentic content that will engage the student in the learning process. Interactive radio likewise makes use of sound effects, songs,

dramatizations, comic skits, and other performance conventions to compel the students to listen and become involved in the lessons being delivered. More so than any other type of ICT, net-worked computers with Internet connectivity can increase learner motivation as it combines the media richness and interactivity of other ICTs with the opportunity to connect with real people and to participate in real world events.

- Enhancing teacher training: ICTs have also been used to improve access to and the quality of teacher training. For example, in China, large-scale radio- and television-based teacher education has for many years been conducted by the China Central Radio and TV University, the Shanghai Radio and TV University and many other RTVUs in the country (Carnoy, et al, 2002).

The introduction of ICT into universities clearly changes the way education is conducted. Not only is it possible to work with distance learning and achieve a chosen collaboration between universities, ICT is also paving the way for a new pedagogical approach where students are expected to play more active role than before. Using information and communication technology (ICT) as a tool in education, students should be able to communicate, create preservatives in power point, and interact with colleagues and teachers using technology and so on. For countries to benefit from technological development a cadre of professional has to be educated with sound ICT backgrounds with various computer platforms and software environment.

Darkwa and Anao (2004) highlighted the impact of ICT on tertiary institution are as follows:

- First, it enhances both academic and business research by university and polytechnic lecturers and students. With the advent of internet, researchers and undergraduates will have the opportunity to access a lot of information for various assignments in a more innovative way. By the click of a button, researchers can have full access to various kinds of information and even known relevant areas of critical concern and interest. It also offers them the chance to know the demand of industry and conduct research to meet industry's expectations. In no doubt, the universities and polytechnics are rich centers and innovative research can be conducted by the use of ICT. ICT has provided full access to students on all kinds of information for their studies and writing of dissertations and theses.
  - Second, ICT reduces administrative cost. Telephone is expensive in developing countries and many filing and records keeping is done manually. The use of the internet, intranet and extranet could reduce administrative cost because the same information on the internet can be sent to all departments without having to do it individually. Communication both within the departments and outside the departments can be enhance greatly by the use of intranet and extranet.
  - Third, ICT solves the problem of lack of university and polytechnic lecturers. With the current state of acute shortage of academic facility and staff facing our tertiary institutions, we could leverage ICT through video conferences so that students on various campuses pursuing the same or similar programme/course could be linked to benefit from a lesson, which they lack lecturers simultaneously.
- Fourth, ICT reduces pressure on university and polytechnic admission process. In our universities and polytechnics today, the pressure on academic admissions processes have been reduced, it has made it easy for money to be accessed easily. With the growing number of computer literacy in our society, more ICT centers could be established in selected areas. The universities and polytechnics could then be linked to these centers.

- Fifth, ICT helps undergraduates share ideas. With the use of ICT, ideas can be shared online, as students and lecturers can enhance their skill remarkably through the creation of online communication. This will allow and provide opportunity for researcher and lecturers to have information and ideas. Also, the teaching methods have been improved whereby students no longer write notes during lectures when teaching in class, because the lecturer teaching has compiled almost everything from the Internet.

Registration and details of examination and other services are being offered online, thereby reducing pressure during course registration. With the use of ICT, students pay their school fees online and check their results after every examination. ICTs are able to provide strong support for all these requirements and examples of the world-class settings for competency and performance based curricula that make sound of the affordance of these technologies. Furthermore, information now plays a vital part in the lives of individuals, organizations and institutions and information literacy is the key to the optimum use of information. The state of education and skills emphasized the importance of ICT and information literacy as vital components in the development of life skills, workplace skills and citizenship.

### **Benefits of ICT**

Research has shown that the appropriate use of ICTs can catalyze the paradigmatic shift in both content and pedagogy that is at the heart of education reform in the 21st century (Bransford, 1999). If designed and implemented properly, ICT-supported education can promote the acquisition of the knowledge and skills that will empower students for lifelong learning.

The following are the benefits derived from the use of ICT in education:

- **Active learning:** ICT-enhanced learning mobilizes tools for examination, calculation and analysis of information, thus providing a platform for student inquiry, analysis and construction of new information. Learners therefore learn as they do and, whenever appropriate, work on real-life problems in-depth, making learning less abstract and more relevant to the learner's life situation. In this way, and in contrast to memorization-based or rote learning, ICT enhanced learning promotes increased learner engagement. ICT-enhanced learning is also "just-in-time" learning in which learners can choose what to learn when they need to learn it.
- **Collaborative learning:** ICT-supported learning encourages interaction and cooperation among students, teachers, and experts regardless of where they are. Apart from modeling real-world interactions, ICT-supported learning provides learners the opportunity to work with people from different cultures, thereby helping to enhance learners' teaming and communicative skills as well as their global awareness. It models learning done throughout the learner's lifetime by expanding the learning space to include not just peers but also mentors and experts from different fields.
- **Creative Learning:** ICT-supported learning promotes the manipulation of existing information and the creation of real-world products rather than the regurgitation of received information.
- **Integrative learning:** ICT-enhanced learning promotes a thematic, integrative approach to teaching and learning. This approach eliminates the artificial separation between the different disciplines and between theory and practice that characterizes the traditional classroom approach.

- Evaluative learning: ICT-enhanced learning is student-directed and diagnostic. Unlike static, text- or print-based educational technologies, ICT-enhanced learning recognizes that there are many different learning pathways and many different articulations of knowledge. ICTs allow learners to explore and discover rather than merely listen and remember.

### **Problems Militating Against the Use of ICT in Universities**

Empirical studies have indicated that even teachers who have competence in the use of ICT do not integrate them in their teaching. Problems of quality and lack of resources are compounded by the new realities faced by higher education institutions battle to cope with every increasing student's numbers. Not only have higher education systems expanded worldwide, the nature of the institution within these systems has also been shifting, through a process of differentiation (World Bank, 2000 as cited by Ololube, Ubogu & Ossai, 2007).

According to Pelgrum (2001), obstacles for ICT implementation include the following: Insufficient number of computers, teachers' lack of ICT knowledge/skills, difficult to integrate ICT to instruction, scheduling computer time, insufficient peripherals, not enough copies of software, insufficient teacher time, not enough simultaneous access, not enough supervision staff and lack of technical assistance. Similarly, Lewis and Smith (2002) summarized these barriers as limited equipment, inadequate skills, minimal support, time constraints and the teacher's own lack of interest or knowledge about computer. Kwacha (2007) also noted that the most common problems associated with the effective implementation of ICT are lack of qualified ICT personnel, cost of equipment, management attitudes, inconsistent electric power supply, inadequate telephone lines, particularly in rural areas and non inclusion of ICT programmes in teacher's training curricula and at the basic levels of education.

Also, these problems stated can affect or hinder the effective use of ICT by undergraduates if they are not properly implemented. For undergraduates in Nigerian universities to be abreast with the present information age, these facilities need to be put in place to enhance the teaching-learning process.

### **Prospects of ICT Use in Universities**

Despite the fact that Nigeria and in fact most African countries came late into the ICT world, the adoption of the Nigerian policy for information technology in 2001 is the right step in ICT application in every sector of the nation's life and in particular in education. The policy is designed to ensure that Nigeria as a nation recognizes the strategic importance of ICT for national development. Successful application in every sector can only be assured through adequate coverage of needed areas. Identified gaps can be filled through the environment of important stakeholders/actors such as the teacher and managers of education.

Specifically, Kwacha (2007) indicated the following are some required urgent steps towards the adoption and use of ICTs in education.

- The adoption of ICT international standards and its inclusion in the Nigeria curriculum and in particular in the teacher's education curriculum. Continuous and provide training of teachers on computers and ICT skill acquisition.
- Development and training of ICT experts, specifically for instruction design and development, who will work in partnership with educators and teachers.

- Funding: Government at all levels should make ICT a matter of priority, improve the funds specifically needed for the training of teachers/students in computer education who will be equipped with ICT knowledge and skills.
- There is need for the Nigerian government to address seriously the issues of the erratic electricity power supply while on the other hand schools wishing to adopt the integration of ICT in their teaching – learning process should as a matter of urgency procure a generating set, that can supplement Power Holding Company (PHCN) for supply of power.

## Methodology

The study employed a descriptive survey method using the *expost-facto* design. The population for this study consists of final year undergraduates of the department of Library and Information Science, Delta State University, Abraka. Questionnaire was used for the data collection. The population of final students is 212. A sample size of 84 students was drawn from the population. This is derived by taking 40% of the entire population. However, only 60 copies of the questionnaire were retrieved, this is due to the vacation of students for Christmas celebration thus; few final students were on campus. The data collected were analysed using descriptive statistics (i.e. frequency count and percentages).

## Results and Discussion

Table I: Gender Distribution of Respondents

Gender	Frequency	Percentage
Male	20	33.3
Female	40	66.7
Total	60	100

It can be deduced from the analysis that majority of the respondents are females.

Research question one:

What types of ICTs are available to undergraduates for use in Delta State University?

Table II: Types of ICTs available for undergraduate use

Response	Frequency	Percentage
Computer	16	26.66
Internet	8	13.3
E-mail	7	11.66
Networking	5	8.3
CD-ROM	9	15
Others	15	25
Total	60	100

From table III above, the computer is the major types of ICTs available to final year students. Computer 16 (26.66%), internet 8 (13.3%), E-mail 7 (11.66%), networking 5 (8.3%), CD-ROM 9 (15%) and others 15 (25%). It may be inferred from the result that computers are the mostly available ICTs because the department owns a laboratory with computers available for students use. Other ICTs as indicated by students include mobile phones, scanners and printers. However, based on the response of the respondents, the

Internet, computers, printer, scanners and mobile phones are the ICTs facilities mostly used.

Research question two:

To what extent do undergraduates make use of ICT?

Table III: Extent of undergraduate's use of ICT

Response	Frequency	Percentage
Every day	17	28.3
Once a week	12	20
Once a month	16	26.7
Never	15	25
Total	60	100

It can be concluded that students do make use of the available ICTs. 17(28.3%) make use of available ICTs on a daily basis, 16(26.7%) use them on a monthly basis, 12(20%) use them on weekly basis, while 15(25%) never make use of the available ICTs. However, one can conclude that almost half of the students do not make use of the available ICTs since about 25% of them never made use of the available ICTs.

Research question three:

What are the reasons for undergraduates' use of ICT in education?

Table IV: Reasons for undergraduates' use of ICT in education

Response	Frequency	Percentage
Class assignment/supplement classroom teachings	32	53.33
Project writing	17	28.33
Charting with friends and colleagues	16	26.67
Web browsing	44	73.33

From the table IV above, final year students of Library and Information Science use the various ICT facilities mostly for web browsing 44 (73.33%), class assignment/supplement classroom teachings 32 (53.33%), project writing 17(28.33%) and for charting with friends/collogues 16 (26.67%).

Research question four

What are the problems undergraduates face with the use of ICT?

Table V: Problems undergraduates face with the use ICT

Response	Frequency	Percentage
Electricity interruption	55	91.67
Over population of students	60	100

Poor communication infrastructure (Limited access)	45	75
Inadequate ICTs skills	31	51.67

Table VI above shows the problems students face in the use of ICT. Electricity interruption 55 (91.67%), overpopulation of students 60 (100%), poor communication infrastructure (limited access) 45 (75%) and inadequate ICTs skills 31 (51.67%). It can be concluded that the problems are enormous as can be seen from the table. Other problems as indicated by some students are lack of some ICT facilities such as CD-ROM and Scanner for students use in school café, high cost of ICT facilities, and lack of awareness of some of the ICT facilities. Also, there are no enough printers, hence heavy queue for printing of desired documents which leads to waste of valuable time. Some of the computers are obsolete and not in good working conditions.

Research question five:

What are the solutions proffered to the problems undergraduates face with the use of ICT?

Table VII: Solutions to the problems faced by undergraduates with the use of ICT.

Response	Frequency	Percentage
Continuous and periodic training of students/lecturers on computer/ICT skills	55	91.67
Procurement of generator to supplement electricity supply	34	56.67
Monitoring and inspection of ICT programmes in your school	47	78.33
Adequate funding of ICT projects on your school	57	95

It can be deduced from table VII that continuous and periodic training of students/lecturers on computer/ICT skills, Procurement of generator to supplement electricity supply, Monitoring and inspection of ICT programmes in your school and Adequate funding of ICT projects on your school, are the solutions to the problems faced by undergraduates in the use of ICT for educational activities.

## Conclusion

Overriding conclusion that emerges from this study is the need to examine how ICT have served as catalyst for effective utilization of information by undergraduates in a holistic policy context. There is no single policy set aside for planning policies and programmes to introduce ICT in the use of information by undergraduates. It is therefore recommended that issues and challenges of ICTs in education should be given urgent/adequate attention. Also, problems associated with the use of ICT for educational activities should be addressed for proper implementation of ICTs in education.

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# **The Impact of Nigerian University Libraries in Accreditation of Academic Programmes: A Case Study**

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## **Introduction**

The demand for education continues to escalate in Nigeria, and the most significant pressure is on tertiary education. Act 1 of 1974 gave statutory mandate to the National Universities Commission (NUC) for orderly development of Nigerian university education. Moreover, Act 16 of 1985 empowers the Commission to draw up minimum academic

standards and accredit degrees and other academic awards of Nigerian universities. The Act states:

"to lay down minimum standards for all universities in the federation and to accredit their degrees and other academic awards after obtaining prior approval therefore through the Minister from the President, Commander-in-Chief of the Armed Forces; provided that the accreditation of degrees and other academic awards shall be in accordance with such guidelines as may be laid down and approved by the Commission from time to time".(NUC, 1989).

The NUC has established the procedure accreditation in all universities in Nigeria. The ranking and institutional accreditation of Nigerian universities, among other policy initiatives aimed at quality assurance, are the measures that guide parents in choosing a university for their children. To accomplishment of its mission, the NUC collates, analyses, and publishes information relating to university education in Nigeria. Such information includes academic programmes taught in particular universities, NUC-approval status, year of establishment, level of degrees that are offered, accreditation status, and carrying capacity of each programme.

### **Historical Background of Crawford University Igbesa, Nigeria**

Crawford University is one of the thirty-four private universities approved to operate in Nigeria (Osagie, 2009). It was established by the Apostolic Faith Mission. The Apostolic Faith Mission was founded by late Rev. Florence Louise Crawford in 1906 in the city of Portland, Oregon, USA. A branch of the church was founded in Nigeria in 1944 by the late Rev. Timothy Gbadebo Oshokoya.

Crawford University was established out of the desire of the Apostolic Faith Mission to contribute to Nigeria's education by "establishing a centre of excellence that will nurture and produce well-rounded graduates who will be academically sound and morally upright" (Crawford University Brochure, 2006). The university was licensed by the Federal Government of Nigeria on 9th June, 2005. Its main campus is at Faith City in Igbesa, Ogun State, Nigeria, with an off-campus college (Agriculture) at Oye Ekiti, Ekiti State, Nigeria.

The Colleges of Natural and Applied Sciences, and Business and Social Sciences are located in the main campus. The first commencement ceremony was in November, 2009.

### **Objectives of the Study**

This study assesses the performance of Crawford University during its last accreditation exercise in 2008, with a focus on the university library, using the following metrics: collection building, staffing, library physical structure, budgetary allocation, and availability of Internet facilities.

### **Literature Review**

The quality of the university library is an important to the reputation of the university. Olorunsola (2009) says that the quality and effectiveness of academic programmes of a university are measured in part by the quality of the library. Consequently, the university library is used in evaluating and scoring academic programmes. During an accreditation exercise, if the university library is scored less than 70%, but all other components are

scored 100%, those programmes will not get full accreditation. Academic worth, intellectual vitality, and effectiveness of any university depend upon the state of its library (Aguolu, 1984).

Minimum standards and accreditation became necessary in the 1980s when the book collections in Nigerian university libraries were so few and outdated that teaching and research were impaired. The deteriorating trend, as noted by Lawal (1986), Ehikhamenor (1983), Ifidon (1985), and Ifidon (1990), reveal that the references in journal articles by Nigerian academics were more than 10 years behind. This situation calls for a policy that will outline minimum requirements to be met before a new university is established. Efforts were made by the Committee of University Librarians of Nigerian Universities (CULNU), the National Universities Commission (NUC), Academic Staff Union of Nigerian Universities (ASUU) and the Federal Military Government of Nigeria, who were the stakeholders to address the situation (NUC, 1989, 1990, Federal Republic of Nigeria, 1985, and ASUU, 1992).

The result was Decree No. 16 (National Minimum Standards and Establishment of Institutions Decree), which empowered the NUC to prescribe minimum standards for Nigerian universities, conduct inspections of the universities, and close down departments and faculties that do not meet the minimum requirements. The following provisions for library funding are made in the minimum standards:

- Each year 10% of the total recurrent grant to each university should be fully committed to the operations of the university library;
- This is to be fully effective from the 1993 allocations;
- Out of this amount, 60% should be committed to purchase of books and journals, while 40% is committed to personnel emolument and purchase of other consumables required in the library;
- The funds will henceforth be listed separately ... along the same lines as has been the practice for research funds;
- These library funds should not lapse from one year to the next and the available unused funds should be carried forward to the following year;

The use of these funds is reported in quarterly accounting to the NUC. The amount being released for first quarter 1993 was expected to be accounted for by the end of the third quarter of the same year, and so on (NUC, 1993)

Accreditation in the Nigerian university system has three stated objectives:

- ensure that at least the provision of the Minimum Academic Standards (MAS) documents are attained, maintained, and enhanced;
- assure employers and other members of the community that Nigerian graduates of all academic programmes have attained an acceptable level of competence in their areas of specialization; and
- certify to the international community that the programmes offered in Nigerian universities are of high standards and their graduates are qualified for employment and for further studies (NUC, 2009).

