An Assessment of Indexing And Abstracting Services In Nuhu Bamalli Politechnic Library, Zaria, Nigeria.

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Abstract

This paper examines the concept of indexing and abstracting, where index is define as systematic arrangement of entries designed to enable users to locate information in a document. While abstract at the other hand is an intellectual summary of an information package. The paper tried to finds out the availability and use of indexes and abstracts in Nuhu Bamalli Polytechnic Library (Annex) Zaria. The paper finds out that most types of indexes and abstracts are available and mostly used by Academic staffs and Students. It concludes that subject and citation indexes, as well as subject abstract were the most highly used by the respondents in the library; this could be due to lack of awareness about the other existing types of indexes and abstracts. However, some recommendations were made which includes; public awareness to the staffs and Students about the other existing types of indexes and abstracts and also more experts should be employed because as at present only one person is in charge of Indexing and Abstracting services.

Keywords: Library services, indexing, abstracting, information retrieval tools, Nuhu Bamalli Polytechnic.

Introduction

For centuries abstracting and indexing services (A&I) have served scholars and researchers around the globe through the provision of tools for information discovery and the management of information overload. They have played a major role in ensuring the flow of scholarly communication, evolving in parallel as the means for such communication changed. Indeed, many such services were pioneers in the adoption of computer technologies and were delivering digital content to customers long before desktop PC's were commonplace (Hub Cira Centre, 2013). Indexes and abstract play a central role in information retrieval process in academic settings. They facilitate rapid and easy access to information resources which to a large extent saves the time of the library user and lead them to pertinent and relevant sources of information.

According to the British indexing standard (BS3700:1988), an **index** is a systematic arrangement of entries designed to enable users to locate information in a document. The process of creating an index is called **indexing**, and a person who does it is called an **indexer**. There are many types of indexes, from cumulative indexes for journals to computer database indexes. The process of indexing begins with analysis of the subject of the document. The indexer must then identify terms which appropriately identify the subject either by extracting words directly from the document or assigning words from a controlled vocabulary, the terms in the index are then presented in a systematic order. Indexers must decide how many terms to include and how specific the terms should be. Together this gives a depth of indexing.

While abstract at the other hand is a brief summary of a research article, thesis, review, conference proceeding or any in-depth analysis of a particular subject or discipline, and is often used to help the reader quickly ascertain the paper's purpose. When used, an abstract always appears at the beginning of a manuscript, acting as the point-of-entry for any given scientific paper or patent publication. Abstracting and indexing services for various academic disciplines are aimed at compiling a body of literature for that particular subject.

Abstract could also be seen as an intellectual summary of an information package. Abstracts, like all summaries, cover the main points of a piece of writing. Unlike executive summaries written for non-specialist audiences, abstracts use the same level of technical language and expertise found in the article itself. And unlike general summaries which can be adapted in many ways to meet various readers' and writers' needs, abstracts are typically 150 to 250 words and follow set (Boga, n.d.).

Emorah (1984) emphasized while writing on the relevance of indexes for Nigerian development, that without indexes and abstract to journals and other publication undoubtedly, other academic pursuits will be impossible because tracing a piece of information will be very difficult. Therefore adequate concentration should be given to indexing and abstracting so as to enable the libraries and information centers to discharge their assign responsibilities efficiently.

Nuhu Bamalli Polytechnic came into being on the 2nd of February, 1989. While Kaduna State Edict No. 3 (subsequently amended in 2004). The Edict charged the Polytechnic to among other things provide for training and development of techniques in Applied Science, Engineering and Commerce as well as in other spheres of learning. The Polytechnic courses of instruction (in full-time and Part-time) leading to the award of Diplomas,

Certificates and other distinctions of Scientific, Technological and other subjects are available at all times in order to meet the requirements of State and the manpower needs of the Country. The Polytechnic has about five campuses which includes; Main Campus: Former UPE Zaria along Zaria-Kaduna Road,School of Applied Science: Former CAS, Gaskiya, Zaria (Annex), School of Management Studies: Former ERC, Gaskiya, Zaria and School of Agric Technology: Samaru Kataf. Therefore, the study was conducted at Former CAS, Gaskiya, Zaria (Annex) Campus. (http://www.nubapoly.edu.ng/ 2013)

