Media and Information Literacy: Quantitative Exploration of the Burden of Information Needs in Librarian Users

Irmawan Rahyadi
*BINUS Graduate Program – Master Of Strategic Marketing Communication,
Bina Nusantara University*Jakarta, Indonesia
irmawan.rahyadi@binus.edu

Rara Sativa
*BINUS Graduate Program – Master Of Strategic Marketing Communication,
Bina Nusantara University*Jakarta, Indonesia
rara.sativa@binus.ac.idDwi Rhamadona
*Raden Fatah National Islamic University Palembang, Palembang, Indonesia*
dwi\_uin@radenfatah.ac.id

Matthew Austin Naibaho
*BINUS Graduate Program – Master Of Strategic Marketing Communication,
Bina Nusantara University*Jakarta, Indonesia
matthew.naibaho@binus.ac.idMasyhur Dungcik
*Raden Fatah National Islamic University Palembang, Palembang, Indonesia*
masyhur\_uin@radenfatah.ac.id

***Abstract*— The increasing awareness of the importance of information literacy as a life skill is balanced with skills in accessing information. But in reality, not everyone can accept these technological advances. This can be seen from the data which states that there are several students who are not aware of the importance of information literacy. Therefore, this study aims to explore more about information literacy skills and the factors that influence the level of information literacy skills of student based on the five standards of the Association of College and Research Libraries (ACRL) which is Know, Access, Evaluate, Use and Ethical/Legal. To achieve this goal, observation, questionnaire, and interview techniques were used as data collection techniques taken from 261 library users as respondents. By using a descriptive method and using a qualitative approach, the results of the study show that: (1) the information literacy skills library users based on the Association of College and Research Libraries standards are categorized as good. However, it still needs to be improved, especially in the access and ethical/legal sub-variables, (2) One of the factors that affect the information literacy skills of users is the age factor.**

***Keywords—Information Literacy, Students, Awareness, Questionnaire, Quantitative.***

1. INTRODUCTION

Information is a very important thing in human life as a basis for decision making with the development of information technology and telecommunications. Information can be created in just a short time and can be accessed anywhere, this situation is called information overload or information explosion. Information explosion is a situation in which there is a large amount of available information, both by source and by format. To prevent people from being trapped in this situation, everyone must have the ability to know, seek, use and evaluate information according to their needs [1], [2]. According to the American Library Association (ALA) , Information literacy is one of the important skills that everyone should have and contribute to achieving lifelong learning. Information literacy is a very important ability that a person should have, especially in the world of education, because nowadays everyone is faced with various types of information sources that are growing very rapidly [3].

As the time passes, the term literacy develops not only literacy but also information literacy [4]. Information literacy can encourage someone to always be curious about all the information that continues to grow and always look for the truth of the information because not all information is in the form of facts. Someone who has information literacy skills will have the ability to recognize information needs, have the ability to find information, the ability to evaluate and be able to process information to take various decisions that are right on target, the ability to use information and understand the use of sources and access to information [5].

The role of the library is very important to meet information needs and assist users in supporting the ability to

obtain information [6]. Because in reality not everyone can accept technological advances and this led to the inequality in access to information where when someone needs information but does not understand how to access it, and do not get what they need. Basically the library is an inseparable part of the process of providing education, both formal education and non-formal education. One type of library is a university library. College Libraries are libraries located in universities, their subordinate bodies and institutions affiliated with universities, with the main aim of helping universities achieve their goals. The university library as a subsystem in the implementation of academic and social development of higher education institution, has a very important role in providing information literacy to users. Information literacy observes the importance of a person in accessing information effectively. Information literacy skills that are applied in libraries are given to acquire the skills, knowledge, understanding and creativity of the users. The ability of a student will be able to determine the amount of information that can be absorbed, and more than that, students are increasingly able to solve problems logically, and are not easily deceived by information received without evaluation.

