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Utilization of Information Sources in Thesis Writing: A Citation Analysis

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Abstract—**This study aims to determine how the utilization of printed and electronic information sources in the preparation of student's thesis in Library and Information Science Department (LISD) of Syarif Hidayatullah State Islamic University of Jakarta. This descriptive research used a citation analysis method applied in the student theses of LISD in 2014-2016. The result showed that on average each thesis utilized 32 sources of information which were mostly printed. Nearly half of them were books in the 2006-2011 edition with a life span of 9-11 years. While the most frequently used serial source of information was the issue of 2012--2016 with a life span of 7.18 years. In a printed format, Sulistyo Basuki was the author whose work was dominantly used. The utilization of electronic information sources only occupied a small portion of the total information resources used. However, only a small part of them utilized e-books or e-journals. The author suggested that the LISD Syarif Hidayatullah State Islamic University of Jakarta can provide additional stimulus, either through the courses of Information literacy that has been running, as well as general lectures. Besides, the university should issue other policies that encourage the students to improve the utilization of information sources in the form of journals.**

Keywords—Portal of Indonesia One Search, Retrieving, Information Resources, Library, Journal, Repository

I. INTRODUCTION

The role and function of universities is carried out through their three missions, namely education and teaching; research and publucation; and community service. Thesis writing which is one form of research report is one manifestation of these three aspects, namely research. Thesis is a scientific work of individual student research results at the undergraduate level (S1) as a prerequisite for obtaining a bachelor degree. Thesis writing aims to train students in formulating the results of the study systematically and logically as well as introducing real research methodologies. The main thing that is emphasized in writing a thesis is a comprehensive discussion of the topics. A thesis is expected to be proof that students are able to master the scientific basics and skills in a particular area of expertise [1].

Writing scientific papers need the information sources that include scientific information including: journals, research reports, theses, dissertations and books [2]. Based on its storage media, information sources can be divided into three categories, namely printed information sources, electronic information sources and micro information sources. Printed information

includes sources, such as books, journals, newspapers and others. Sources of electronic information include e-books, e-journals, and so on, while micro information sources cover, such as microfilm, microfiche and micro-opaque [3]. However, the access to micro information sources is more limited compared to other sources of information. This is because to access micro information sources certain reading tools are needed. [4]

II. INFORMATION SOURCES AND CITATION

The printed information source is an information source that has a real physical format for recording information and no electronic device is needed to access. In an information literacy, the printed information source is defined as a collection of information material printed on paper. This aims to motivate a person's attention to search information [5]. Information was present in print format since humans learn how to draw on cave walls [6]. In the midst of developing electronic media, printed information sources are still the choice as the most needed media. This is because the print media provides permanent and unchanging information, such as literary works and permanent records from research reports. In addition, they are easy to carry anywhere and at any time without requiring certain equipment to access. [7] Based on previous explanations, the printed information source is a source of information that has a real physical form which do not require certain electronic devices to access. This type of information source is still the most needed sources up to now.

Electronic sources are generally defined as data, programs or a combination of them stored in physical storage media that can be accessed directly via a CD-ROM (Compact Disk-Read Only Memory) drive or by remote access, such as LAN (Local Area Network) via the internet. The program itself is one electronic file containing a set of instructions that instructs a computer to perform certain tasks. While data, namely electronic information, such as a set of numbers, alphabetical text or images manipulated by a program. In other words, programs can stand alone, while data requires a program to be accessed [8].

Electronic information sources or known as e-resources are sources of information that are packaged or stored in electronic or digital forms. This source of information is the result of the transfer from another format known as reproduction

(digitization) or is a publication that from the beginning was deliberately packaged in electronic/digital format (digital born) as a form of publishing or e-publishing. Sources of information include online databases, e-journals, e-books and others related to e-resource management system technology [9]. They can be used as quotations [10]. They are references of a particular part or part of a work by a particular writer or editor that clearly identifies, so that documents or parts of the document can be found [11].

III. METHOD

This research is a descriptive research with a quantitative approach. This research method was chosen to describe how to use information sources in the preparation of theses by students of LISD. The population in this study was the theses of the students of LISD graduated in 2014-2016. To avoid confusion, it is determined that the graduates in this study are defined as students who carry out thesis sessions in the 2014-2016 period and are registered as graduates int the 92nd - 102nd graduation. The main data were obtained from the Library of the Faculty of Adab and Humanities and the Institutional Repository of Syarif Hidayatullah State Islamic University of Jakarta which was accessed through http://repository.uinjkt.ac.id. At the time of data collection, the researcher only found 160 of 194 theses that became population in this study.