Indexing and Abstracting: An Overview

The importance of indexes and abstracts to information retrieval cannot be over emphasized. These tools help users to retrieve information needed with or without little difficulty and more importantly lead users to pertinent and relevant information within shortest time possible. An index is a system used to make finding information easier. Indexing connotes the process of creating an index. It is derived from Latin root " indicare" to point or indicate its current meaning has hardly change from initial meaning embedded in the root. An index is a means to an end not the end itself (Obaseki, 2010). Mason (2006) stated that indexes are mind roadmaps to both known and unknown information sometime we know that certain information exit out 'there' and all we have to do is to find out 'where'. Often we don't know if there is information or not but we hope and search, looking for things "we don't know we don't know.

Index usually employs some types of semantic structure to distinguish among homographs and to link terms that are related in meaning (Salaba, 2009). Classification and indexing are related but are not the same, classification is the act of organizing the details of a body of information according to some scheme where index is a device that connect symbols for topic (Usually in the form of an image or a word) with whatever materials is pertinent to that topic in a body of information store in human memory, in print or electronically (Hanson, 2004)

The basic purpose of an index or an abstract is effective and efficient access to information either through structured record, such as books and databases or random stores of information, such as information found with internet search engines. For whatever purpose, what forms a good index or abstract both are tools that lead a user to extract information that is needed with no hurdles, no false paths and no irrelevant materials. The perfect index or abstract lead a user to totally pertinent information, seldom leads to trivial information and never, ever, lead to non-pertinent information (Cleveland & Cleveland, 2013).

Indexing Theory

Hjørland (2011) found that theories of indexing are at the deepest level connected to different theories of knowledge: **Rationalist theories of indexing** (such as Ranganathan's theory) suggest that subjects are constructed logically from a fundamental set of categories. The basic method of subject analysis is then "analytic-synthetic", to isolate a set of basic categories (=analysis) and then to construct the subject of any given document by combining those categories according to some rules (=synthesis). **Empiricist theories of indexing** are based on selecting similar documents based on their properties, in particular by applying numerical statistical techniques. **Historicist and hermeneutical theories of indexing** suggest that the subject of a given document is relative to a given discourse or domain, why the indexing should reflect the need of a particular discourse or domain. According to hermeneutics is a document always written and interpreted from particular horizon. The same is the case with systems of knowledge organization and with all users searching such systems. Any question put to such a system is put from a particular horizon. All those horizons may be more or less in consensus or in conflict. To index a document is to try to contribute to the retrieval of "relevant" documents by knowing about those different horizons. **Pragmatic and critical theories of indexing** (such as Hjørland, 1997) is in agreement with the historicist point of view that subjects are relative to specific discourses but emphasizes that subject analysis should support given goals and values and should consider the consequences of indexing one way or another. These theories believe that indexing cannot be neutral and that it is a wrong goal to try to index in a neutral way. Indexing is an act (and computer based indexing is acting according to the programmers intentions). Acts serve human goals. Libraries and information services also serve human goals, why their indexing should be done in a way that supports these goals as much as possible. At a first glance this looks strange because the goals of libraries and information services are to identify any document or piece of information. Nonetheless is any specific way of indexing always supporting some kind of uses at the expense of other. The documents to be indexed intend to serve some specific purposes in a community. Basically the indexing should intend serving the same purposes. Primary and secondary documents and information services are parts of the same overall social system. In such a system different theories, epistemologies, worldviews etc. may be at play and users need to be able to orient themselves and to navigate among those different views. This calls for a mapping of the different epistemologies in the field and classification of the single document into such

a map. Excellent examples of such different paradigms and their consequences for indexing and classification systems are provided in the domain of art by Ørom (2003) and in music by Abrahamsen (2003).

The core of indexing is, as stated by Rowley & Farrow to evaluate a papers contribution to knowledge and index it accordingly. Or, with the words of Hjørland (1992, 1997) to index its informative potentials.

The Indexing Processes
There are a lot of processes involved in indexing information packages. However Hjørland (1992, 1997, 2007), reported some processes at involved in indexing processes.
- Subject Analysis

The first step in indexing is to decide on the subject matter of the document. In manual indexing, the indexer would consider the subject matter in terms of answer to a set of questions such as "Does the document deal with a specific product, condition or phenomenon? As the analysis is influenced by the knowledge and experience of the indexer, it follows that two indexers may analyze the content differently and so come up with different index terms. This will impact on the success of retrieval.