Programmes are evaluated by university academics based on the following criteria: staffing, academic content, physical facilities, library, funding, and employers' rating. Each criterion has component indices with varying weights as contained in the manual of accreditation

procedures for academic programmes in Nigerian universities. The criteria for award of accreditation status to a programme are:

- Full accreditation status: a total overall score of 70% and above in addition to scoring, at least 70% in each of the core areas of staffing; academic content, physical facilities, and library;
- Interim accreditation status: an overall score of 60% or more but less than 70% or an overall total score of 70% and above but with a score of less than 70% in any of the four core areas identified in (a) above
- Denied accreditation status: an overall score of less than 60%

In pursuance of its mandate, the NUC conducted accreditation evaluation of academic programmes in Nigerian universities. In May 2008, a "mop-up" accreditation was conducted on programmes that were not visited during the November 2007 comprehensive accreditation exercise. In November 2008, a comprehensive accreditation exercise was also conducted to evaluate programmes due for accreditation in the evaluation cycle.

### **Methodology**

Facts and figures were retrieved from available records and reports on the activities and performance of the Crawford University Library since inception in 2005. The authors also relied on the information provided by the librarians met through interviews.

### **Assessment and Discussion**

Crawford University took part in the November 2008 comprehensive accreditation exercise of academic programmes. In all, fifteen academic programmes were presented for accreditation. The summary of the results of the exercise is presented in the table below:

Table I: Crawford University Summary of Results of November, 2008 Comprehensive Accreditation Exercise

S/N	Programme	Total Score %	Accreditation Status	Remarks	Maturity Date	Last Accreditation Result
1	Administration					
(i)	Accounting	74.4	Interim	Scored less than 70% in both Staffing and Library	2010	-
(ii)	Business Administration	74.4	Interim	Scored less than 70% in both Staffing and Library	2010	-
(iii)	Industrial Relations and Personnel Management	79.3	Interim	Scored less than 70% in Library	2010	-
(iv)	Marketing	70.7	Interim	Scored less than 70% in both Staffing and Library	2010	-
(v)	Banking and Finance	69.5	Interim		2010	
2.	Sciences					
(i)	Information & Communication Technology	62.7	Interim	-	2010	-
(ii)	Geology & Mining	77.0	Full	-	2013	-
(iii)	Computer Science	66.7	Interim	-	2010	-
(iv)	Physics with Electronics	71.7	Interim	Scored less than 70% in both Physical facilities and Library	2010	-
(v)	Microbiology	77.3	Interim	Scored less than 70% in Library	2010	-
(vi)	Biochemistry	72.2	Interim	Scored less than 70% in both Physical facilities and Library	2010	-
(vii)	Industrial Chemistry	74.2	Interim	Scored less than 70% in both Physical facilities and Library	2010	-
2	Social Sciences					
(i)	Economics	66.5	Interim	-	2010	-
(ii)	Sociology	70.1	Interim	Scored less than 70% in both Physical facilities and Library	2010	-
(iii)	Political Science & International Relations	75.0	Interim	Scored less than 70% in both Physical facilities and Library	2010	-

Source: National Universities Commission Monday Bulletin, 2009

The total number of programmes accredited was 15. Out of these, only 1 (6.7%) was given full accreditation, while the number with interim accreditation status was 14 (93.3%). None of the programmes was denied accreditation status. Reasons given for the accreditation status granted shows that 3(20%) programmes scored less than 70% in both staffing and library, 5 (33.3%) scored less than 70% in both physical facilities and library, while 2 (13.3%) scored less than 70% in library alone.

The library, among other criteria, scored less than 70% in 14 (93.3%) out of the fifteen (15) academic programmes. These programmes are on probation until the next accreditation. The implication is that the library is deficient in terms of both the quality and quantity of its collection.

The goals of collection evaluation are to determine strengths, identify gaps, and measure coverage in comparison with other libraries. When an evaluation is conducted to support accreditation, the focus goes beyond collections (Carpenter, 1992). The need to use the metrics described in the objectives of the study becomes imperative. This will allow an examination of the situation in the library between the period of last accreditation exercise and the period covered by this study. Suggestions can then be made to prepare the university library for reaccreditation in the future.

### **Collection Building**

The characteristics and quality of the library collection are strong determinants of the type of service the university library will provide to its users. Olorunsola (2009) asserts that it is imperative to build a collection that will adequately support effective services.

The first batch of library materials was donated by individuals and organizations, notably the Hezekiah Oluwasanmi Library, Obafemi Awolowo University, Ile-Ife; Obafemi Awolowo University Press, University of Lagos Library, Nigeria, and the Apostolic Faith Headquarters in Portland, Oregon, USA. Donations can form part of a library collection but should not be a major source or means of building it. Donation may not meet the needs of the library in terms of relevance and currency of material. Reviewing gifts is important, as a library cannot afford to discard valuable or needed items; however, a library should not add unnecessary items just because they were "free," since processing and storage costs are the same for gifts and purchased items (Evans, 2000).

Another category of materials acquired was those bought directly. The university library started with zero accessions in October, 2005, and opened its doors to users in January 2006 with only 450 volumes of books and 114 local journal titles, to a student population of about 230. The library today has 14,560 volumes of books and 572 journal titles (both local and foreign), and a student population of 960 (Crawford University Librarian's Annual Report, 2009). This collection was able to take the university library through the last accreditation.

Between December 2009 and November 2010, 1,162 volumes of books and 28 journal titles were purchased. A significant quantity of books (633 titles) was donated to the library during the period under review. In June 2010, the university library subscribed to Ebscohost database so that its need for e-journals could be met.

### **Staffing**

Staffing is one of the problems facing private university libraries in Nigeria. The future of the library as a service unit in the university depends on the caliber of staff. Ifidon (1984) claimed that the demand for librarians in tropical Africa exceeds supply, but that is not reason for private university libraries to be short-staffed. The proliferation of private universities also poses a problem in staffing.

The Crawford University Library has survived the first three sessions with the University Librarian as the only professional librarian, except for a brief period of three months when a Librarian II was employed. At the end of the fourth year, the situation has slightly improved with two Librarian II, one Assistant Librarian, three para-professionals and six support staff. It is one thing to recruit staff, however, and another to retain them. Applicants tend to apply to the established institutions rather than the new ones, especially if the new ones have the challenge of setting up libraries. As at the time of writing this article (November,

2010) the staff consisted of: Acting University Librarian – 1 (on sabbatical); Assistant Librarian – 1, Library Officer – 3, and 4 support staff. Two of the professionals (Librarian II) left during the period under review (December, 2009 and November, 2010). This is completely below acceptable standard of higher education library provision.

### **Library Building**

The library building is expected to be in place from the inception of the institution, and the space must be adequate to ensure the optimum use of materials. The Crawford University Library is accommodated in a temporary building inherited from the Apostolic Faith Mission, Nigeria. This phenomenon of temporary accommodation for libraries is prevalent in almost all the new universities, and is not peculiar to Crawford University. Since the present library is not purpose-built, the structure is tight and closed, rather than the usual modular structure of a library building. This does not allow for adjustments. The Humanities and Social Sciences reading room occupies the ground floor of the building while the Natural and Applied Sciences books and reading room occupy the upper floor. Both shelf space and reading space have been stretched to the limit. Work has started on the library extension, which should be completed soon. The extension is expected to provide more ample seating space. Apart from the University Library, there are two college libraries serving the College of Natural and Applied Sciences and College of Business and Social Sciences.

### **Budgets**

The library is a growing organism. The funding of university libraries must thus be robust enough to support the purchase of equipment and other library resources. Olorunsola and Idada (2003) report that libraries in this part of the world are not usually generously funded. Ideally, 25% of the total budget should be set aside for the university library, but this provision is not usually implemented in Nigeria. Below is the expenditure on books and journals between 2005 and 2010:

Table 2: Expenditure on Books and Journals

2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
N1,161.660	N2,279,544,97	N3,362,212.77	N3,259,494.5 to August, 2009	N14.5m

The amount committed to books and journals so far during the period under review (2009/2010) is greater than that of the previous sessions put together. The library as a growing organism will always be in need, so one cannot rule out additional titles being acquired before accreditation.

### **Library Automation and ICT Facilities**

The emergence of ICT and its implications for library service have received wide attention among practitioners of library and information science. No library can be relevant in this modern age, without access to the Internet. A close examination of those university libraries where the academic programmes were denied accreditation revealed that most do not have adequate ICT facilities (Benki and Tukur, 2008).

Crawford University has a functional Internet-connected electronic library with 25 workstations. The e-library is mainly for learning and research (e-learning which involves

interactive learning and guided use of the Internet). The university library opted to operate an online catalogue from the beginning to avoid the need for retrospective conversion of a manual catalogue, a problem now plaguing older libraries in Nigeria. However, owing to financial constraint, the university library could not afford widely marketed software. Therefore, a customized system called KULMARK with cataloguing, circulation, OPAC, and management modules was acquired. The software is locally developed and because it is not widely used, delays often occur in dealing with complaints. Also, incessant power failures frustrate users doing Internet searching.

## Recommendations

For any university to perform its teaching, research and community service functions effectively, the library must be given adequate attention. Concerted efforts have been made to show that Crawford University is preparing for the next accreditation exercise. However, there are still many challenges facing the university library that must be addressed within a very short time. To overcome these challenges, the following recommendations are made:

- Efforts should be made to complete, furnish, equip, and commission the library extension.
- Staffing needs must be addressed. A permanent University Librarian and some senior professionals should be employed to provide for more rapid development;
- Adequate and functional ICT facilities must be put in place. That will provide simultaneous access for many people at the same time, and library users will have self-service to replace the unreliable service they may have received from library staff.
- There is need to migrate from the KULMARK software to KOHA. KULMARK has network problems that cause its OPAC not to work. It is not a healthy situation not to have a tool for searching the library catalogue. It is imperative to migrate to a more reliable Internet-based system such as KOHA, an open-source system that allows for networking and easy exchange of data among professionals.
- Adequate funding is very important. This will enable the library to plan ahead of accreditation. It was observed that the library was given attention only when another accreditation exercise is around the corner. One can then imagine what may likely happen after accreditation. This fire brigade approach should be discouraged.

With improved library holdings, the library extension completed, and improvements in staffing and automation, little else is needed for accreditation to be achieved.

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## **Generation and Dissemination of Local Content Using ICT for Sustainable Development**

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### **Introduction**

Globally, there has been an increasing emphasis on the local content generation. In practice, there is scarce record of different cultural values, indigenous knowledge and heritage material especially in developing countries; unlike the developed countries of the world which have the highest contribution of their local content on the Internet hosts. The need for local content development is quite crucial for sustainable national development. Locally generated content is hardly visible at the Global Information Network (GIN). This rising concern on the paucity of local content arises from its potential. Mutula (2007) noted that Africa faces the problem of limited availability of information and knowledge systems that address African needs. This is as a result of the fact that most consumption of information is external. On this note, the United Nations Economic Commission for Africa (UNICA) indicated that surveys had shown that Africa generates only 0.4% of global

content, and if South Africa's contribution was excluded, the figure would be a mere 0.02% (UNICA, 1999). Hence, "the creation, production and formulation of content must be encouraged at all levels, not only at the national level of all developing countries but, within the same nation, at the local and community levels, to ensure that developing nations do not remain information consumers of a content conceived by others" (Vosloo, 2005).

Local content is the totality of the culture, values, heritage materials, and indigenous knowledge of a group of people with common interest in a given locality. Local content refers to what a community creates, owns, or adapts in terms of knowledge (Ballantyne, 2002). It is a vital platform for local people to express, share, and communicate locally-relevant knowledge on the issues that affect their lives. Mutula (2007) posits that local content could be referred to as locally-owned, locally adapted, produced, or published content. In the context of Africa, local content may be taken to refer to among other things: artifacts, traditional medicine, music, arts, handcraft, local attire, etc. Local content is "an expression and communication of a community's locally generated, owned and adapted knowledge and experience that is relevant to the community's situation (Khan, 2010).

The potentials of local content development are quite indispensable to sustainable national development. Local content is important in any society as it is crucial in bridging the digital divide through empowering the people to link and communicate with the rest of the world. It is a powerful force and driver to national development as it is closely tied to human development and empowerment of local communities. According to Mutula (2008), "absence of local content can lead to capital flight in terms of goods and services purchased from abroad". Raven (2005) articulated the importance of local content by observing that local content enhances equal access and engages communities by creating customized communication strategies and outreach solutions, which address the most critical problems affecting people in the developing world. Harnessing local content helps to increase the sense of pride and value to our local languages, cultural heritage and indigenous practices. Vosloo (2005) asserts that "a local content project that is entirely based on arts, culture, heritage or indigenous knowledge, e.g., training indigenous peoples to publish their stories on a website, also contributes to sustainable development. In the context of Africa's contribution to global information, UNICA (1996) in Mutula, 2007 posit that such content would: make African people producers of indigenous information and knowledge and not simply consumers of imported information; enable Africa to export information and knowledge, and to participate pro-actively in the development of the global information infrastructure; provide African researchers and scientists with access to information on Africa generated from within the continent; enable African researchers and scientists to collaborate on equal footing with their peers around the world, irrespective of distance; and promote African cultural heritage, including the modern cultural sector of its rich and growing film and music industries. The creation and dissemination of local content reflecting the values, heritage, and experience of local communities and culture is imperative for the preservation of cultural diversity. On a general note, local content is a useful tool in promoting African languages and a positive attitude towards the use of technology. Local content, when disseminated widely, allows members of a community to express their values and be identified as unique entity, thus enhancing their political and economic bargaining power.

The overall objective of local content development is to promote knowledge creation, preservation, dissemination, and use of locally generated knowledge. Local content is a form of cultural expression and it is therefore an essential element of cultural diversity. Cultural diversity can only be achieved on the platforms where there is a broad co-existence of various cultural values and expression. The culture, language, and practice of any group of

people is their identity. The loss of our culture, heritage, and indigenous knowledge is a loss to humanity. There is need to take a pragmatic step towards the generation, organization, and dissemination of our local content reflecting the values and experience of local communities. Culture takes different forms, manifested by the groups and societies of humans. Cultural diversity is as essential as biodiversity and is a benefit for present and future generations. (UNESCO's Universal Declaration on Cultural Diversity, 2010).

The broad understanding of the roles of librarians in capturing our rare heritage materials, preserving and disseminating them is a very crucial. As information professionals, the primary roles of librarians in local content development are to select, retrieve, repackage, preserve and disseminate our local content in a form that could be accessible beyond the physical walls of the library. Ensuring easy access to indigenous knowledge promote free flow of information and wide spread of cultural diversity, reflecting language, values and lifestyles which are vastly different from various cultural groups. The issue of local content development is a complex one as it involves the selection, retrieving, repackaging, organizing, preservation and dissemination of our locally produced materials and heritage resources such as folklore wisdom, festivals, traditional medical practices, music, crafts, local attire and art productions. These locally cultural practices should be preserved as they are gradually going into extinct if not jealously guarded. To ensure a dynamic, coherent and effective dissemination of our local content at a global level, librarians are required to possess a new set of technical competencies and skills such as web page creation, digitization skills, metadata management and web linking.

### **Local Content in Africa**

Africa has long suffered from a paucity of information resources, arising out of undeveloped information and book trade infrastructure. Moreover, despite the fact that in the last two decades, there has been a dramatic increase in the global production and dissemination of information through electronic means spurred by the Internet and the World Wide Web, the majority of people in sub-Saharan Africa still lack access to critical information needed to address problems affecting their livelihood (Mutula, 2008).

The government of Ghana has set up Community Information Centres (telecentres) across the country. These centres are expected to generate locally relevant content. There is a strong need to create local ICT based content, relevant and accessible to the wider community, in order other to make CICs truly a Community Information Centre. Most of the African contents are still in their traditional form and are not accessible. ICT based content must be innovative in making use of both traditional means of communication and information sharing as well as take advantage of the latest advances in computer application development (Agbenyo, 2011).

There are several factors constraining the development of local content in Africa as listed by Mutula (2008) as lack of access to electricity and telephone, illiteracy and limited skills, language barriers, low technology penetration, low PC density, lack of content developers, lack of appropriate policies, diversity of languages, lack of cultural policies, poor reading habits and brain drain.

### **ICTs and Generation of Local Content**

The present revolution in Information and Communication Technology (ICT) has brought about a paradigm shift in information management. ICT includes computer hardware and software; digital broadcast and telecommunications technologies as well as electronic

information repositories (Selwyn, 2002). Librarians have been confronted with the challenges of the new technologies for quality and effective service delivery. As noted by Ballantyne (2002), "to a large extent, ICTs need to be conveyors of locally relevant messages and information. They need to provide opportunities for local people to interact and communicate with each other, expressing their own ideas, knowledge and culture in their own languages". ICTs provide the opportunity to digitize analogue materials, videos, audio, or oral information for simultaneous, unlimited, and remote access. The process of generation, storage, and dissemination can be facilitated by the application of ICTs. Our local content and heritage resources, when digitized, could be uploaded to the Internet for global access. This will undoubtedly make Nigeria and Africa active producers of local information rather than being passive consumers of foreign information which may not be relevant to our local needs. This will enhance our impact on the Global Information Network (GIN), encourage tourism, broaden the opportunities for knowledge sharing and co-existence of various cultural values and generally improve on our national economic development. The application of ICTs to local content development facilitates local expressions and the visibility of developing countries on the GIN. These technologies such as digital cameras, films, audio tapes, computers are veritable tools to capture, preserve and disseminate local contents. These are the basis of innovative activities that will catalyze the creation and exchange of our local content beyond the physical walls of the library. Local content when exchanged and shared via the electronic or digital media could be called e-content.

Access to relevant information is a vital and integral aspect of sustainable development. On this note, Agarwal (2010) stressed that in the current world of globalization, access to information is a vital key to the development of a society. The increasing amount of information on the Web is a reflection of this fact. In recent years, there has been a growing recognition that a key success factor for the building of a healthy information system is when people fully appropriate ICTs and use them to create their own local electronic content (Surman and Reilly, 2003).