IV. FINDINGS AND DISCUSSION

Based on the results of research from 160 thesis students of LISD of Syarif Hidayatullah State Islamic University of Jakarta, there were 5,057 cumulative sources of information used. On average, each thesis uses 32 different sources of information, either in the form of printed or electronic information sources. The composition of the types of information sources used are as follows.

TABLE 1. DEVELOPMENT MAP OF INDONESIA ONE SEARCH

No	Type of Information Sources	Frequency	Percentage
1	Printed information sources	4213	83,31%
2	Electronic Information Sources	788	15,58%
3	Other Information Sources	56	1,11%
	Total	5057	100%

Almost all sources of information used are printed with a usage frequency of 4,213 or 83.13% of all information used. Likewise, based on the distribution of its usage per year, the percentage of utilization of printed information sources is always more than 80%. The results of this study are in line with the statement that the source of information in print media is the most needed media choice [7]. This is motivated by two main factors, namely the availability and ease of use, both for making notes, marking important things and finding specific parts [12].

The use of printed information sources in the form of books as much as 78.45% of the entire source of information printed in the thesis of LISD students. In the study of citation analysis of theses conducted by Zulmaisar St and Rahmah [13] and Mariati [14], it was found that books became the most widely used source of information compared to other sources of information. Likewise, findings from the results of this study

indicate that books as the most widely used printed information source.

B. Utilization of Electronic Information Sources

Based on the results of the study, the use of printed information sources is more dominant than the use of electronic information sources. However, from the aspect of frequency distribution it was found that almost all of the thesis of LISD students in 2014-2016 had used electronic information sources, only 13% of them did not use electronic information sources at all. A variety of printed information sources exist, now can also be found in the digital version (electronic) because basically almost all printed information sources can be made digital versions [15]. Meanwhile, there are also electronic information sources in the form of e-books, e-journals and other forms that have no equivalent in printed form or are only available in electronic form [3].

The spread of electronic information sources is increasingly widespread along with the easier access to the internet. By accessing the internet, anyone can download and upload information on the network [7]. Thus the transmission of electronic information sources becomes easier and faster. This is what encourages the use of electronic resources to develop in various circles, even in academic circles. So that the use of electronic information sources by academic circles is a common thing. This phenomenon is also illustrated in the results of this study which revealed that more than 80% of LISD students in 2014-2016 used electronic information sources in their thesis.

The use of electronic information sources is reviewed based on the type and the results state that a small portion of the electronic information sources used are in the form of e-books and e-journals. Most of them are not included in the category of e-books or e-journals. The use of e-books that only occupy a small portion is one of the statements that states that e-book library users' enthusiasm has not been followed by the use of e-book facilities and services provided [16]. While the findings of this study reveal that the use of e-journal occupies a proportion of a small portion, in line with the results of research on the study of the use of electronic journals in primary publications stating that researchers have not utilized electronic journals.[17] Constraints that laid behind the limited use of electronic journals in thesis writing among students were that most journal articles were in foreign languages and the unavailability of journals needed [18].

The use of electronic language resources in Indonesian in the students' theses at LISD is more dominant than the electronic information sources in English. This also occured in the use of printed information sources. Thus, both in the use of printed and electronic information sources, Indonesian language information sources are more attractive than English-language information sources.

In utilizing electronic information sources, the author whose work is the most often used is Arif Surachman. The head of the Database and Network Division at the Gadjah Mada University library has often filled out various seminars and trainings on digital libraries, library management, library information technology and information literacy [19]. In addition to

Surachman, other authors were also identified, such as Jonner Hasugian, Joan M. Reitz, Sulistyo-Basuki, Yuniwati Yuventia, Teguh Yudi Cahyono, Collen Cook and Daryono. They are academics and practitioners in the field of library and information science. While Nurhaidi Magetsari is one of the Archeology Professors at the University of Indonesia who is the author of the Dictionary of the Terms of Library and Documentation [20].

Thus, in the utilization of electronic information sources based on the author, 9 out of 10 names whose work is the most widely used are figures who are involved in library and information sciences or whose work is widely known in the field.

The titles of books that were the most widely used in the LISD theses can be grouped based on the subject of the discussion, namely books discussing about library science and information and books discussing other subjects. Books with subjects about library science and information included *Pengantar Ilmu Perpustakaan* by Sulistyo Basuki, *Perpustakaan dan Masyarakat* by Sutarno NS, *Manajemen Perpustakaan* by Sutarno NS, *Perpustakaan Sekolah,* by Darmono, *Pengantar Manajemen Perpustakaan Madrasah,* by Rizal Saiful Haq, etc. The other books were about research methods, namely: *Logika dan Prosedur Penelitian* by Prasetya Irawan, *Prosedur Penelitian* by Suharsimi Arikunto, *Pengantar Statistik Pendidikan* by Anas Sudijono, *Metodologi Penelitian Kualitatif,* by Lexy J. Moleong, *Pengantar Metodologi Penelitian,* by Hermawan Warsito. While, the rest is a journal published by the ministry, namely the Journal of the Agricultural Library published by the Center for Agricultural Library and Technology Dissemination, Ministry of Republic of Indonesia.