- Term selection

The second stage of indexing involves the translation of the subject analysis into a set of index terms. This can involve extracting from the document or assigning from a controlled vocabulary. With the ability to conduct a full text search widely available, many people have come to rely on their own expertise in conducting information searches and full text search has become very popular. Subject indexing and its experts, professional indexers, catalogers, and librarians, remains crucial to information organization and retrieval. These experts understand controlled vocabularies and are able to find information that cannot be located by full text search. The cost of expert analysis to create subject indexing is not easily compared to the cost of hardware, software and labor to manufacture a comparable set of full-text, fully searchable materials. With new web applications that allow every user to annotate documents, social tagging has gained popularity especially in the Web. One application of indexing, the book index, remains relatively unchanged despite the information revolution.

- Convert the Key Terms into Thesaurus

Chen (2003) while reporting the indexing and abstracting processes at the National Taiwan University he identify the following processes.

Term Relationships
- Equivalence
- Hierarchical
  - Broader term (BT)
  - Narrower terms (NT)
- Associative
  - Related term (RT)

USE and Use For
- Use (USE)
  - Refer to a preferred descriptor from an on usable term
  - Is a reciprocal of a USE FOR (UF)
- Use for (UF)
  - Deal primarily with synonyms or variant forms of the preferred descriptor
  - Also be used to lead the indexer to more general term

Examples of USE and UF
- Pecan trees
  - USE TREES
- Oak trees
  - USE TREES
- TREES
  - UF Pecan trees
- PROMOTION POLICIES
  - UF Automatic promotion
- Automatic promotion
  - USE PROMOTION POLILCIES

Scope Note (SN)
- Brief description of the sense or framework in which the terms should be used
- Restrict the usage of a description or
- Clarify the ambiguity
- Example
  - CULTURAL BACKGROUND
    - SN The total social heritage and experience of an individual or group including institutions, folkways, literature, mores, and communal experience

Source: Language & Information Processing System (LIS) National Taiwan University (NUT) Indexing and Abstracting Lecture 02

- Extraction indexing (In case of Automated Abstract)

Paolillo (2010) observe that the field of linguistics cover the study of the meaning embedded in natural language expression including the idea that common expression we use are often not reflected in their literal meaning. Extraction indexing involves taking words directly from the document. It uses natural language and lends itself well to automated techniques where word frequencies are calculated and those with a frequency over a pre-determined threshold are used as index terms. A stop-list containing common words such as the, and would be referred to and such stop words would be excluded as index terms. Automated extraction indexing may lead to loss of meaning of terms by indexing single words as opposed to phrases. Although it is possible to extract commonly occurring phrases, it becomes more difficult if key concepts are inconsistently worded in phrases. Automated extraction indexing also has the problem that even with use of a stop-list to remove common words such as "the," some frequent words may not be useful for allowing discrimination between documents. For example, the term glucose is likely to occur frequently in any document related to diabetes. Therefore use of this term would likely return most or all the documents in the database. Post-co-ordinate indexing where terms are combined at the time of searching would reduce this effect but the onus would be on the searcher to link appropriate terms as opposed to the information professional. In addition terms that occur infrequently may be highly significant for example a new drug may be mentioned infrequently but the novelty of the subject makes any reference significant. One method for allowing rarer terms to be included and common words to be excluded by automated techniques would be a relative frequency approach where frequency of a word in a document is compared to frequency in the database as a whole. Therefore a term that occurs more often in a document than might be expected based on the rest of the database could then be used as an index term, and terms that occur equally frequently throughout will be excluded. Another problem with automated extraction is that it does not recognize when a concept is discussed but is not identified in the text by an index able keyword.

- Index Presentation

The final phase of indexing is to present the entries in a systematic order. This may involve linking entries. In a pre-coordinated index the indexer determines the order in which terms are linked in an entry by considering how a user may formulate their search. In a post-coordinated index, the entries are presented singly and the user can link the entries through searches, most commonly carried out by computer software. Post-coordination results in a loss of precision in comparison to pre-coordination

"In order to achieve good consistent indexing, the indexer must have a thorough appreciation of the structure of the subject and the nature of the contribution that the document is making to the advancement of knowledge." (Rowley & Farrow, 2000, p. 99).