### **Challenges of Local Content Development**

Local contents are always available but the critical issue is capturing, repackaging, storing and disseminating them to a wider group of users. Content does not flow on its own accord; it needs owners or originators with motivation and innovative mind to create, adapt or exchange it. This has posed a lot of challenges as a result of lack of technical skills needed to capture, repackage, store and disseminate the local content. Some of the reasons for lack of local content as noted by Khan, (2007) include:

- Limited financial resources of developing countries for content production;
- Inappropriate training opportunities for content creators;
- Lack of access to advanced technology (production units, digital cameras, digital studios);
- Low motivation and commitment at the decision-making level to change the situation; and
- Market forces, which do not encourage diversity.

### **Purpose of the Study**

The overall purpose of the study is on the generation and dissemination of local content using Information and Communication Technology (ICT) for sustainable development. The specific objective is:

- To capture, preserve, and disseminate some cultural heritage and indigenous knowledge possessed by local people in the South Eastern Nigeria.

## **Methodology**

The design of the study was a survey. The population of the study comprises of young people (youth) and the elderly men and women living in the local areas in the study area. Three states namely: Enugu, Anambra and Abia states were randomly selected for the study. In addition, the researchers selected people who are useful for the study purposively. Oral interview schedule was developed by the researchers for the purpose of data collection for the study. An observation checklist was developed. These instruments were face validated through expert opinions. One of the researchers covered each of the states selected for the study. Each of the researchers visited the state more than three times to capture data for this study. Each of the researchers was armed with a camera, tape recorder, and a video camera. Each of the persons used for the study was interviewed and the interview recorded. In addition, the researcher took time to observe how what has been described during the interview was done practically. The observation was captured with a camera or video camera. The data generated was qualitatively analyzed and described.

## **Results**

The researchers were able to identify the following cultural heritage and indigenous knowledge of the local people as follows:

### Pottery work in Igbo-Ukwu, Anambra State

This is a craft of the adult men in the community. However, the youth are also involved in this crafts as was observed in the course of the project. Pottery works require absolute craftiness and skill. The procedure in the making of aluminum pot, which was observed is as follows: preparation stage making moulds, heating stage or smelting stage, pouring stage, dismantling stage and finishing stage. Making mould requires absolute craftiness. The moulds are made of sand plank wood fitted to the size of the pot. Also, a hole is made at the top of the mould where the liquid heated aluminum will be poured to make a pot. Then, fire is made, not with pieces of firewood but with heavy trunks of trees. The squeezed aluminum will be put inside the pot. The aluminum is heated until it becomes watery. A quantity of the smelted aluminum is collected from the iron pot, quantity enough for a particular mould. It is then carried and poured into the mould until filled. After about five to ten minutes the mould will be dismantled and the moulded pot emerges; after removing the moulded pot from the patterns, it will be filled so as to make it look real and attractive. At this stage also, foreign bodies are removed and the finished pot emerges.

### Bone Setting

The bone setter (traditional orthopedic surgeon) is an elderly man and he was able to grant interview to the researcher but he kept certain information concerning the process of bone setting to himself, for reasons best known to him. The herbs and other ingredients include tree-leaf and root, which is cut into pieces and added to local gin and taken "half gin glass twice daily for stomach aches and stomach poisoning, catapult tree root for waist pain and back-ache." There are other herbs used whose name he could not tell the researcher. Other instruments he uses are bandage, locally made plaster of Paris (POP). It was observed that he tries to find out the extent of bone damage or breakage before he starts treatment. Alternatively, he may instruct a patient to get an x-ray of the part involved to enable him

know the extent of damage. If the fracture happens on the leg, he uses the POP to hold the part involved firm and tighten it with bandage. He uses root herb crushed and mixed with unidentified liquid to rub on the area. He stated that it is for muscle treatment. It is administered twice daily. There is also another herbal drink given to the patient which is taken twice daily. After about two months of treatment, the patient will start to do exercise by walking with crutches if the fracture was in the leg. According to the World Health Organizations (WHO) in Jain (2007), traditional medicine (TM) serves the health needs of almost 80% of people in developing countries, because other medical facilities are expensive and beyond affordability for the common person.

#### Traditional Adornment among the Igbos

The materials used for adorning a young lady are as follows: wrapper, beads, "nzu" (local powder), anklets, bangles, wrist beads, lipsticks, lip gloss, powder, and eye pencil. The first stage of adornment involves fixing her hair, which can take different styles depending on the choice of the young lady. The wrappers are tied to her chest, a little above her breasts, and then the local powder (nzu), which is optional, is applied. She may decide to use the modern powder for the same purpose. She wears the beads on her head, ears, neck, wrists, and ankles. Her body can be painted with local ink (uli) in addition to the makeup on her face. On her waist, the local beads called (jigida) are worn. At the end of the decoration an "nza" (horse tail) will then be given to her, which she will hold or put across her shoulder as she moves about. Kimani, in Jain (2007) noted that traditional attire plays an important role in the identification of a particular culture, tribe, and country, and sustains indigenous culture. In Nigerian presidential politics, "khaki" signifies military, while "agdada" denotes civilian rules.

#### Omabe Festival

Omabe festival according to Onah (2011) of Amaji Umukashi in Nkpunano Autonomous community in Nsukka Local Government Area is an age-old festival. The festival rotates among the three autonomous communities in Nsukka town, which are Nkpunano, the oldest, Nru, and Ihe-na-Owerre, which is the youngest. The festival is an annual event, which means that each participating autonomous community celebrates the festival once every three years. There is a particular village in Nguru which is in Nkpunano autonomous community that fixes the date for the festival. In this village, it is the duty of the oldest living man to perform the function. The man is a titled man and he is addressed and called Attama Ezoguda, for Ezeoguda is the name of the village. This festival used to last for four months in all the three participating communities but this is no longer the case, as it is only Nkpunano that still maintains this, while Nru and Ihe-na-Owerre used to celebrate the festival for seven to eight months. One important feature of Omabe celebration is the parade of different types of masquerades on the main day of the festival. Such masquerades include Echericha (ego-ego) mma, Oriokpa, Edi-Ogbene, Ogari, etc., and usually parade the major roads and markets, entertaining audiences. The period of the festival features musical performances by the Omabe at its house, which is usually located at the village square.

#### **ICT Use in Capturing, Storing, and Disseminating Local Content**

In the process of generating data for this study, some ICT facilities such as tape recorder, digital camera, and digital video camera were used. The tape recorder was used to record the interview held with the resource persons and the digital video camera was used to capture and record the processes involved in pottery work, bone setting, and traditional

adornment. It was used to capture the parade of the Omabe masquerades during the festival. These ICT facilities can be used to preserve the local content for a very long time and can be used to disseminate the content to different parts of the world via the Internet. This is in line with Ballantyne (2003), who stated that ICTs can only be instrumental in the process of production, storage, and dissemination of local knowledge if the capacities are in place to make effective use of them.

Access to relevant information is crucial for sustainable development. In the current world of globalization, access to information is the key to the development of a society. Local content is always available, but the critical issue is capturing, repackaging, storing, and disseminating it to a wider group of users. The application of ICTs in the capturing, storage, and dissemination of local content facilitates local expressions and the visibility of developing countries.

## Conclusion

Local content is indispensable to sustainable national development. Harnessing local content helps increase the sense of pride and value to local languages, cultural heritage, and indigenous practices. This project research identified four forms of cultural heritage and indigenous knowledge in south east Nigeria, which includes traditional medicine, crafts, attire, and festivals. These have been captured and stored using ICT and can be disseminated to any part of the world.

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# University Faculty Use of Electronic Resources: A Review of the Recent Literature

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## Introduction

Technology has penetrated all areas of life and the use of information and communication technology (ICT) is commonplace in the 21st century. Libraries use ICT for better service and satisfying diverse user needs. Libraries have transformed into digital and virtual libraries where books, journals, and magazines have changed into e-books, e-journals, and e-zines. This has increased the global dissemination of information. Electronic resources are easily accessible in remote areas. Electronic resources solve storage problems and control the flood of information. Print sources are being digitized.

The rapid growth of new technologies has changed the communication process and reduced the cost of communication for individuals. Electronic information sources can be seen as the most recent development in information technology and are among the most powerful tools ever invented in human history. Electronic information sources are becoming more and more important for the academic community (Kumar and Kumar, 2008).

University academics are a unique population and rely on recent and timely information. Electronic resources are now used more often than print resources (Morse and Clintworth, 2000). There is a great need to study the use of electronic resources and investigate the level of satisfaction among academics.

## Objectives of the Study

The objectives of this paper are to:

- ascertain the ability of academics to use electronic resources
- discover the type of sources which are used most often among academics
- explore the purpose for using electronic resources
- ascertain the satisfaction level of academics with electronic resources

## **Theoretical Framework**

This study examines use of electronic resources among academics by examining the recent literature. The ability of academics to use electronic resources, sources being used among academics, purpose for using electronic resources and satisfaction level of academics with electronic resources are critical issues to this study. This work is based on theories that would emphasize use of electronic resources. Theories that are relevant to this study include: Technology Acceptance Model by Davis (1989), Roger's Diffusion of innovations (1995), Productivity Theory, Input output model, system model etc.

### **Technology Acceptance Model (TAM)**

The Technology Acceptance Model (TAM) models how users accept and use new technology. The model describes the factors that influence users' decisions about how and when they will use new technology, notably:

Perceived usefulness (PU) - This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance".

Perceived ease-of-use (PEOU) - Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" (Davis 1989).

The TAM has been continuously studied and expanded. The two major upgrades are the TAM 2 (Venkatesh & Davis 2000 & Venkatesh 2000) and the Unified Theory of Acceptance and Use of Technology (or UTAUT, Venkatesh et al. 2003).

Several researchers have replicated Davis's study to provide evidence on the relationships between usefulness, ease of use, and system use (Adams, Nelson & Todd 1992; Davis 1989; Hendrickson, Massey & Cronan 1993; Segars & Grover 1993; Subramanian 1994; Szajna 1994). Attention has focused on testing the questionnaire used by Davis. Adams et al. (1992) replicated the work of Davis to demonstrate the validity and reliability of the instrument and measurement scales. Hendrickson, et al. (1993) found high reliability and good test-retest reliability. Szajna (1994) found the instrument valid.

### **Diffusion of Innovation Theory**

Diffusion of Innovation Theory: Rogers (1983) and (1995), postulates Diffusion of Innovation theory, which describes the patterns of adoption, explains the mechanism, and helps predict whether a new invention will be successful. The theory has been used as the theoretical basis for a number of information system research projects.

### **Literature Review**

Borrego, et al. (2007) observe that there have been many studies of users of electronic resources in the professional literature in the last few years. In a recent exhaustive review of the literature on the subject, Tenopir (2003) analyzed the results of over 200 studies of the use of electronic resources in libraries published between 1995 and 2003. The main conclusion of this review is that electronic resources have been rapidly adopted in academic spheres, though the behaviour varies according to the discipline.

Heterick (2002) reports that more than 60% of faculty studied are comfortable using electronic resources. They believe that a variety of electronic resources is important to their research, and they consider electronic databases to be invaluable. In addition, 62% expect that they will become increasingly dependent on electronic resources in the future. The resources they use most often are online catalogs, full-text electronic journal databases, and abstracting and indexing databases. More than 70% of all respondents consider their library's online catalogue to be "very important" to their research. However, the importance of this resource varies significantly by field. Just over 60% of the economists consider their library's online catalogue to be "very important", while nearly 90% of humanists regarded it as such. In fact, the home library catalogue is the most important electronic resource for humanists, by a large margin. Based on their replies, it is as important to their research as personal computers.

#### Use of Electronic Resources by Academics

Sharma (2009) identifies e-resources to include journals, data archives, manuscripts, maps, books, magazines, theses, newspapers, e-mail, research reports, and bibliographic databases. Ibrahim (2004) adds library websites, online catalogues, and online reference works, while Aramide and Bolarinwa (2010), mention A-V resources, instructional audio tapes, instructional video tapes, VCD/DVD, radio, television, multimedia projectors, e-resources-electronic databases, e.g., JSTOR, ERIC, e-documents, Internet/e-mail facility, CD-ROMS, computers, telephone facility (GSM/Landline), VSAT, printers, and digital cameras.

Omotayo (2010), Thanuskodi (2010), Sharma (2009), Borrego (2007), and Ibrahim (2004) have all reported that e-journals are the most used among the arrays of available electronic resources.

As reported by Omotayo (2010) 22 (8.98%), 67 (37.35%), 102 (41.63%), 34 (13.88%) and 20 (8.16%) of the total population of 245 used electronic journals daily, weekly, monthly, bi-monthly and occasionally respectively. A majority use e-journals monthly, while 52% of total population in Borrego, et al. (2007) stated that they use electronic journals exclusively or mainly.

Thanuskodi (2010) identified and tested ten e-journal sources: Highwire Press, MedBio World, Ingeta, All Health Net, Blackwell Synergy, Medind, Science Direct, LWW Online, Springer Link, and Health Inter Network India and found that the respondents preferred the Highwire Press CD-ROM database with a mean score of 4.15 on a 5 point rating scale.

According to Sharma (2009), the second highest preference in terms of e-resources usage after e-journals is the Web and e-mail with 30 (57.69%) and 41 (78.84%) among teachers, whereas 23 (76.66%) and 18 (60.00%) among research scholars use them, respectively.

Salaam and Adegboire (2010) discovered that search engines are an essential electronic resource for students of private universities in Ogun State, with 51 (45.95%) of the total population of 111 using them very frequently.

In the study by Bar-Ilan, Peritz, and Wolman (2003), most respondents (69.2%) stated that they used databases and electronic journals for both teaching and research, compared with 23.9% who used them exclusively for research and only 0.6% who used them exclusively for teaching.

A t-test analysis was conducted by Ibrahim (2004) to measure use of e-resources and detect factors that deter effective and frequent use. A criterion of less than 0.05 was used to determine the significance of use. Figures show that frequency of use of e-resources was significantly low for most types of e-resources. The least frequently used e-resources were e-books ( $t. = 2.10, p < 0.05$ ), the online catalogue ( $t. = 2.65, p. < 0.05$ ) and bibliographic databases ( $t. = 2.60, < p. 0.05$ ). For comparison, online reference works ( $t. = 2.86, p < 0.05$ ), e-journals ( $t. = 2.70, p. < 0.05$ ) and full-text articles ( $t. = 2.78 p. < 0.05$ ) were found to be more popular, even though they still fell below the anticipated frequency in the survey's set mean.

In a JSTOR survey, it was found that faculty members from humanities, economics, and social sciences use online catalogues, full-text electronic journal databases, and abstracting and indexing databases most frequently and they expect to use them more extensively in the future (Finholt and Brooks 1997).

### Reasons for Use

Academics use electronic resources for diverse purposes as demonstrated in the literature. Obaje and Camble (2008) report that CD-ROMs are mostly used for literature searches during project/dissertation and thesis writing as well as personal research by staff.

Ugboma and Edewor (2008) found that e-mail is heavily used in provision of the following library and information services for order inquiries, selection of relevant information materials, contacting publishers and vendors. Other services include receiving and answering users' queries as well as receiving and mailing catalogues/bibliographies.

Academics at Obafemi Awolowo University, Ile-Ife, use electronic resources mostly for literature search in research and professional growth (Omotatyo, 2010). Kumar and Kumar (2008), however, highlighted six reasons for using electronic information sources. Users in the study use electronic sources in support of their study (70%) and teaching (59%). One-third of respondents used the sources for project work. Eight-eight percent of medical science users accessed electronic information sources for study, followed by engineering (67%) and management studies (55%).

Ansari and Zuberi (2010) report that about one-third (32%) of respondents use electronic resource for research. About one-quarter (29.4%) use it to prepare lectures and 24.8% for gaining subject knowledge.

Saka and Abdulrahman (2008) found that library staff in four universities of technology libraries in northern Nigeria do Internet browsing (22%), e-mail (21%), word processing (18%), information/record storage (17%), while 13% use computers for information retrieval for services.

In Catalan Universities, electronic journals were consulted for both research and teaching by 53.6% of the respondents to a survey. They were consulted only for research by 37.4% and only for teaching by 2.7%. Respondents in Exact and Natural Sciences and Engineering mainly use journals for research, whereas those in Biomedicine use them for both teaching and research. When the results are disaggregated by age, respondents under the age 30 mainly use them for research, respondents in the 41-50 age group use them for both teaching and research, and respondents over 51 use them for teaching and research or only for teaching. Disaggregated by academic position, only the associate professors showed a high proportion of use for teaching (35.9%) (Borrego et. al. 2007)

## Ability to Use Electronic Resources

Sharma (2009) reports that 80.77% of teachers and 86.67% of research scholars are able to access the e-resources very easily. It was further reported in the survey that 51.92% of teachers have taken training as regards the use of electronic resources.

In similar research by Ansari and Zuberi (2010), majority of the study population in University of Karachi (97.1%) were able to use computers independently.

Ibrahim (2004) posits that faculty members in UAEU (United Arab Emirate University) used Web browsers and Microsoft Office applications more frequently ( $t. = 4.47, p. < 0.05$ ), and they had positive attitudes towards the importance of computer literacy in the use of e resources ( $t. = 4.31, p. < 0.05$ ). This explains that computer skills and computer literacy insignificantly influence the low use of e-resources in the UAEU.

Kumar and Kumar (2008) report that 161 (53.67%) in the total sample of 300 learn to make use of electronic information sources through trial and error, while half the population 150 (50 %) learn through advice from friends, and only 35 (11.67%) learned to use these resources by attending courses and training offered by the college.