In this study it was found that dictionaries with the highest utilization frequency were general language dictionaries that included the meanings or definitions of the most commonly used words [21]. The use of this type of dictionary in thesis writing, aimed to get information about the definition of words from general terms in Indonesian. In addition to Kamus Besar Bahasa Indonesia, there are four other dictionaries which are also the most common language dictionaries used in the theses of students of LISD, namely: Indonesian General Dictionary, Contemporary Indonesian Dictionary, Indonesian and Random Dictionary House Webster's College Dictionary which is a general English-language dictionary. While other dictionaries were specialized dictionaries in the field of library science and information, namely *Kamus Kepustakawanan Indonesia,* by Lasa Hs, *Dictionary for Library and Information Science* by Joan M. Reitz', *Kamus Istilah Perpustakaan* by Lasa Hs, *Kamus Perpustakaan dan Informasi* by Sutarno NS, *Harrod's Librarians Glossary* by Ray Prythearch.

Based on the research, the longest source of information used was the 1940 issue and the most recent issue in 2015. While the most widely used source of information is the published work of 2006-2011 or generally it can be said that almost half (38.15%) of source of information used is 5-10 years old. More precisely, 50% or part of the life of the information source used in the LISD theses was 10.34 years.

This figure shows that the dominance of the use of information sources in LISD theses is not very significant, with a statement that reveals the importance of using reference sources of information with an age of not more than 10 years. The more up-to-date information sources used, the higher the suitability of the study with the conditions at the time the research was [22].

The utilization of printed information sources in the form of serials, especially journals that are used as referrals should ideally be less than 5 years of age to be categorized as new sources of information [23]. One of the journal's specialties is the completeness of the information it contains. This study shows a number of 7.18 years which means that more than some of the serial used exceeds the information limit to be categorized as new. In more detail, the series that can be called new in this study is the 2012 issue or thereafter and the frequency is 91 (29%), so the 71% serial used does not contain new information.

The language of instruction in the source of the information printed in the thesis of the students of LISD is almost entirely in Indonesian and a small part is in English. Language is a sound symbol system that is used to interact [24]. The use of language influences the information discovery process. Information sources that use the same language of instruction as the main language used by students is more desirable than other language of information sources [25]. Parallelly, the printed information sources in Indonesian are the most widely used sources of information as reference material.

One of the criteria for evaluating an information source is to be used as reference material, namely the author's aspect. A source of information written by a figure in a field, will be perceived higher than the figure who does not become a figure. This affects the opportunity for an information source to be used. In the aspect of authorship, Sulistyo-Basuki is the name of the author whose works are most widely used in the theses of LISD students in 2014-2016 and he is one of the figures in library and information fields in Indonesia. As the first doctor and professor in the field of library science and information his name is familiar to academics in the same field. One of the libraries and information science experts is a lecturer in the Library and Information Science Postgraduate Program at the University of Indonesia, Bogor Agricultural Institute, UIN Sunan Kalijaga and Gadjah Mada University. He also taught at Padjajaran University and Yogyakarta State University [26]. Besides, Sutarno NS, Darmono, Pawit M. Yusup, Abdul Rahman Saleh and Karmidi Martoatmodjo are authors whose works have been widely used as references in the library and information fields. While the rest covered Prasetya Irawan, Suharsimi Arikunto, Sugiyono and Lexy J. Moleong whose works focus more on research methodology.

VI. CONCLUSION

Almost all sources of information with a frequency of 4,213 (83.13%) used were printed information sources, most of which were 3,305 (78.45%) printed information sources used in the form of books. Sulistyo Basuki is the author whose work is most widely used in printed formats. The utilization of electronic information sources only occupied a small portion with a

frequency of 788 (15.58%), but from the aspect of frequency distribution, almost 140 of 160 theses (87%) used electronic information sources of 644 (81, 73%). The electronic information source used is not in the form of e-books or e-journals. The author whose work is most widely used in electronic format is Arif Surachman. Based on the findings of the study, LISD of Syarif Hidayatullah State Islamic University of Jakarta should be able to provide additional stimuli, both through the ongoing Information Literacy courses and lectures in general, as well as other policies so that students increase the use of information sources in the form of journals; source of information in English, the latest published source of information; as well as sources of information in electronic format.

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