Abstracting

The word abstract comes from the Latin abstractum, which means a condensed form of a longer piece of writing. There are two main types of abstract: the (1) Descriptive and the (2) Informative abstract. The type of abstract you write depends on your discipline area (University of Aladaide, 2009). Encyclopedia Britannica (1964) defines an abstract as a complete citation, condensation and summary of essential facts of theories and opinions presented in an article or book. An abstract is, therefore, a brief summary, generally from 100 to 200 words, of the contents of a document such as a research paper, journal, article, thesis, review, conference proceeding, and other academic or legal document. A reader can decide what to read and what not to read. An abstract, together with an index can then be described as a key finding aid of information in today's overabundance of information (Olayinka, 2013).

Wikipedia define abstract as brief summary of a research article, thesis, review, conference proceeding or any in-depth analysis of a particular subject or discipline, and is often used to help the reader quickly ascertain the paper's purpose. When used, an abstract always appears at the beginning of a manuscript or typescript, acting as the point-of-entry for any given academic paper or patent application. Abstracting and indexing services for various academic disciplines are aimed at compiling a body of literature for that particular subject. The terms

précis or synopsis are used in some publications to refer to the same thing that other publications might call an "abstract". In management reports, an executive summary usually contains more information (and often more sensitive information) than the abstract does. Academic literature uses the abstract to succinctly communicate complex research. An abstract may act as a stand-alone entity instead of a full paper. As such, an abstract is used by many organizations as the basis for selecting research that is proposed for presentation in the form of a poster, platform/oral presentation or workshop presentation at an academic conference. Most literatures, databases, search engines, index only abstracts rather than providing the entire full-text of the paper. Full texts of scientific papers must often be purchased because of copyright and/or publisher fees and therefore the abstract is a significant selling point for the reprint or electronic form of the full text.

An abstract aims at giving the reader an exact and concise knowledge of the parent document. Abstracts of research articles are produced by their author or by professional abstractors working for abstracting services. In documentary abstracting, two main types of abstracts are identified: **indicative** abstracts which point to information and **informative** abstracts which give detailed information about the findings of the work (Bernier, 1985). Most studies agree on a two stage logical account for describing the human production of abstracts: the analytical stage in which the salient facts of the text are obtained and condensed and the synthetic stage in which the text of the abstract is produced (Pinto Molina, 1995). Abstracting manuals (Cremmins, 1982, Borko and Bernier, 1975) give indications about grasping the "essential" content of a document and writing the abstract such as "scan the document to get some idea of the subject matter", "mark the material containing information on purpose, method, findings, conclusion and recommendation", "write a concise unified abstract". These instructions are very conceptual and require good abstracting skills in order to be operational-ized and thus are very difficult to implement in an automatic procedure.

Ten Steps to Writing an Effective Abstract

Writing an abstract involves summarizing a whole manuscript and providing as much new information as possible. According to San Francisco Edit (2010) stated that the best way to write an effective abstract is to start with a draft of the complete manuscript and follow these 10 steps:
1. Identify the major objectives and conclusions.
2. Identify phrases with keywords in the methods section.
3. Identify the major results from the discussion or results section.
4. Assemble the above information into a single paragraph.
5. State your hypothesis or method used in the first sentence.
6. Omit background information, literature review, and detailed description of methods.
7. Remove extra words and phrases.
8. Revise the paragraph so that the abstract conveys only the essential information.
9. Check to see if it meets the guidelines of the targeted journal.
10. Give the abstract to a colleague (preferably one who is not familiar with your work) and ask him/her whether it makes sense.

Key Issues in Preparing Abstracts
These are some of the key issues in writing an abstract:
• Concise, Accurate Statement of the Main Idea
• Organization of Sub points
• Use of Details
• Revising and Editing

Purposes for Abstracts
Abstract are meant to serve various purposes. According to University of the Philippines Mindanao (library.upmin.edu.ph/librariansresources/indexabs.pdf) Abstracts typically serve five main goals:

• Help readers decide if they should read an entire article

Readers use abstracts to see if a piece of writing interests them or relates to a topic they're working on. Rather than tracking down hundreds of articles, readers rely on abstracts to decide quickly if an article is pertinent. Equally important, readers use abstracts to help them gauge the sophistication or complexity of a piece of writing. If the abstract is too technical or too simplistic, readers know that the article will also be too technical or too simplistic.