Abdullahi and Haruna (2008) found that lack of basic knowledge of ICT is the second major constraint after the problem of erratic power supply to the use of ICT in the university libraries in Adamawa State, Nigeria. This was corroborated by Saka and Abdulrahman (2008). Though the percentage that represents the hypothesis is low as compared to other constraints such as erratic power supply, networking, and availability of equipment, among others. While the former research recorded 16.1%, the latter recorded 12%.

It was discovered that 212 (9.1%) of staff and students in the University of Jos were very effective in their choice of search terms with the use of CD-ROM databases while 1,420 (60.9%) were fairly effective in their choice of search terms and 700 (30 %) were not effective at all. The research further concluded that majority of staff and students using the CD-ROM facility of University of Jos Library do not have enough confidence and were not very effective in their choice of search terms (Obaje and Camble, 2008)

## Satisfaction Levels

Research results have shown that a majority of academic populations studied indicate a high level of satisfaction with the emergence and use of electronic resources. Findings in the University of Karachi have indicated that the academics are satisfied with available electronic resources. More than three-fifths (65.7%) of the study population are quite satisfied and 31.4% are satisfied. This shows that nearly all are quite satisfied or satisfied (Ansari and Zuberi, 2010).

In a similar vein, academics at Catalan Universities with regard to their future use of electronic journals, 91.1% of the respondents thought that they would use them more in the next few years. Only 8.6% believed that there would be no change in their use and fewer than 1% believed that would use them less or stop using them. The proportion of respondents who thought they would use electronic journals more was around 90% in all the disciplines studied (Borrego et. al. 2007)

Morse and Clintworth (2000) compare use of a matched set of biomedical literature available to users both in print and on the Web. The study results showed that for journal volumes in the study subset (the 1998 volumes of 194 titles), users accessed the electronic versions more than ten times as often as the print versions during the six-month study period. The results further revealed similar usage in the print and electronic data, with 20% of titles accounting for nearly 60% of use in both study sets. Conversely, the bottom 40% of ranked titles in both the print and electronic study sets accounted for 9% of total usage.

Kumar and Kumar (2008) found that 70.33% of respondents agreed that electronic information sources provide more comprehensive information, and 58% of respondents agreed that they can now do better research because of availability of electronic information resources.

International connection to up-to-date information, speed in accepting and publishing articles, enhanced dialogue among scholarly community, power retrieval capability and possibility of international audience are some reasons indicated by academics in Obafemi Awolowo University for preference of electronic journals over printed ones (Omotayo, 2010).

Ibrahim (2004), Thanuskodi (2008), Obaje and Camble (2008), Saka and Abdulrahman (2008) have all indicated in their research results the positive satisfaction of respondents to the use of electronic resources.

In contrast, Sharma (2009) discovered that a majority of teachers and research scholars (59.62%) and (56.67%) are not satisfy with the existing IT infrastructure within the organisation studied. This and other problems highlighted in the surveys by Aramide and Bolarinwa (2010), Awokiigbe, Awotidebe and Amosa (2009), Agbonlahor and Oyekan (2008), Blessing (2008) among others have reported problems hindering the proper use of electronic resources, giving credence to the fact that academics show satisfaction with the output of electronic resources.

#### Internet as a Means of Accessing Electronic Resources

Academics in developing countries are fast adapting to the Internet as a source of information for teaching and research. Some research reveals use of the Internet for things like email (Ojedokun and Owolabi, 2003; Badu and Markwei 2005).

Jagboro (2003) reveals that respondents use the Internet to access research materials and for e-mail. The study concludes that the use of Internet for academic activities would improve significantly with more access in departments.

Igun (2005) examines levels of Internet skill, and how the Internet has its influence on research. The study found that Internet skills are low and that the Internet has no significant influence because the university does not have a functional and comprehensive Internet in the university-wide information system.

Mahajan (2006) conducted a study on Internet use by researchers in Punjab University, Chandigrah, which analyzes how the convergence of information and communication technologies, as embodied by the Internet, has transformed the present day society into a knowledge society.

Chandran (2000) carried out a study on the use of Internet resources and services in S.V. University, Tirupati, indicating that more than 56% of respondents are used to the Internet to access information. Kaur (2000) studied Guru Nanak Dev University, and Bavakutty and Salih (1999) conducted a survey at Calicut University, which showed that students, research scholars, and faculty members used the Internet for education and research. Madhusudhan (2007) conducted a survey on Internet use by research scholars at Delhi University, which reveals that most respondents used search engines more than subject gateways or Web directories to locate information.

Negative attitudes as well as conservatism act as barriers to effective Internet use. Mariyappagoudar and Jayashree (2000) discuss the growing importance and use of Internet for information search and services as more and more services are being provided by many journal publishers' websites. Some of these services are free, which is beneficial to libraries with funding problems.

### **Summary of Reviews**

The surveys of users of electronic resources carried out so far have been summarized by Bar-Ilan and Fink (2005). They show that:

- Use of electronic journals increases with time.
- Age and/or academic position are inversely related to the use of electronic media and journals.
- There is a gradual reduction in the use of printed journals as users prefer and use the electronic format more.
- With increased use, users access the electronic format more frequently.
- The use of a journal is not necessarily an indication of the preference of users. There may be an increase in the acceptance and frequency of use of the electronic format merely because the traditional print format is no longer easily available.
- Accessibility and desktop access, home access, ease of retrieval, and hyperlinks to outside content were the arguments cited most often as the advantages of electronic journals. The disadvantages mentioned most often were the lack of back issues and problems with reading a text from the computer screen.

### **Conclusion**

E-resources have been widely and rapidly accepted in academic spheres and academics in universities have widely indicated that they can ably use and access electronic resources. Training was pursued by some academics to facilitate their use of electronic resources, while others learned through trial and error. Most academics in universities have equally claimed they can operate computers. E-journals are the most used among the array of available electronic resources. The Web, e-mail, and search engines follow e-journals in the rank of e-resources being used among academics in universities.

Databases and electronic journals are used by academics for both teaching and research, among many other uses. Academics have indicated satisfaction with their use of electronic resources and have committed their interest to the continuous use of e-resources because their use leads to better research and enhances scholarly communication.

E-resources will continue to enjoy wider acceptance among academics as the future unfolds and barriers to their use are reduced.

## **Recommendations**

The paper has shown high level of acceptance of electronic resources by academics in universities. Libraries and information centres should as a matter of importance acquire, subscribe and create access to electronic resources.

This paper recommends that libraries, information centres and other bodies should swiftly but systematically move to automate their routines and create an enabling environment in order to facilitate ease and wider access to electronic resources.

Only few academics have stated that they attend training to facilitate their use of electronic resources. It is incumbent on libraries and information centres to organize seminars and workshops aimed at training academics about the availability and use of electronic resources.

A major challenge is the understanding of appropriate search terms to be used when searching. It is important that libraries and information centres package programmes that will specially take care of this problem.

Search engines have been revealed to enjoy wide patronage; the IT section of libraries should itemise and explain available search engines with their peculiarities to users. Search engines do contain special features such as advanced search, format and volume specification, chat, etc., which users may not have information about. These and other special features of search engines should be well communicated to users so that use will be improved upon.

Due to heavy use of e-journals, this research further recommends that libraries and information centres to improve upon e-journal subscriptions be it open or restricted access. In addition, electronic journal databases such as AGORA, HINARI, OARESCIENCES, and JSTOR should be registered for by libraries in Nigeria having belonged to the BAND 1 countries that can acquire subscriptions at no cost.

Internet bandwidth should be improved. Libraries and information centres should strive to secure their own personal gateway (server). This will enable them to install library software and in return will enhance libraries' electronic services.

Existing IT infrastructure has been found to be a problem in many research studies. This paper recommends improvement in IT equipment and infrastructure, including hardware and software..

Most journal articles are published in pdf format, and a pdf reader is available online for free download and installation. Libraries and information centres should check for the latest version and install it on the system to make journal downloads easier.

This research also recommends provision of screen shields on computers in libraries and information centres to provide privacy for users.

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## **University Libraries and Faculty Members: Are We Doing Well Enough? A Case Study**

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### **Introduction**

University faculty members contribute to the attainment of the broad objectives of the university, often described as teaching, research, and community service. Faculty members provide academic guidance to students and widen the frontiers of knowledge through research and publication. To provide the best user service, a library must be a reservoir of knowledge and also respond promptly and accurately to the demands of users. The purpose of the university libraries is to support the academic programmes of the universities. The libraries objectives must match the needs and requirements of those involved in the learning, teaching, and research efforts of the university. In specialized universities, such as universities of agriculture, the role of the library in the attainment of set goals and objectives is crucial. This is more so because such institutions are expected to go the extra mile in advancing knowledge in their areas of specialization. This requires more in-depth library materials to support such needs. In the particular case of agriculture, its linkage with other aspects of science such as biology, chemistry, physics, and technology gives the library the additional responsibility of creating a balance between the general and specialized information needs of its clientele.

Since libraries acquire materials primarily to make them available and accessible to patrons, the ultimate success of a collection can be determined by measuring the actual and perceived use. To measure the utility of collections, two basic approaches have been recommended. These are user studies and use studies. Users can be surveyed to determine their needs and the success in meeting those needs. The use the collections are receiving and how readily they can accommodate patron's requests can also be measured. User satisfaction is one of the criteria for measuring quality services. This study examines the satisfaction of faculty members of the University of Agriculture, Abeokuta, with the services of the university Library.

## Literature Review

A university library is a service organization with the primary obligation to provide the bibliographic resources to support the University's mission. Uwem (2003) states that if the library exists to service the information needs of the clientele, the only logical starting point in addressing those needs is their proper diagnosis. Akinade (2002) asserts that people's expectations are high when searching for information and they feel frustrated when their expectations cannot be met. Liu (2002) suggests that librarians in academic institutions need a thorough knowledge of users' information needs before they can adjust budgets, staffing, and other resources to meet the challenges presented by the digital environment.

The traditional services offered by libraries are now giving way to a faster approach. These changes are related to developments in scientific information and communication. Asamoah-Hassan (1999) suggests a model library of the 21st century, befitting a university of science and technology in sub-Saharan Africa, as necessary to ensure that the libraries remain relevant in the changing age of information, where libraries without walls are emerging and the time lag between demand and delivery of information has been greatly reduced.

Scholars have identified the types of information required by faculty members. Singh (1981), Ajidahun (1990), and Ehikhamanor (1990) established that the information needs of academic staff were job-related, especially teaching, research, and publication. Adimorah (1993) identifies factors that adversely affect the information needs of scientists and technologists in Nigeria. These include non-availability of current journals in their fields, lack of search facilities such as databases on science and technology, lack of adequate interlibrary loan facilities, and poor information storage and retrieval systems, among others. Akinbode (1998) laments the state of journals in Nigerian academic libraries.

Reichman (2003) analyzes the importance of services provided by university libraries from the point of view of the library users, based on interviews at the Graz University Library. The users showed appreciation of the services with few suggestions for the provision of new services. The users preferred printed to electronic materials but used the library website and the Internet in general as a primary source of information.

Arif and Meadows (1994) observe that once users become aware of an information source, they tend to use it. The implication of this, according to Popoola (2001), is that information sources that users are not aware of would be underused. Therefore, creating awareness is fundamental to information provision.

Hewin (1990) emphasizes the need to design information provision mechanisms to increase use. Belkin (1982) is of the opinion that users have a gap in their knowledge and so seek information to bridge the gap. French (1990) observes that the proliferation of information sources has made information provision a cumbersome task. He advocates for a speedy document delivery system and partnership with users to shape collections for maximum satisfaction.

Oketunji (2003) says that the digital revolution has affected many aspects of our life. The philosophy of ownership of information has been challenged by a new philosophy of enhanced access to information, and has revolutionized the way librarians provide information to their users.

A lot of questions come to mind when one looks at contemporary libraries, especially the area of digitization. One question begging for an answer is whether librarians can cope with

the digital environment and maintain quality service to their community of users. In the digital age, librarians can no longer simply be information providers or keepers of knowledge. The change in technology has changed the way patrons are able to access, retrieve, and use information.

### Objectives of the Study

- To determine the use of the library by faculty members of the University of Agriculture, Abeokuta
- To determine the satisfaction of faculty with the services of the library at the University of Agriculture, Abeokuta
- To ascertain the relationship between faculty members and the library at the University of Agriculture, Abeokuta.
- To determine accessibility and constraints to access and use of the library by Faculty members at the University of Agriculture Library, Abeokuta.

### Methodology

Survey research was used for this study. A questionnaire was distributed among 130 faculty members of the seven colleges in the university, of which 80 copies were returned and found usable for the study. The questionnaire asked for information on the background of the lecturers, how often they use the library, and how satisfied they were with regard to the its services.

### Findings and Discussion

The respondents covered a broad spectrum of the teaching staff. Analysis of the data shows that a majority of the respondents were male (70%). The largest single segment of respondents were aged 36-40 (35%), while those between age 31-35 (5%) formed the smallest segment.

Table 1: Qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
MSc.	24	30.0	30.0	30.0
PhD	33	55.0	55.0	85.0
Other	12	15.0	15.0	15.0
Total	80	80	100.0	100.0

Table 1 shows that a majority of faculty holds a PhD degree while just 12 (15%) hold a Bachelor's degree.

### Use of the Library

Table 2: Visits to the library

Visit to library	Frequency	Percent	Valid Percent	Cumulative Percent
once a week	4	5.0	5.0	5.0
twice a week	4	5.0	5.0	10.0
five times a week	4	5.0	5.0	15.0

when necessary	64	80.0	80.0	95.0
never used the library	4	5.0	5.0	100.0
Total	80	100.0	100.0	100.0

A large majority of respondents indicate that they visit the library to use the resources only when they found it necessary. This can be attributed to the fact that they are very busy and would rather download information from the Internet than come to the library to search for information. Also, indexes to some of the library's electronic resources have been installed on the computers of academic staff in the university, and they only need to visit the library when they need to print information.

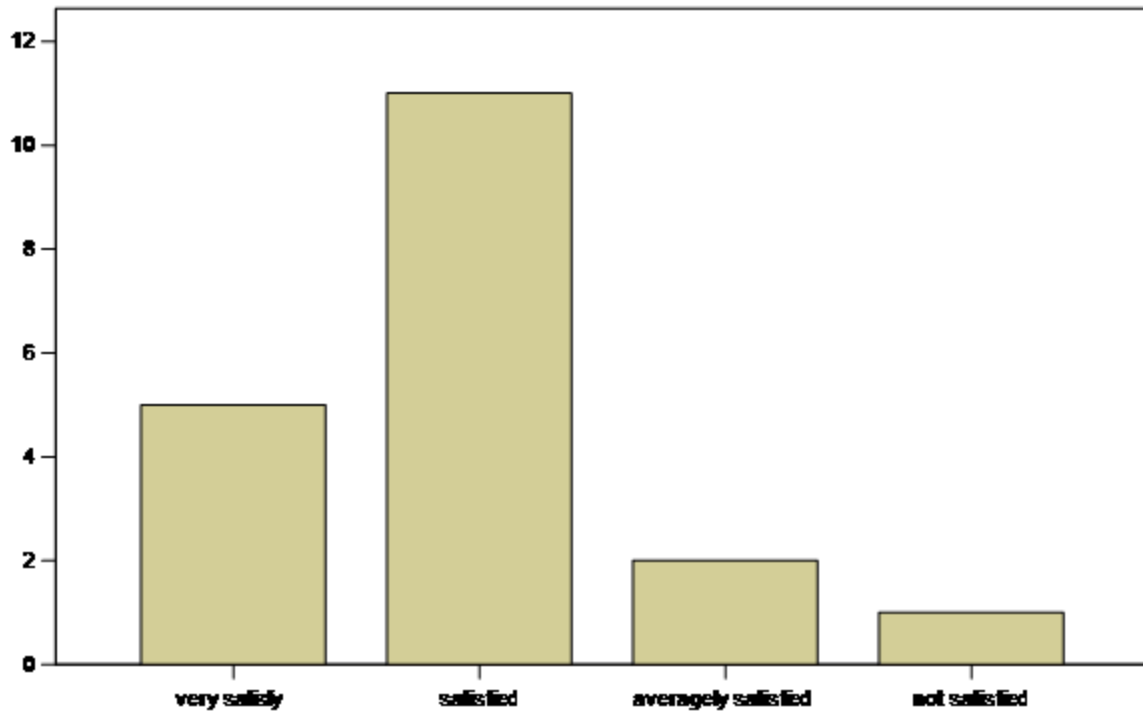
Table 3: Availability of materials

Materials	Frequency	Percent	Valid Percent	Cumulative Percent
not always available	12	15.0	15.0	15.0
sufficiently available	4	5.0	5.0	20.0
insufficiently available	56	70.0	70.0	90.0
not available	8	10.0	10.0	100.0
Total	80	100.0	100.0	100.0

Seventy percent of respondents indicated that book materials were insufficiently available in their field, while 65% found that the library is rich in its collection of electronic resources. Major constraint to the use of the online resources is the non-availability of the Internet in the library.

Regarding relevance of the materials to their area of research, half of respondents said that the books and journals in the library were of average relevance, 30% said that they were good, and very few (5%) held the view that they were very poor. This conforms with Ifidon (1999)'s statement that academic library provides bibliographic resources in fulfillment of the university mission.

## Frequency



**Fig. 1: Responsiveness of Library Staff to Users' Need**

Figure 1 shows that 80% of respondents are satisfied with the responsiveness of library staff.

Table 4: Conduciveness of the library to reading/research purposes

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very conducive	12	15.0	15.0	15.0
	Conducive	52	65.0	65.0	80.0
	Manageable	16	20.0	20.0	100.0
	Total	80	100.0	100.0	100.0

Eighty percent of respondents indicated that the environment was conducive and very conducive. The response may be due to the fact that the library created a faculty reading room, separate from the reading areas for students.

## Conclusion

The results of this study show a high level of satisfaction by faculty members with library services. Although a majority complained of the insufficiency of book materials in their area of study, they found that those that were available were relevant to their research. It was also established that faculty members were satisfied with their relationship with the library staff. It is recommended that the library make provision for more books to meet the needs of faculty. The library should also create awareness of new additions to the library collection to attract use, and should also endeavor to make provision for Internet services.

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## **Cadavers or Corpses: Comparing User-Created Metadata**

**Cedate Shultz**

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### **Introduction**

There is no question that library services today are focused on the total experience of the patron. A pivotal piece of this experience is the ability of the patron to find the information they desire with a minimum of frustration and effort. This goal is often hampered by the learning curve required for successfully searching with traditional subject headings assigned by professionals. Professionally created metadata is often disconnected from the users of the resource (Ying, et al, 2009).

When professionals step in, it often follows an unsuccessful patron search. At that point, users are tired, frustrated, and want their information in the quickest way possible. They are not interested in becoming knowledgeable in the area of headings they would probably consider archaic and confusing. In addition, modern budgets do not always allow for information literacy programs.

So what if users created the headings using easy-to-understand, natural language? Some say that this is a possible answer to the need for increased subject access. There are detractors, however, that can provide you with a laundry list of reasons why the inclusion of tagging in library classification systems could spell disaster. The question remains, do we continue to rely on controlled vocabularies and the sole judgment of professionals? In the absence of a controlled vocabulary, do professionals and non-professionals really think all that differently and if tagging becomes common practice in libraries, who should shoulder the responsibility for its creation?

This study aims to answer the above questions by looking at the differences between tags created by library professionals and non-professionals.

## **Some Basics**

Tagging is defined as the act of associating terms (tags) with an information object, thus describing the item and enabling keyword-based classification and retrieval (Baca, 2008, pp. 77). Other synonymous terms include collaborative tagging, social classification, social indexing, and folk categorization. Groups of tags resulting from this process are called folksonomies. Tagging is seen as the main method of adding metadata in the Web 2.0 setting (Ying, et al, 2009).

Mai (2008) explains that democratic indexing allows users to freely assign tags to system items for private use. These tags are then reviewed or reconciled and some of them are subsequently released into the public system for public use. Decisions as to which terms become public are sometimes made by user consensus, hence the "democratic" nature of the process. Democratic indexing is different than plain tagging in that it contains that extra step of reconciliation.

## **Relevant Literature**

The available literature on user-created metadata is voluminous. This is merely a representative sample.

Adam Mathes (2004) discusses folksonomies, or the groups of tags that result from social bookmarking. Mathes makes several valuable points about the cons of traditional metadata. Professionally created metadata is expensive to produce, he explains, large amounts of both time and money is expended on both its creation and upkeep. Also, both expert and author created metadata represent a disconnect from future users. Mathes (2004) details both the limitations and strengths of folksonomies and ultimately explains why they work as a metadata source. He concludes that the inclusion of such user-centered tools will both increase user interest and improve the system (Mathes, 2004).

Furner (2008) looks at what determines the success of a tagging system. He lists several characteristics of tagging that distinguish it from traditional classification of resources including user-orientation, cost, collaboration, and user-empowerment. He also celebrates the opportunity for libraries to move from traditional OPACs to "SOPACs" or social OPACs. A social OPAC would "purposefully invite the users of catalogs to participate not only in the exploration and exploitation of catalog records, but also in their creation" (Furner, 2008). While he discusses factors that can make tagging successful, he stops short of an exact definition of success as this can only be defined by individual institutions.

Tom Steele (2009) examines Library Thing for Libraries and the PennTags project as examples of integration of traditional cataloging and social tagging. He confirms the participatory expectations of today's users and their desire to have information in real-time. Users, he explains, no longer want to just search an OPAC. They want to participate in its creation as well. While catalogers may be reluctant to accept such an unorthodox structure,

they also cannot be expected to know everything about a specific subject. It is possible that users can provide valuable additional access points through their use of tags. Tagging is a dynamic process, providing metadata on an immediate basis rather than waiting for existing hierarchical structures to catch up (Steele, 2009).

Steele (2009) cites the example of Ohio State University who has enhanced their traditional cataloging with a LibraryThing account and the tag "leisurereading" enabling users to locate pleasure reading material with a single click. He assents to the opinion of many that adding tagging capabilities to a library's OPAC provides additional access points and facilitates successful information retrieval.

Mai (2011) details the historical organization of knowledge by professionals and the potential presented by the rise of social media. He details the concept of warrant which has shaped traditional organization as well as democratic indexing, a process of tagging which is then mediated by professionals. In literary warrant, something external to the knowledge of the professional justifies the inclusion of certain terms in a vocabulary (Mai, 2011). This is seen in LCSH in the fact that subject headings do not exist if there is not an item represented. Basically, superfluous subject headings are not created just for the sake of creating them.

Jensen (2010) reviews the folksonomies that result from user tagging in the context of digital assets. She discusses many of the advantages and disadvantages of these folksonomies and looks at their use in the Flickr photo application.

### **Statement of the Problem**

Users are not always able to find the information they need when it is classified using pre-coordinate headings such as those used in LCSH. Currently, some library catalogs incorporate tags through LibraryThing for Libraries. These tags are not currently searchable, but are presented in the form of a clickable tag cloud (see figure 1). This feature is used by libraries all over the world to connect users to similar resources they might not find with controlled vocabulary searches. The inclusion of these tags is one possible solution to this common problem.



Figure 1 – Tag cloud for "Failed States" in the Claremont College Library catalog

There are, however, many issues that arise with tags including messiness, maintenance, synonymy, plurality, and consistency.

General messiness in tagging covers a wide variety of issues. One of the biggest of these is misspelling. A simple misspelling can completely change the meaning of the tag. For example, the tag "boat" might be helpful if added to the record of a book on sailing or boat maintenance. It would be easy to accidentally type "moat" or transpose letters and get "baot" instead.

If tags are incorporated into catalogs, someone will have to maintain them. In today's budget restricted society, professionals do not have the time to spend removing duplicate

tags, correcting spelling mistakes, removing plural forms, and other housekeeping tasks that may be required.

Synonymy occurs because one word can have many different meanings (Steele, 2009). For example the word "guide" can be a reference book, a group leader, or a verb reflecting an action. In LCSH, synonymy is prevented by the use of authority records. Authority records tell catalogers what the one appropriate form of a subject heading, geographic, corporate, or personal name is. In addition, one word can have several equivalent terms. A guide (reference book) can also be called a catalog, directory, or handbook just as a dead body can be a cadaver or a corpse.

The problem of plurality happens when the same term is listed in both a singular and plural form requiring the user to search under both forms (Steele, 2009).

Inconsistency occurs when there are no set rules for creating terminology. For example, some users may capitalize everything while others do not. Some terms may be created in a hyphenated form, while the same term is listed as two separate words by another user. All of these would require searching every possible form of the word.

### **Research Questions**

If user-created metadata is the wave of the future in cataloging and classification, should this free-form data be created by library professionals, library patrons, or a combination of the two? How do professional tags compare with those of novice users?

### **Methodology**

Fifteen people were invited to participate in this study. Nine of those invited completed the project. Participants were drawn from two differing groups: professionals, those that currently hold or are studying for a Master of Library and Information Science, and Non-professionals, those with no formal library science training. Five professionals and four non-professionals were among the respondents. LibraryThing was selected for this study because of its similarities to a library catalog and easy tagging feature.

Participants were given access to researcher created free LibraryThing accounts as well as detailed instructions (see Appendix A) on how to add tags. All LibraryThing accounts provided were pre-populated with fifteen monographic titles from a variety of disciplines. In addition to the instructions, a list of the titles and accompanying content descriptions was included (see Appendix B). Items loaded into LibraryThing were mainstream while still allowing for subject variety. There was no other criterion used in selection of these materials due to the virtual impossibility of selecting fifteen items that all invitees had already read.

Separate accounts were provided for each participant to avoid the influence of tags provided by other respondents.

No controlled vocabulary list or thesaurus was provided leaving participants free to use whatever terminology they found most appropriate. Participants were asked to refrain from the use of personal tags that would be of no use to a mainstream population.

Follow-up questions were used to gauge previous familiarity and comfort with tagging, LibraryThing, social software, and library research as well as their views on the integration of tags into traditional library catalogs.

Results were entered into Excel spreadsheets for easy comparison and presentation of data. Upon completion of the project, all dummy LibraryThing accounts were deleted to avoid cluttering the social cataloging tool with unnecessary accounts.

## **Results**

The average time it took participants to complete this project was 21 minutes. Of the nine respondents, only one had previous experience with LibraryThing. All participants are active users of at least one social software program such as Facebook, Twitter, etc.

For the participants with prior tagging experience, most of their experience stemmed from the photo tagging feature in Facebook. There were, in fact, three respondents who had no tagging experience and did not previously understand what it was used for. The general consensus was that tags were useful for identification of materials and respondents would likely use tagging for future organization of personal collections.

A total of 393 tags were created. 226 of the tags were created by Professionals and 167 by non-professionals. Professionals created more tags per item.

Non-professionals were more likely to tag with multi-word phrases like "easy professional photography" and "photography how-to" as opposed to the largely single word tags of the professionals.

At least one respondent from both groups added personal tags despite the instruction not to. These tags included: "boring", "not recommended", and "something for a rainy day".

While spelling mistakes were not present in the non-professional tags, there was at least one in the professional tags when cooing was placed on a cook book.

Without the removal of duplicates, the fifteen titles received an average of 25.2 tags each spread across the nine respondents. Per item division of tags between professionals and non-professionals can be seen in Figure 2.

Item Title	Unique Professional	Unique Non-professional	Common
The Alchemist	13	7	3
Batman: the Return of Bruce Wayne	4	4	3
Blue Like Jazz	10	10	2
The Book of Basketball	5	2	4
The Digital Photography Book	6	5	4
Eat Pray Love	6	8	1
Freakonomics	11	3	3
Gang Leader For a Day	9	4	5
The Girl With the Dragon Tattoo	6	5	4
Healthy Appetite	5	2	6
Stiff	6	6	4
Team of Rivals	7	4	6
Twilight	14	6	3
Windows 7	9	5	4
Yoga for Dummies	8	2	4

Figure 2 – Tag Division by Item

## Discussion

The discrepancy in the number of tags assigned by the professionals and the number of tags assigned by the non-professionals was surprising. Professionals assigned far more tags overall. In the event of the incorporation of these tags into a catalog, one could argue that a larger number of tags provide more access. If made searchable, these tags could indeed increase access when combined in a post-coordinate system. For example, a user looking for materials on how to achieve a certain yoga pose could search the tags "Yoga AND Instruction" to find *Yoga for Dummies*.

The formality and similarity to the structure of LCSH was evident in the professionals' tags. Tags dealt with main subjects (religion, science, etc...), geographic location (Chicago), personal names as subject (Abraham Lincoln), and Genre (Biography, Memoir, fiction, etc...). Any one of these tags could easily have close equivalents in LCSH and be found in a MARC 6XX field.

Many argue that professionals are simply more qualified to assign subjects and, therefore, should be responsible for not just formal LCSH type heading assignment, but also the creation of tags. While this seems logical, it is clear that when the professional has not actually read the material in question (as is the case with most items being cataloged) they may not be the best judge of the "aboutness" of an item. While in this study the non-professionals were not tagging personally read items, in a real-life situation where the tagger has read the material they may, in fact, be better judges of the subject.

A discussion of the individual tags for all fifteen items would be tedious, so in the interest of brevity we will look specifically at *Blue Like Jazz*, *Stiff*, and *Twilight*. The tags for all fifteen materials can be found in Appendix C.

*Blue Like Jazz* is a book that has clearly been on the past reading lists of some of the participants. This is evident in the use of terms like "Apologetics" and the geographic term "Portland" which are not mentioned anywhere in the book description provided. These terms make clear the benefits that user-created metadata can provide. The professional terms of Christian, Faith, Memoir, and Religion, seem to reflect general subjects or categories supporting the theory that information professionals compartmentalize their resources (Jensen, 2010).

*Stiff* was one of the most evenly tagged titles with each group creating six unique tags and four common ones. Even with the unique tags, this was a good example of just how similarly professionals and non-professionals think when placed on an equal playing field. Many of the tags were clearly taken from the provided book description and again the professional tags seemed to focus on primary subject and genre. Synonymy was found in the professional tags with the presence of both corpses and cadavers. There is also a clear demonstration of humor in the professionally provided tag "more than you want to know." One respondent even misinterpreted the book as fiction. This proves that even if professionals mediated tags a system is only as perfect as the people creating it.

The tags provided for *Twilight* are not only an example of complete overkill, but also plurality and inconsistency. There were a total of thirty tags provided for *Twilight*. Here is where the professional tags deviated from the compartmentalized nature found in all the other records. Professional tags included chick lit, fad, and teenage angst while non-professional tags stuck to the basics of romance, vampires, fantasy, and fiction.

Genre was assigned by both groups in a glaring example of the need for consistency; the terms YA, YA fiction, Young adult, and young adult fiction were all assigned to this book. While tagging is valued for its free-form, natural language terms, guidelines on how to indicate genre would eliminate the need for users to search all of these different tags to find similar items. Plurality is present as both the term vampire and werewolf appear in singular and plural form.

Overall, the results were exactly the opposite of what was expected. It was anticipated that the professionals would provide fewer, but more succinct, tags. In fact, the professional respondents provided far more tags covering a wider range of possibilities and the non-professionals proved to be more insightful than originally thought possible. Non-professionals with detailed subject knowledge in a given area provided tags comparable to professional subject headings.

## **Conclusion**

The possible problems with tags all reared their ugly heads in this study regardless of which group created the tags demonstrating that in the case of tagging, advanced education does not always make you the authority in today's changing world of information organization.

There are definite possibilities for increased access if guidelines or rules are set forth and followed. Even a rule as simple as requiring that all single word subjects be entered in plural form, could make a huge difference in the effectiveness of tags. Developments in search interfaces are also pivotal to the future success of tagging in libraries. While tags serve as

merely a link to expanding your search for similar items now, with the appropriate software users could use these additional terms not only for finding related items, but for post-coordinate searching.

The overriding issue here appears to be not who should assign the tags, but what rules should govern their creation. Further large-scale studies of these possibilities could yield some insight into forms of cooperation between users and librarians (catalogers) that would make both sides happy.

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## APPENDIX A

Comparative Tagging Project

Background and Instructions

The Project

The comparative tagging project is being conducted to better understand the possible advantages and disadvantages of user-created metadata or tags when they are added to book records. In the interest of time and resources, this project is being conducted with a small sample size and serves only as a beginning for possible future research.

What are tags?

LibraryThing defines tags as "a simple way to categorize books according to how you think of them, not how some library official does. Anything can be a tag—just type words or phrases, separated by commas. Thus one person will tag the *The DaVinci Code* "novels" while another tags it "trashy, religion, mary," and still another only "summer home." Tags are particularly useful for searching and sorting—when you need a list of all your novels or all the books at the summer home." (LibraryThing, 2011)

Basically, tags are words or phrases you assign to the books in your library so that it is easy for you remember what they are about, sort them according to your needs, and easily retrieve those books on a specific subject at a later date. You may recognize tags as something you add to your photos in Facebook or Flickr. For example, if you add the tag "Rome" to your Flickr pictures from your trip to Rome last summer, you can easily find those pictures again by searching for them using "Rome." Tags can also be used to identify personal aspects of a book such as where it is located ("bedroom"), why you read it ("English assignment"), or your opinion of the item ("I loved this").

### General Instructions

In this project, you are being asked to add user tags to a set of fifteen records using the LibraryThing website and answer a few follow-up questions about your experiences while completing this task.

Please limit your tags to words or phrases dealing with the content of the book itself. Brief descriptions of the books are provided at the end of this document to assist you understanding what the books are about.

Don't spend a lot of time trying to create complex tags. The idea is to use words/phrases that would make sense to you if you were to look for this book again or sort it with other similar books.

Detailed instructions on how to add tags in LibraryThing are provided below.

If you have any questions, please contact me at [hedgimom@aol.com](mailto:hedgimom@aol.com).

Thank you so much for taking the time to participate in this project!

### Instructions for tagging books in Library Thing

1. Log into LibraryThing at [www.librarything.com](http://www.librarything.com) using the following

Name: 281-001

Password: tag001

2. Click on the your books tab in the upper left hand portion of the screen

2. Click on the your books tab in the upper left hand portion of the screen

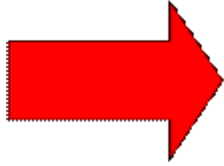


3. Starting with the first book on the list, click on the Pencil (edit book) icon found on the far right of the record



Title	Author	Date	Tags	Rating	Entry date	
 Team of Rivals: The Political Genius of Abraham Lincoln	Doris Kearns Goodwin	2006		☆☆☆☆	Apr 23, 2011	  3823 96
 Windows 7: The Missing Manual	David Pogue	2010		☆☆☆☆	Apr 23, 2011	  47 0

4. Once the record is open, add your tags in the Tags field. Remember to separate multiple tags with a comma.



by Dawn Wrobel

Members	Reviews	Popularity	Average rating	Conversations
24	None	306,047	☆☆☆½ (3.63)	None

Cancel Save Delete ✕

Title

Author  Last: First

Tags   
Separate with commas, like "history, military history, Napoleon" (what are tags?)  
current tags:

5. After you have added your tags, scroll to the bottom of the screen and click "Save"



Physical Summary   
Leave blank for an auto-generated summary in standard library format. more space

Summary   
Leave blank for an auto-generated summary. more space

show extra fields

Member   
Entry date   
Data source   
Private  Make a private book (this is a beta feature)

Cancel Save Help ?

6. This will take you back to the home page where you can see the tags you have added!



7. Repeat this process with the other books in your library. There are a total of fifteen titles.



8. When you have successfully tagged all of the books, Sign out of the account using the sign out link in the upper right hand corner.