• Help readers and researchers remember key findings on a topic

Even after reading an article, readers often keep abstracts to remind them of which sources support conclusions. Because abstracts include complete bibliographic citations, they are helpful when readers begin writing up their research and citing sources.

- Help readers understand a text by acting as a pre-reading outline of key points

Like other pre-reading strategies, reading an abstract before reading an article helps readers anticipate what's coming in the text itself. Using an abstract to get an overview of the text makes reading the text easier and more efficient.

- Index articles for quick recovery and cross-referencing

Even before computers made indexing easier, abstracts helped librarians and researchers find information more easily. With so many indexes now available electronically, abstracts with their keywords are even more important because readers can review hundreds of abstracts quickly to find the ones most useful for their research. Moreover, cross-referencing through abstracts opens up new areas of research that readers might not have known about when they started researching a topic.

- Allow supervisors to review technical work without becoming bogged down in details

Although many managers and supervisors will prefer the less technical executive summary, some managers need to keep abreast of technical work. Research shows that only 15% of managers read the complete text of reports or articles. Most managers, then, rely on the executive summary or abstract as the clearest overview of employees' work.

Statement of the Problem

Indexes and abstracts play significant role in information retrieval in academic libraries. They facilitate easy access to information resources and services which to a great extent saves time of the library users. However, despite the significant role play by these retrieval tools the researcher observed that indexes and abstracts do not receive much attention by library users. In other words, they are not frequently consulted by the user when searching for information resources and services. Lack of consulting these vital tool cause problems of non usage of information resource available in Nuhu Bamalli Polytechnic Library Zaria. Thus; the researchers find it critical to conduct the study in order to assess the availability and analyze the level of usage of this vital retrieval tools in Nuhu Bamlli Polytchic libraray, Zaria.

Research Questions

1. What type of indexes and abstracts are available in Nuhu Bamalli Polytechnic library Zaria
2. What type of indexes and abstracts are used by users in Nuhu Bamalli Polytechnic library Zaria
3. To what extent are the indexes and abstracts used by users in Nuhu Bamalli Polytechnic library Zaria
4. Who are the user of indexes and abstracts in Nuhu Bamalli Polytechnic Library Zaria?

Objectives of the Study

1. To find out the available indexes and abstracts in Nuhu Bamalli Polytechnic Library Zaria
2. To examine the type of indexes and abstracts used by users in Nuhu Bamalli Polytechnic Library Zaria
3. To determine the Extent of usage of indexes and abstracts in Nuhu Bamalli Polytechnic Library Zaria
4. To identify the users of indexes and abstracts in Nuhu Bamalli Polytechnic Library Zaria.

Methodology

A survey method was adopted for the study using questionnaire, interview and observation as an instrument for data collection. (Angus and Katona, 1953, p. 15) stated that Surveys represent one of the most common types of quantitative, social science research. In survey research, the researcher selects a sample of respondents from a population and administers a standardized questionnaire to them. The questionnaire, or survey, can be a written document that is completed by the person being surveyed, an online questionnaire, a face-to-face interview, or a telephone interview. Using surveys, it is possible to collect data from large or small populations (sometimes referred to as the universe of a study). In view of the above the researcher distributed type written open ended questionnaire to the targeted population which is the entire eight (8) library staffs of Nuhu Bamalli Polytechnic Library Zaria. All the eight (8) questionnaires were filled and returned, the findings of the research were analyzed using frequency table and percentages. Likewise finding from interview and observation were also reported in the summary of the finding.

Analysis of Findings and Interpretation

In this section the questionnaire responses are analyze and interpreted in the content of the study. In this section (6) tables have been constructed to show the responses given to each by the respondent followed by interpretation of the finding contained in the table.