9. Send me an e-mail at [hedgimom@aol.com](mailto:hedgimom@aol.com) with the answers to the follow-up questions so I will know that you are done!

\*\*\*BOOK DESCRIPTIONS ARE PROVIDED AFTER THE FOLLOW-UP QUESTIONS\*\*\*

Follow-up questions

1. Approximately how long did it take you to complete this project?
2. Do you have any prior experience with tagging? Please give a brief description.
3. Do you have any prior experience with LibraryThing?

4. What social software do you currently use (i.e., Facebook, Flickr, MySpace, etc...)?
5. Having now learned how to tag something, do you think that you will use tagging in the future to organize your books or photos?
6. Have you used the computer catalog at your local library to look for books?
7. When using the library catalog, were you able to find what you need? If not, did you ask for help? Briefly describe this help.
8. LibraryThing offers a program that allows libraries to add user tags like those that you created to their computerized catalog. Is this something you would like to see used in your library? Why or why not?

THANK YOU FOR YOUR TIME!

## **APPENDIX B**

### Comparative Tagging Project

#### Test Item Descriptions

Below is a list of the materials being used for this project on comparative tagging. These items have been loaded into the LibraryThing account provided to you. Since selecting items that every participant has already read is difficult, brief summaries have been provided to assist you in understanding the content of the material.

Please tag the items below in LibraryThing per the instructions provided above.

Coelho, P. (1993). *The alchemist* [Alquimista.] (1st ed.). San Francisco: HarperSanFrancisco.

Summary: This inspirational fable by Brazilian author and translator Coelho has been a runaway bestseller throughout Latin America and seems poised to achieve the same prominence here. The charming tale of Santiago, a shepherd boy, who dreams of seeing the world, is compelling in its own right, but gains resonance through the many lessons Santiago learns during his adventures. He journeys from Spain to Morocco in search of worldly success, and eventually to Egypt, where a fateful encounter with an alchemist brings him at last to self-understanding and spiritual enlightenment. The story has the comic charm, dramatic tension and psychological intensity of a fairy tale, but it's full of specific wisdom as well, about becoming self-empowered, overcoming depression, and believing in dreams. The cumulative effect is like hearing a wonderful bedtime story from an inspirational psychiatrist. Comparisons to *The Little Prince* are appropriate; this is a sweetly exotic tale for young and old alike. Copyright 1993 Reed Business Information, Inc.

Feuerstein, G., & Payne, L. (2010). *Yoga for dummies* (2nd ed.). Hoboken, NJ: Wiley Pub.

Summary: *Yoga for Dummies* proves that this 5,000-year-old Indian discipline *can* be all things to all people--the athlete striving for more-limber limbs, the stressed-out professional needing mental calm, peace, and clarity; the pregnant mom-to-be looking to keep herself

toned and her emotions balanced, the spiritual seeker wanting to access the higher planes of consciousness.

Georg Feuerstein, Ph.D., and Larry Payne, Ph.D., are internationally recognized yoga experts. After explaining how to prepare your body and mind for yoga--including warnings about how to practice safely--they jump straight into the postures (*asanas*), instructions for which make up the meat of book (relaxation, breathing, movement, sequencing, compensation, sitting). Feuerstein and Payne carefully and in great detail lead the reader through every step, although they do advise first-timers to supplement the book with actual classes until they have the basics down. Throughout the book, clear explanations accompany black-and-white photos and drawings. (Unfortunately, following the written instructions is hard enough when your feet are in the air or your head's down by your ankles, and the book would have been improved if the pictures always appeared on the same page as their instructions.)

Readers then learn about tailoring a yoga program to their needs; using props; practicing "Yoga Throughout the Day"; incorporating yoga into sex, meditation, menopause, and pregnancy; using yoga to treat back problems and PMS; and practicing yoga with kids. The book also covers yogic ethics, philosophy, and resources. It's not all *asanas* and *pranas*, though--*Yoga for Dummies* is sprinkled with the humor characteristic of the For Dummies series (a section explaining that the ego is the ultimate source of stress is titled "Wherever ego, I go") and practical advice (the Forgiving Limbs maneuver allows you to bend your legs and arms a bit rather than try to fully extend them, so that you can perform postures you're not yet quite limber enough for). This is both an excellent beginner's guide and a good reference for more advanced *yoginis* who want a brush-up course. --*Stefanie Durbin*

Gilbert, E. (2006). *Eat, pray, love : One woman's search for everything across Italy, India and Indonesia*. New York: Viking.

Summary: At the age of thirty-one, Gilbert moved with her husband to the suburbs of New York and began trying to get pregnant, only to realize that she wanted neither a child nor a husband. Three years later, after a protracted divorce, she embarked on a yearlong trip of recovery, with three main stops: Rome, for pleasure (mostly gustatory, with a special emphasis on gelato); an ashram outside of Mumbai, for spiritual searching; and Bali, for "balancing." These destinations are all on the beaten track, but Gilbert's exuberance and her self-deprecating humor enliven the proceedings: recalling the first time she attempted to speak directly to God, she says, "It was all I could do to stop myself from saying, 'I've always been a big fan of your work.'"

Copyright © 2006 [The New Yorker](#)

Goodwin, D. K. (2005). *Team of rivals : The political genius of Abraham Lincoln*. New York: Simon & Schuster.

Summary: The life and times of Abraham Lincoln have been analyzed and dissected in countless books. Do we need another Lincoln biography? In *Team of Rivals*, esteemed historian Doris Kearns Goodwin proves that we do. Though she can't help but cover some familiar territory, her perspective is focused enough to offer fresh insights into Lincoln's leadership style and his deep understanding of human behavior and motivation. Goodwin makes the case for Lincoln's political genius by examining his relationships with three men he selected for his cabinet, all of whom were opponents for the Republican nomination in 1860: William H. Seward, Salmon P. Chase, and Edward Bates. These men, all

accomplished, nationally known, and presidential, originally disdained Lincoln for his backwoods upbringing and lack of experience, and were shocked and humiliated at losing to this relatively obscure Illinois lawyer. Yet Lincoln not only convinced them to join his administration--Seward as secretary of state, Chase as secretary of the treasury, and Bates as attorney general--he ultimately gained their admiration and respect as well. How he soothed egos, turned rivals into allies, and dealt with many challenges to his leadership, all for the sake of the greater good, is largely what Goodwin's fine book is about. Had he not possessed the wisdom and confidence to select and work with the best people, she argues, he could not have led the nation through one of its darkest periods.

Ten years in the making, this engaging work reveals why "Lincoln's road to success was longer, more tortuous, and far less likely" than the other men, and why, when opportunity beckoned, Lincoln was "the best prepared to answer the call." This multiple biography further provides valuable background and insights into the contributions and talents of Seward, Chase, and Bates. Lincoln may have been "the indispensable ingredient of the Civil War," but these three men were invaluable to Lincoln and they played key roles in keeping the nation intact. --*Shawn Carkonen*

Kelby, S. (2006; 2007). *The digital photography book : The step-by-step secrets for how to make your photos look like the pros!* (1st ed.). Berkeley, CA: Peachpit Press.

Summary: Scott Kelby, the man who changed the "digital darkroom" forever with his groundbreaking, #1 bestselling, award-winning book *The Photoshop Book for Digital Photographers*, now tackles the most important side of digital photography--how to take pro-quality shots using the same tricks today's top digital pros use (and it's easier than you'd think).

This isn't a book of theory—it isn't full of confusing jargon and detailed concepts: this is a book of which button to push, which setting to use, when to use them, and nearly two hundred of the most closely guarded photographic "tricks of the trade" to get you shooting dramatically better-looking, sharper, more colorful, more professional-looking photos with your digital camera every time you press the shutter button.

Here's another thing that makes this book different: each page covers just one trick, just one single concept that makes your photography better. Every time you turn the page, you'll learn another pro setting, another pro tool, another pro trick to transform your work from snapshots into gallery prints. There's never been a book like it, and if you're tired of taking shots that look "OK," and if you're tired of looking in photography magazines and thinking, "Why don't my shots look like that?" then this is the book for you.

Larsson, S. (2008). *The girl with the dragon tattoo* [Män som hatar kvinnor.] (1 Unit States ed.). New York: Alfred A. Knopf

Summary: Starred Review. Cases rarely come much colder than the decades-old disappearance of teen heiress Harriet Vanger from her family's remote island retreat north of Stockholm, nor do fiction debuts hotter than this European bestseller by muckraking Swedish journalist Larsson. At once a strikingly original thriller and a vivisection of Sweden's dirty not-so-little secrets (as suggested by its original title, *Men Who Hate Women*), this first of a trilogy introduces a provocatively odd couple: disgraced financial journalist Mikael Blomkvist, freshly sentenced to jail for libeling a shady businessman, and the multipierced and tattooed Lisbeth Salander, a feral but vulnerable superhacker. Hired by octogenarian industrialist Henrik Vanger, who wants to find out what happened to his beloved great-niece

before he dies, the duo gradually uncover a festering morass of familial corruption—at the same time, Larsson skillfully bares some of the similar horrors that have left Salander such a marked woman. Larsson died in 2004, shortly after handing in the manuscripts for what will be his legacy. Copyright © Reed Business Information, a division of Reed Elsevier Inc.

Levitt, S. D., & Dubner, S. J. (2005). *Freakonomics : A rogue economist explores the hidden side of everything* (1st ed.). New York: William Morrow.

Summary: Forget your image of an economist as a crusty professor worried about fluctuating interest rates: Levitt focuses his attention on more intimate real-world issues, like whether reading to your baby will make her a better student. Recognition by fellow economists as one of the best young minds in his field led to a profile in the *New York Times*, written by Dubner, and that original article serves as a broad outline for an expanded look at Levitt's search for the hidden incentives behind all sorts of behavior. There isn't really a grand theory of everything here, except perhaps the suggestion that self-styled experts have a vested interest in promoting conventional wisdom even when it's wrong. Instead, Dubner and Levitt deconstruct everything from the organizational structure of drug-dealing gangs to baby-naming patterns. While some chapters might seem frivolous, others touch on more serious issues, including a detailed look at Levitt's controversial linkage between the legalization of abortion and a reduced crime rate two decades later. Underlying all these research subjects is a belief that complex phenomena can be understood if we find the right perspective. Levitt has a knack for making that principle relevant to our daily lives, which could make this book a hit. Malcolm Gladwell blurbs that Levitt "has the most interesting mind in America," an invitation Gladwell's own substantial fan base will find hard to resist. Copyright © Reed Business Information, a division of Reed Elsevier Inc.

Meyer, S. (2005). *Twilight* (1st ed.). New York: Little, Brown and Co.

Summary: Grade 9 Up—When Bella Swan moves from sunny Phoenix to Forks, Washington, a damp and dreary town known for the most rainfall in the United States, to live with her dad, she isn't expecting to like it. But the level of hostility displayed by her standoffish high school biology lab partner, Edward Cullen, surprises her. After several strange interactions, his preternatural beauty, strength, and speed have her intrigued. Edward is just as fascinated with Bella, and their attraction to one another grows. As Bella discovers more about Edward's nature and his family, she is thrown headlong into a dangerous adventure that has her making a desperate sacrifice to save her one true love. One of the more original vampire constructs around, this recording of Stephenie Meyer's debut novel (Megan Tingley Books, 2005) is narrated with great style by Ilyana Kadushin, who makes the infinitely romantic tale of star-crossed lovers resonate with a bittersweet edge. Although Edward and Bella's romance and subsequent danger develops slowly, the pacing is appropriate for teens who want learn all the details in this suspenseful tale. An excellent purchase for both school and public libraries.—*Charli Osborne, Oxford Public Library, MI* Copyright © Reed Business Information, a division of Reed Elsevier Inc.

Miller, D. (2003). *Blue like jazz : Nonreligious thoughts on Christian spirituality*. Nashville: T. Nelson.

Summary: Miller (Prayer and the Art of Volkswagen Maintenance) is a young writer, speaker and campus ministry leader. An earnest evangelical who nearly lost his faith, he went on a spiritual journey, found some progressive politics and most importantly, discovered Jesus' relevance for everyday life. This book, in its own elliptical way, tells the tale of that journey.

But the narrative is episodic rather than linear, Miller's style evocative rather than rational and his analysis personally revealing rather than profoundly insightful. As such, it offers a postmodern riff on the classic evangelical presentation of the Gospel, complete with a concluding call to commitment. Written as a series of short essays on vaguely theological topics (faith, grace, belief, confession, church), and disguised theological topics (magic, romance, shifts, money), it is at times plodding or simplistic (how to go to church and not get angry? "pray... and go to the church God shows you"), and sometimes falls into merely self-indulgent musing. But more often Miller is enjoyably clever, and his story is telling and beautiful, even poignant. (The story of the reverse confession booth is worth the price of the book.) The title is meant to be evocative, and the subtitle-"Non-Religious" thoughts about "Christian Spirituality"-indicates Miller's distrust of the institutional church and his desire to appeal to those experimenting with other flavors of spirituality. Copyright 2003 Reed Business Information, Inc.

Morrison, G. (2011). *Batman : The return of Bruce Wayne*. New York, NY: DC Comics, a Warner Brothers Entertainment Co.

Summary: An odyssey for one of the most iconic figures in comics stretches from prehistory to the end of time, revisiting and reimagining Batman's mythology through a complex narrative. Writer Morrison and a team of artists pick up from the end of Morrison's Final Crisis and Batman: RIP. Bruce Wayne is lost in time after killing Darkseid, a godlike being of pure evil. Piecing together the memories of his past that he's lost and slowly realizing he's been turned into a human booby trap meant to destroy the universe by Darkseid, Bruce is pulled through eras of Gotham City's history that include confrontations with cavemen, witch hunters, pirates, cowboys, and 20th-century cultists. These adventures culminate in a return to the present where he must rely on his fellow superheroes to save him from Darkseid's curse. Morrison's story is designed to add to Batman's aura as a timeless, mythical hero, but the time jumps and Bruce's amnesia sometimes create an uneven narrative. The story also asks readers to possess a wealth of familiarity with the character's decades-long history, making the book not as accessible to newer fans. Different artists—al strong, colorful storytellers—give each time period its own mood. (Feb.) (c) Copyright PWxyz, LLC. All rights reserved.

Pogue, D. (2010). *Windows 7 : The missing manual* (1st ed.). Sebastopol, CA: O'Reilly Media.

Summary: In early reviews, geeks raved about Windows 7. But if you're an ordinary mortal, learning what this new system is all about will be challenging. Fear not: David Pogue's *Windows 7: The Missing Manual* comes to the rescue. Like its predecessors, this book illuminates its subject with reader-friendly insight, plenty of wit, and hardnosed objectivity for beginners as well as veteran PC users. Windows 7 fixes many of Vista's most painful shortcomings. It's speedier, has fewer intrusive and nagging screens, and is more compatible with peripherals. Plus, Windows 7 introduces a slew of new features, including better organization tools, easier WiFi connections and home networking setup, and even touchscreen computing for those lucky enough to own the latest hardware.

With this book, you'll learn how to:

- Navigate the desktop, including the fast and powerful search function
- Take advantage of Window's apps and gadgets, and tap into 40 free programs
- Breeze the Web with Internet Explorer 8, and learn the email, chat, and videoconferencing programs

- Record TV and radio, display photos, play music, and record any of these to DVD using the Media Center
- Use your printer, fax, laptop, tablet PC, or smartphone with Windows 7
- Beef up your system and back up your files

Ramsay, G., Sargeant, M., & Quah, E. (2008). *Gordon Ramsay's healthy appetite*. London: Quadrille.

Summary: You are what you eat — and everyone wants to be healthy and look his or her best. A fit chef, marathon runner, and high-energy television presenter, Gordon Ramsay is a walking advertisement for eating well and staying in the peak of good health. In this new book, which includes recipes from *The F Word*, he has put together over 100 dishes that reflect the way we want to eat today. Geared around our daily lives, the book offers sensible, fun ideas and recipes for healthy breakfasts, lunches, barbecues, suppers, desserts, food for kids, and entertaining, and demonstrates how to cook for both health and flavor. Recipes include Mango and Smoked Chicken Salad, Griddle Squid with Roasted Peppers and Cannellini Beans, Wild Mushroom Risotto with Baked Courgettes, and Roasted Peaches with Vanilla and Spices. Featuring colorful photographs and clean modern design, this is a worthy follower to the successful *Gordon Ramsay's Fast Food*.

Roach, M. (2003). *Stiff : The curious lives of human cadavers* (1st ed.). New York: W.W. Norton & Co.

Summary: "Uproariously funny" doesn't seem a likely description for a book on cadavers. However, Roach, a *Salon* and *Reader's Digest* columnist, has done the nearly impossible and written a book as informative and respectful as it is irreverent and witty. From her opening lines ("The way I see it, being dead is not terribly far off from being on a cruise ship. Most of your time is spent lying on your back"), it is clear that she's taking a unique approach to issues surrounding death. Roach delves into the many productive uses to which cadavers have been put, from medical experimentation to applications in transportation safety research (in a chapter archly called "Dead Man Driving") to work by forensic scientists quantifying rates of decay under a wide array of bizarre circumstances. There are also chapters on cannibalism, including an aside on dumplings allegedly filled with human remains from a Chinese crematorium, methods of disposal (burial, cremation, composting) and "beating-heart" cadavers used in organ transplants. Roach has a fabulous eye and a wonderful voice as she describes such macabre situations as a plastic surgery seminar with doctors practicing face-lifts on decapitated human heads and her trip to China in search of the cannibalistic dumpling makers. Even Roach's digressions and footnotes are captivating, helping to make the book impossible to put down. Copyright 2003 Reed Business Information, Inc.

Simmons, B. (2009). *The book of basketball : The NBA according to the sports guy* (1st ed.). New York: Ballantine/ESPN Books.

Summary: Starred Review. Simmons, aka "the Sports Guy," is a regular columnist on ESPN.com. He writes about all sports, with a particular affection for his hometown Boston teams. Stylistically, there's no one quite like him writing about sports. Sardonic, both irreverent and reverent, silly, self-deprecating, and melancholy are all adjectives that can be used to describe his work. The NBA seems to bring out his best stuff, perhaps because of its unique mix of personalities and cultures and the mysteries of its team dynamics. This monster of a book (more than 700 pages) is equal parts history and analysis. Simmons summarizes the history of the league, discusses his personal fandom, includes a great "what

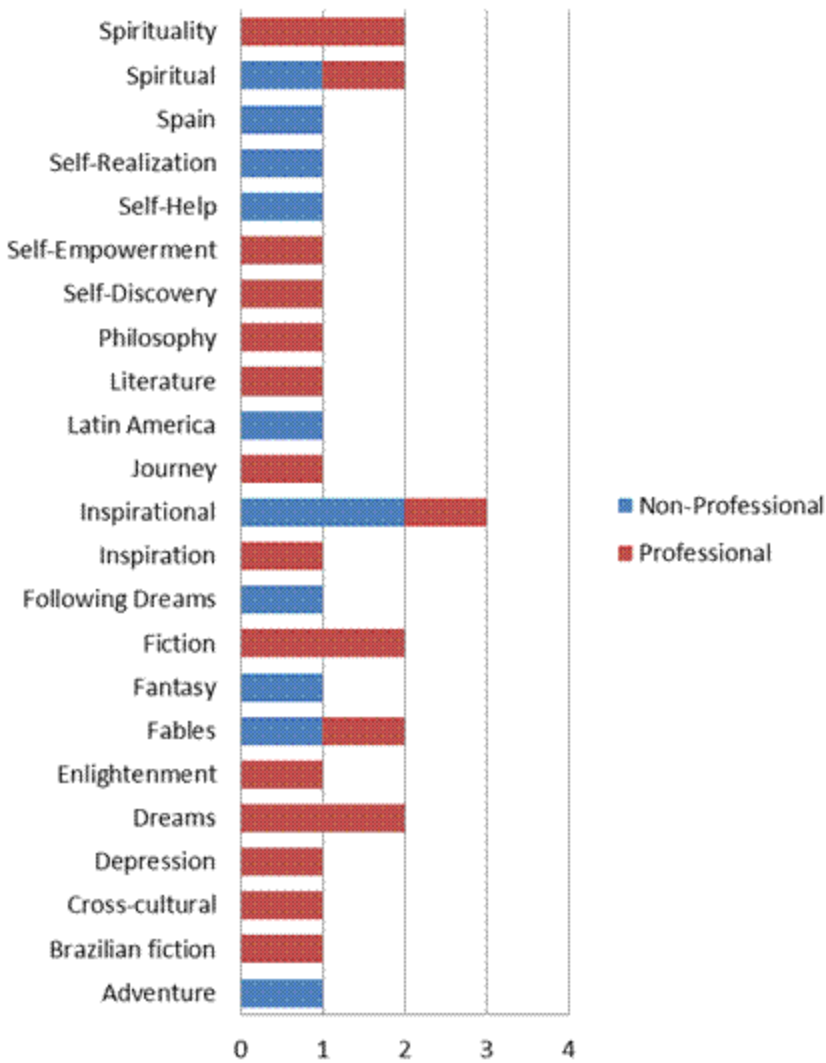
if?" chapter (what if Michael Jordan had been drafted second by Portland instead of third by Chicago?), analyzes Most Valuable Player choices through the years, and dissects the careers of the league's all-time best players. The true NBA fan will dive into this hefty volume and won't resurface for about a week, emerging from the man cave unshaven, smelling of beer and pizza, grinning, and armed with NBA history, insight, anecdotes, statistics, and a dozen new examples of Simmons' Unintentional Comedy Scale. This is just plain fun. Expect significant demand from hoops junkies. --Wes Lukowsky

Venkatesh, S. A. (2008). *Gang leader for a day : A rogue sociologist takes to the streets*. New York: Penguin Press.

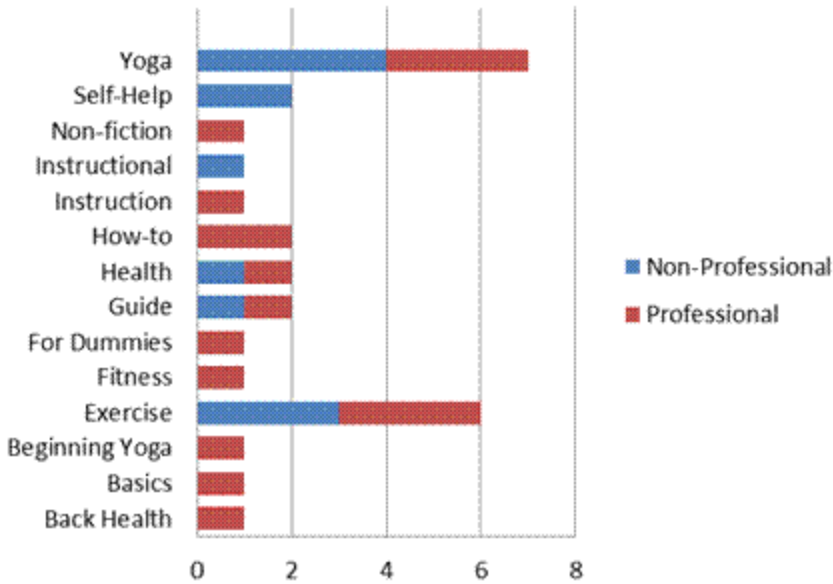
Summary: Honest and entertaining, Columbia University professor Venkatesh vividly recounts his seven years following and befriending a Chicago crack-dealing gang in a fascinating look into the complex world of the Windy City's urban poor. As introduced in Steven D. Levitt and Stephen J. Dubner's bestseller, *Freakonomics*, Venkatesh became involved with the Black Kings—and their charismatic leader J.T.—as a first-year doctoral student at the University of Chicago. Sent to the projects with a multiple-choice test on poverty as his calling card, Venkatesh was, to his surprise, invited in to see how the drug dealers functioned in real life, from their corporate structure to the corporal punishment meted out to traitors and snitches. Venkatesh's narrative breaks down common misperceptions (such as all gang members are uneducated and cash rich, when the opposite is often true), the native of India also addresses his shame and subsequent emotional conflicts over collecting research on illegal activities and serving as the Black Kings' primary decision-maker for a day—hardly the actions of a detached sociological observer. But overinvolved or not, this graduate student turned gang-running rogue sociologist has an intimate and compelling tale to tell. (*Jan.*) Copyright © Reed Business Information, a division of Reed Elsevier Inc.

## **APPENDIX C**

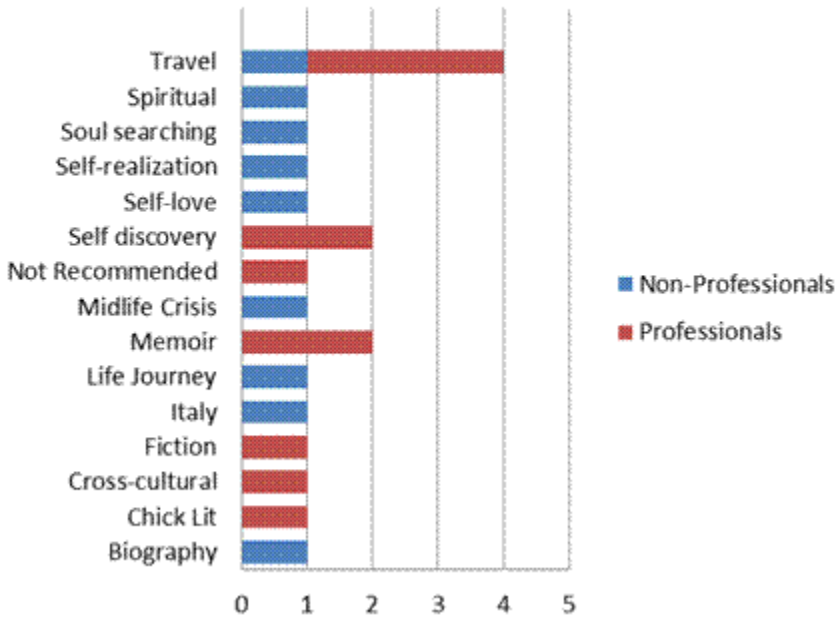
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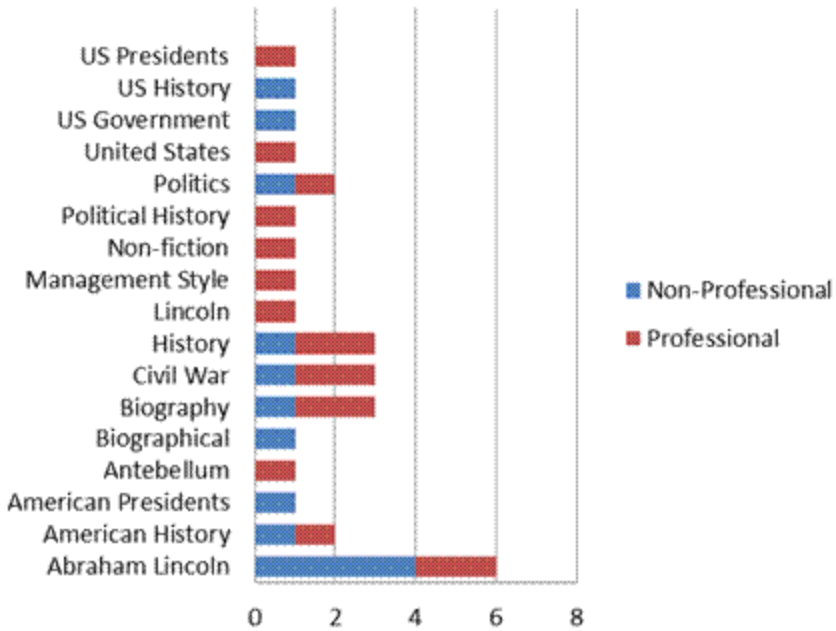
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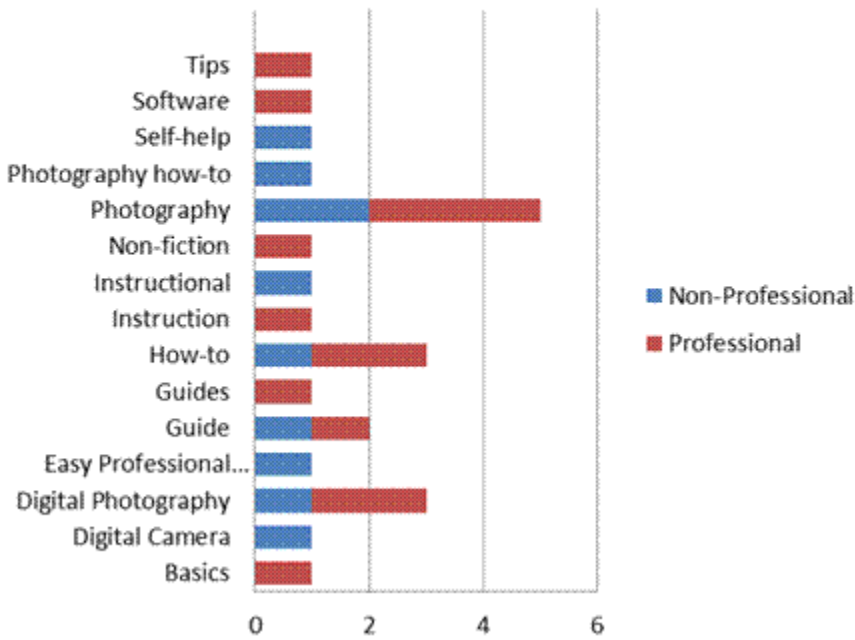
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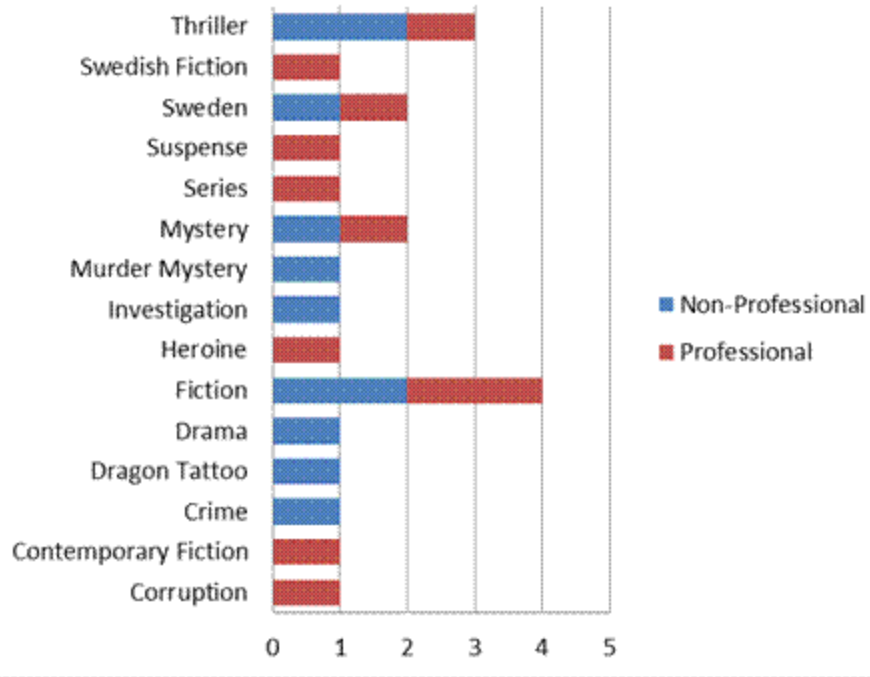
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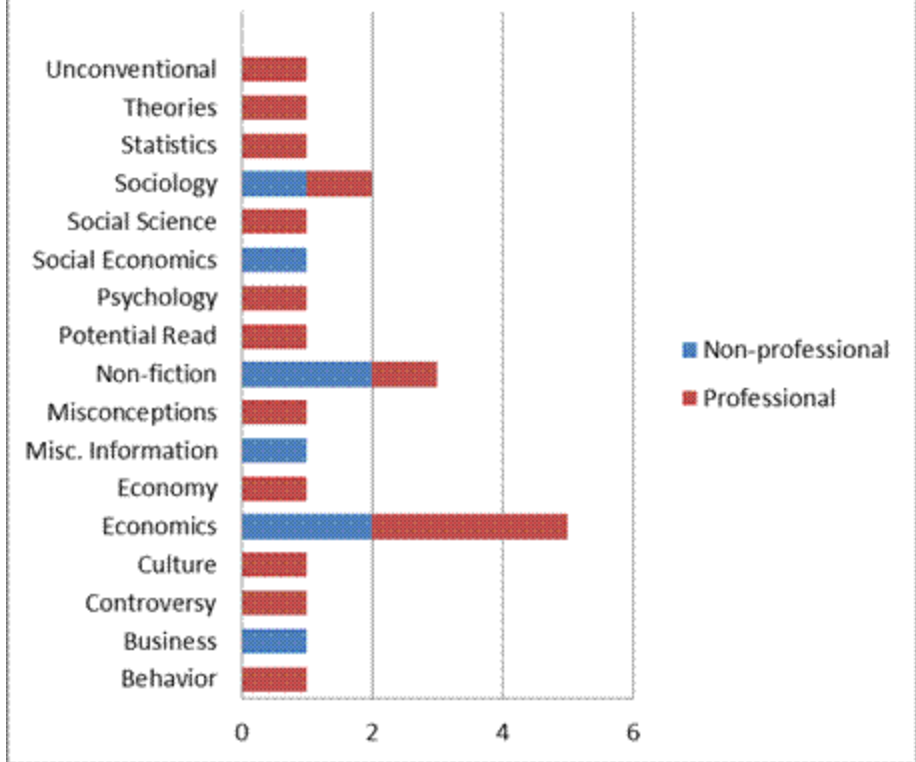
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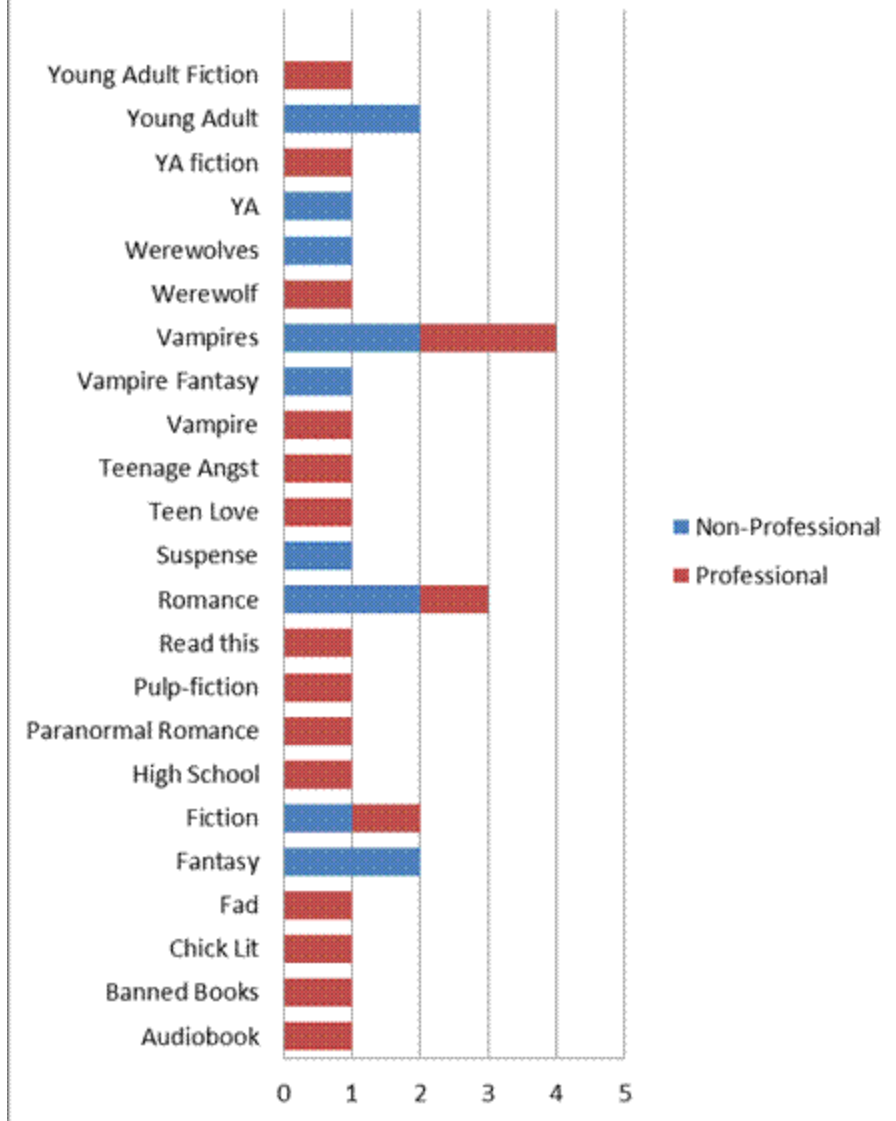
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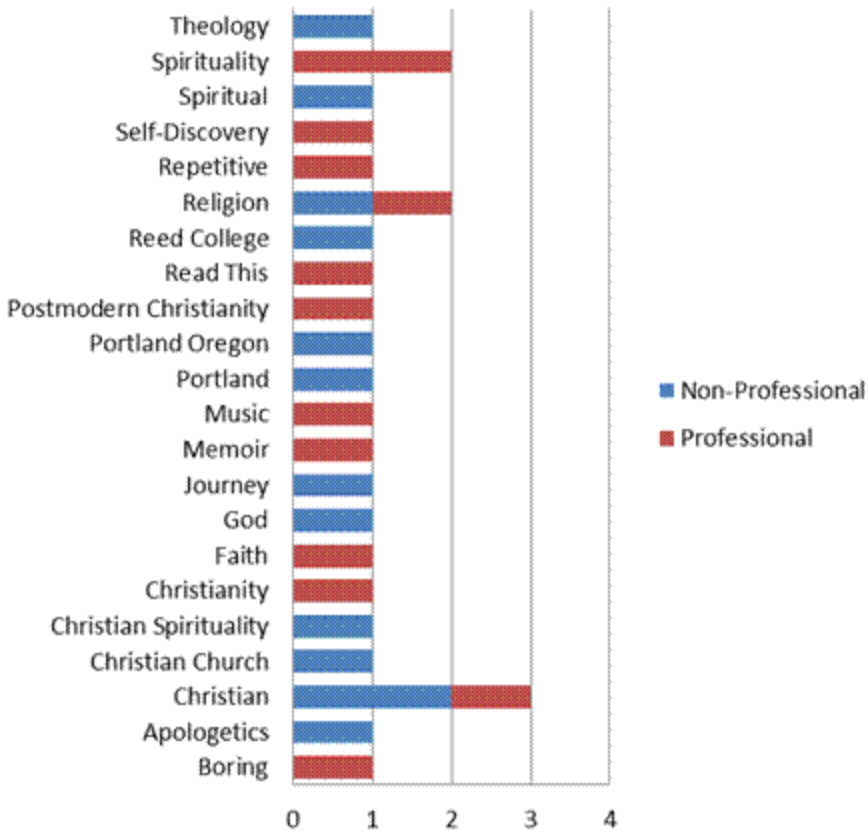
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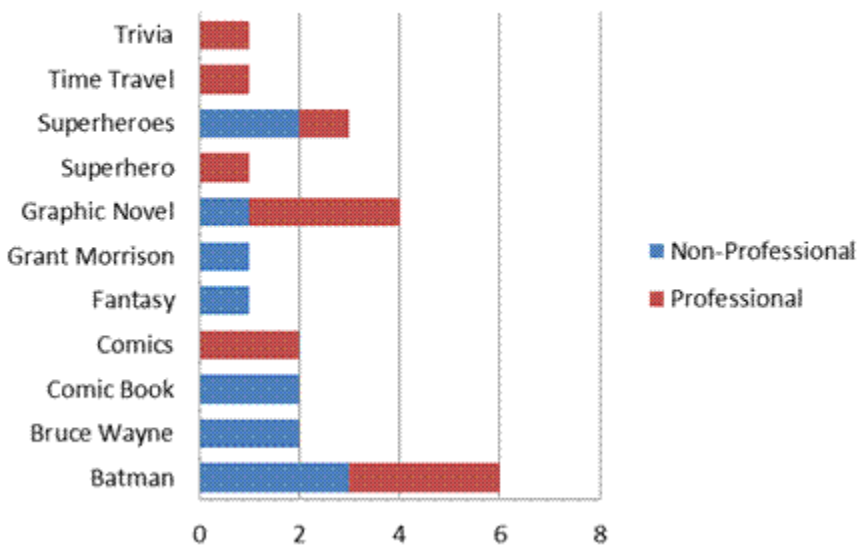
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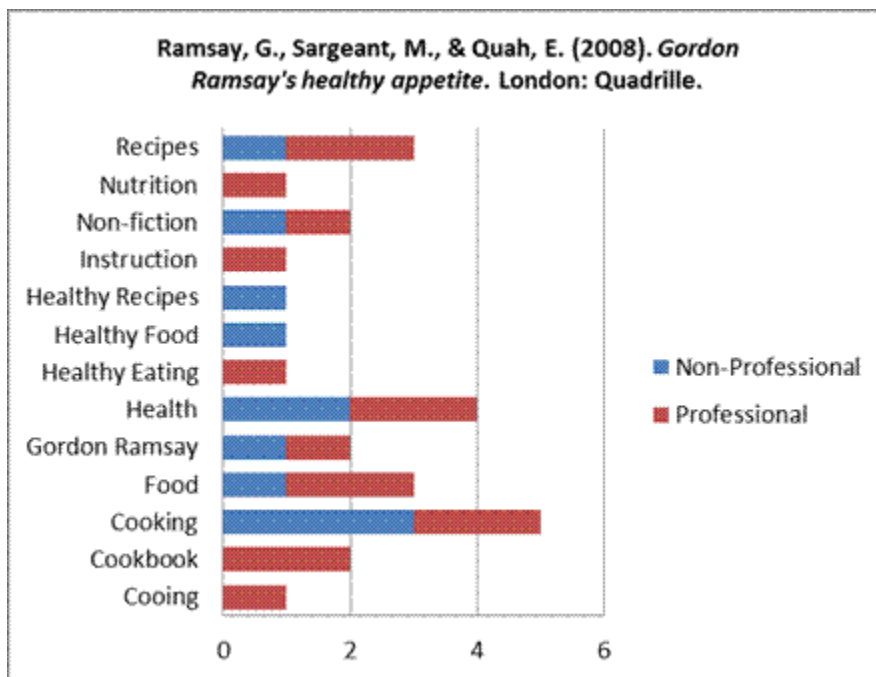
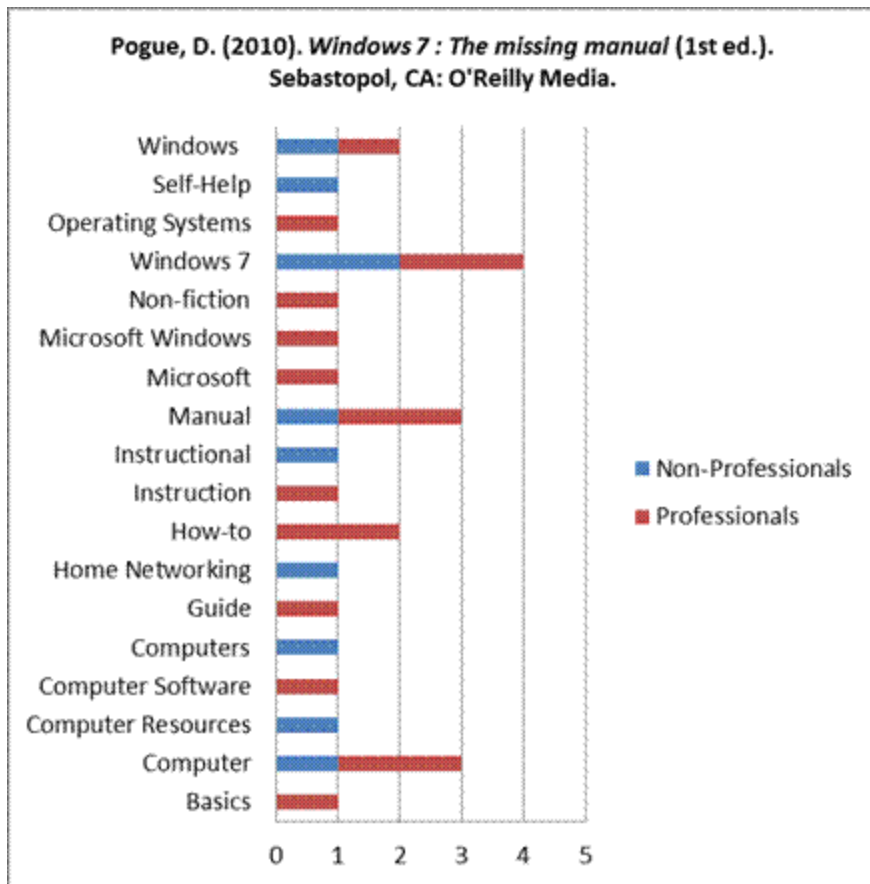