Table 1a: Type of indexes and abstract available in Nuhu Bamalli Polytechnic Library, Zaria

S/N	Types of Abstract	Frequency	percentages
1	Citation index	1	12.5
2	Subject index	2	25
3	Author index	1	12.5
4	Relative index	1	12.5
4	Back of the book index	1	12.5
6	Specific index	1	12.5
7	Chain index	1	12.5
		Total = 8	100

Table 1b: Type of Abstracts available in Nuhu Bamalli Polytechnic Library, Zaria

S/N	Types of Abstract	Frequency	percentages
1	Descriptive abstract	1	12.5
2	Author abstract	1	12.5
3	Subject abstract	2	25
4	Critical abstract	1	12.5
5	Informative abstract	1	12.5
6	Reviews	1	12.5
7	Indicative abstract	1	12.5
		Total = 8	100

From the table 1a and 1b shows the response rate of the availability of indexes and abstracts in Nuhu Bamalli Polytechnic library Zaria, The research finding reveals that all types of indexes and abstract are available.

Table 2: Type of Indexes used in Nuhu Bamalli Polytechnic Zaria

S/N	Types of Abstract	Frequency	percentages
1	Author index	1	12.5
2	Citation index	2	25
3	Subject index	1	62.5
4	Chain index	1	-
5	Relative index	1	-
6	Back of the book index	1	-
7		1	-
		Total = 8	100

The table 2 above shows that subject index is the most highly used with 62.5%, followed by citation index with 25% response while Author index is the least used with 12.5% response rate the other types of index are not use at all.

Table 3: Type of Abstracts used in Nuhu Bamalli Polytechnic Zaria

S/N	Types of Abstract	Frequency	percentages
1	Author abstract	-	-
2	Descriptive abstract	3	37.5
3	Critical abstract	-	-
4	Subject abstract	5	62.5
5	Informative abstract	-	-
6	Indicative abstract	-	-
7	Reviews	3	37.5
		Total = 8	100

The Table 3 above show that subject Abstract is the most highly used with 62.5% response rate followed by Descriptive Abstract with 37.5%. The implication of the Finding from the table above is that other types of Abstract are hardly consulted.

Table 4: the Extent of use indexes and abstract in Nuhu Bamalli Polytechnic Zaria

S/N	Extent of Use	Frequency	Percentage
1	Highly use	5	62.5
2	Moderately used	3	37.5
3	Not use	-	-
		Total=8	100

From the Table 4 above it indicated that the index and Abstract in Nuhu Bamalli Polytechnic are highly used with 62.5% while 37.5% of the respondent indicated that the index and Abstract are moderately used.

Table 5: User Category

S/N	User category	Frequency	Percentage
1	Academic staffs	5	62.5
2	Student	3	37.5
3	Administrative staff	-	-
		Total =8	100

The table 5: above indicated that academic staffs are the majority of the user of Index and Abstract with 62.5% followed by the student with 37.5%. The implication of the finding is that Administrative staff hardly consults index and Abstract.

Summary of the Findings
The research finding reveals that all types of index and Abstract are available in Nuhu Bamalli Polytechnic. Subject index is the most highly used with 62.5%, followed by citation index with 25% response. While at the other hand the finding of the research shows that subject Abstract is the most highly used with 62.5% response rate followed by Descriptive Abstract with 37.5%. The research also indicated that Academic Staffs are the majority of the user of Index and Abstract with 62.5% followed by the student with 37.5%. The implication of the finding is that Administrative staff hardly consults index and Abstract. Finding from the interview conducted reveals that the reasons for the non-usage of indexes and abstract was low level of awareness about the existence of some types of indexes and abstract. The researchers also observed lack of skills on the importance of indexes and abstracts in information retrieval process as the major impediment for their non-usage.

Conclusion
The role of indexes and abstracts in information retrieval cannot be over-emphasized. Without doubt they help in the timely retrieval and dissemination of information particularly in developing countries like Nigeria. Based on the foregoing analysis of the study, the research concluded that most of the important types of indexes and abstracts are available in Nuhu Bamalli Polytechnic Zaria and mostly used by Academic staffs and student. It could also be concluded that descriptive and subject abstract were the most highly used by the respondents in the library; it could be due to lack of awareness about the other existing types of indexes and abstracts. Therefore, the indexers and abstractors in Nigerian Polytechnic libraries should always employ a viable means of enlightment to their user about various form of indexes and abstracts available, and ensure that for every document classified and catalogued (whether electronically or manually) there is need for indexing and abstracting of such documents, this is only one way in improving effective and efficient mean of retrieving information resources without hurdles.

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