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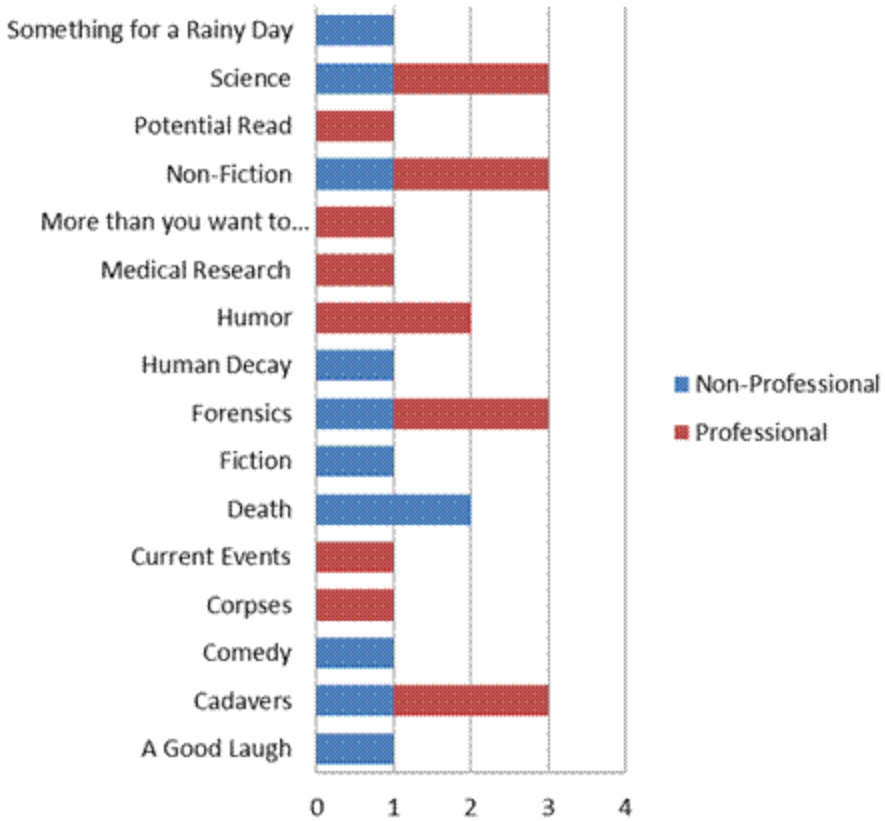


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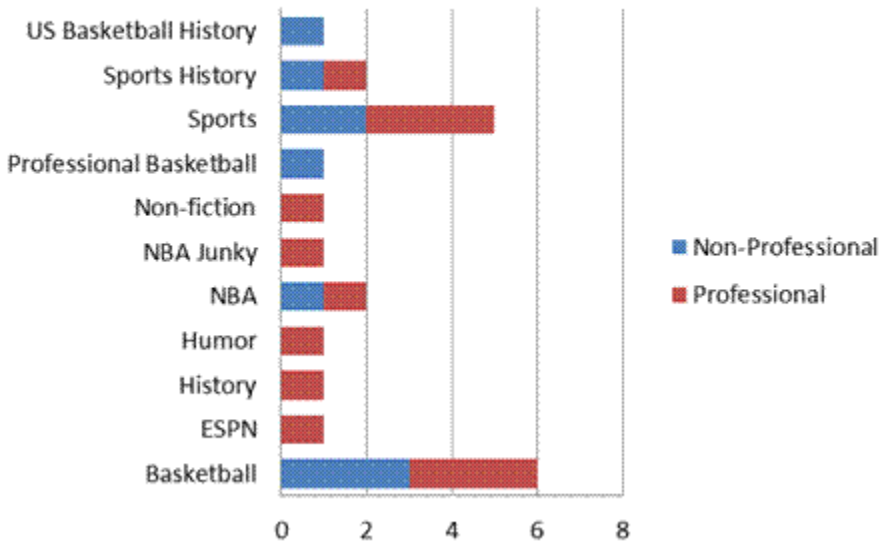




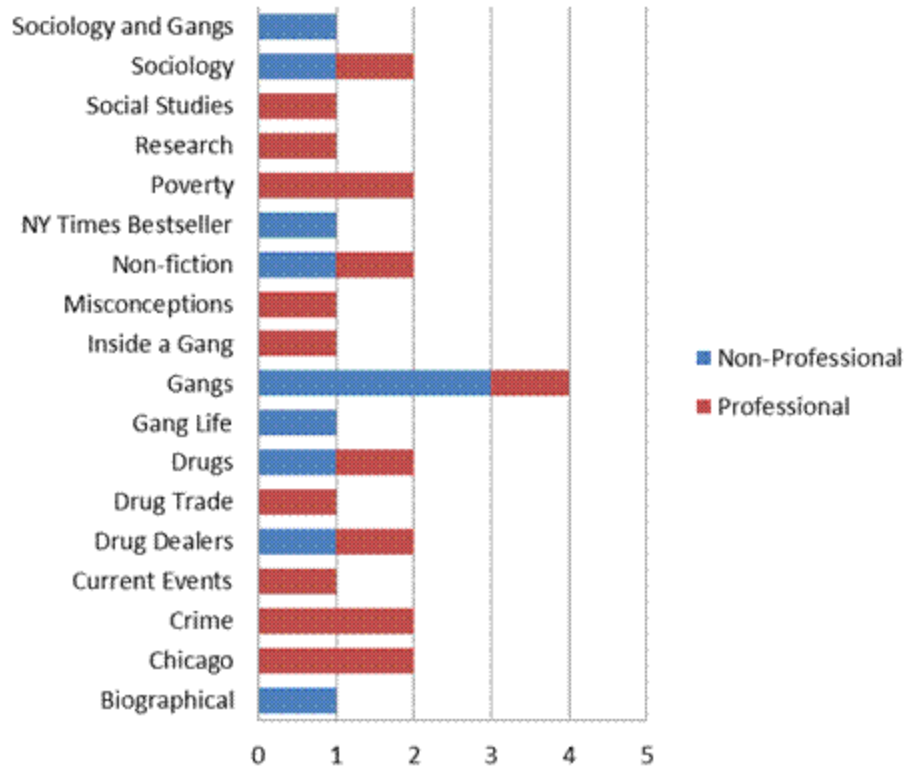
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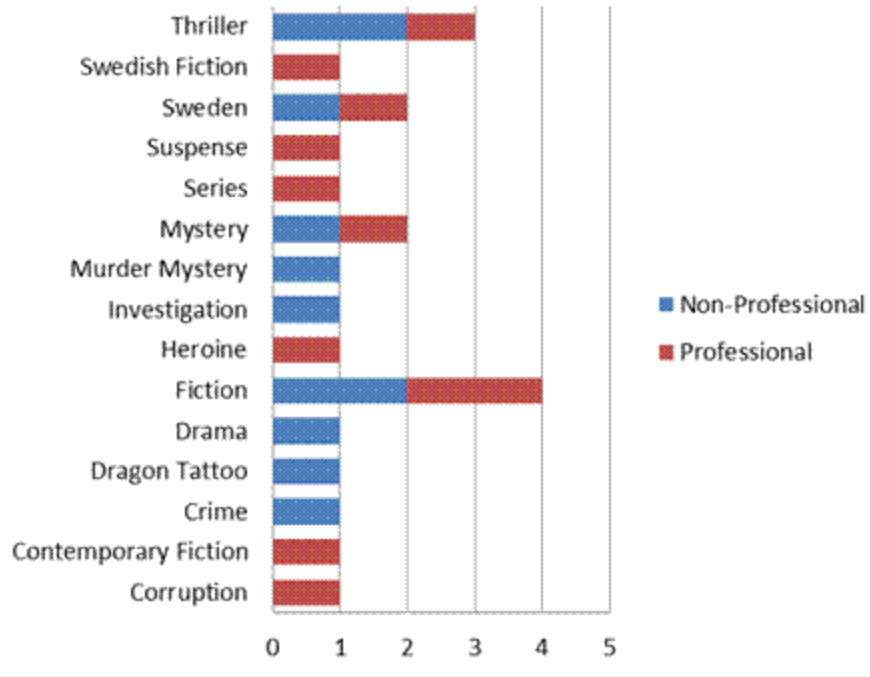
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