This study focuses on how the information literacy skills of users based on the standards of the Association of College and Research Libraries (ACRL), what factors affect the level of information literacy skills of users. With standards that have been issued by the Association of College and Research Libraries (ACRL) regarding information literacy competency standards for Higher Education, namely Know, Access, Evaluate, Use and Ethical/Legal. These standards will be used as a guideline or reference in measuring literacy skills for users. The standard was chosen because it was created for the measurement of information literacy for education. The Association of College and Research Libraries (ACRL) standards focus on the information needs of students; besides that, it also contains a framework for how to learn, and also contains specific indicators that identify students who have information literacy skills and displays a list of results to assess competency development student information literacy [7].

1. RESEARCH METHOD

The type of research used in this research is descriptive research with a quantitative approach. Primary data were obtained through The observation method was carried out by observing how the librarian users obtaining information literacy. And data obtained directly from research in the field in the form of a questionnaire containing a set of statements of information literacy variables based on the Association of College and Research Libraries (ACRL) standards which were distributed to respondents. In this study, the questionnaire used by the researcher was by using a Likert Scale, the answers were very often, often, rare, very rare and

XXX-X-XXXX-XXXX-X/XX/$XX.00 ©20XX IEEE

never. Each alternative answer is given a score of 1-5. The validity and reliability of the questionnaires were tested.

The questionnaire will then be given to respondents to answer, Respondents can provide answers by marking one of the answers provided [8]. Respondents in this study were 261 librarian who became members of the UPT PGRI Palembang library. The population in this study are librarian who are members of the library (7,050 people). The data from the questionnaire was then processed to get the percentage value. In the data analysis technique using the Mean and Grand Mean formulas. Interviews also were performed as the data collection method via questions and answers with library officials who are needed to be asked for opinions on the matter. Secondary data were obtained from various sources such as books and literatures containing related theories and supporting this research, such as books, journals, papers, OPAC and literature. After all data were collected, analysis and interpretation through descriptive and inferential statistics were conducted.



Fig. 1. Research Model.

To test the hypothesis, the researcher uses a descriptive hypothesis. Therefore, the initial hypothesis in this study was formulated as follows: H0 : Information literacy ability of library users is low. Ha: The Information Literacy Skills of Library Readers are good.

1. RESULTS AND DISSCUSION

The results obtained in this study are the answers to the formulation of the problem as contained in the research, namely, how high is the level of information literacy ability and the factors that influence the information literacy of library users based on the standards of the association of college and research libraries. The standard of information literacy of collage associations and research libraries consists of five standards and 25 indicators.

Calculation of validity is done by calculating each statement with a total score using the Product Moment correlation technique [9], and to measure the level of reliability of the questionnaire used Cronbach's alpha formula [10]. Before distributing questionnaires to 261 respondents, the validity test was conducted by distributing questionnaires to 30 respondents outside the sample. To determine the level of validity, a significance test was conducted by comparing the value of rcount with rcount. The formula for degree of

freedom (df) is used to determine rtable, namely the formula df = n-k. The explanation is, n is the number of samples and k is the number of constructs. That way df = 30-1 = 29 with an error level of 0.05. Then obtained rtable 0.355 by looking at table r (simple correlation coefficient). The rtable value for the

0.05 significance level sample is 0.355. It shows that all 25 items of statements regarding information retrieval are valid, because the value of rcount is greater than rtable. Thus, all items of the information literacy variable questionnaire statement are declared valid. The results of reliability testing on all variables with Cronbach's Alpha it show that the Alpha value > 0.60. Therefore, it can be said that all the instruments of this research are reliable.

1. *How Good is Information Literacy Skills Based on the Standards of the Association of College and Research Libraries*

To find out how well the information literacy skills of librarian at the library are, it will be described based on five ACRL standard sub-variables, namely, know, access, evaluate, use, ethical/legal. It can be seen the results of the data processing The information literacy ability of users is as follows:

TABLE I. RESULT OF DESCRIPTIVE ANALYSIS OF INFORMATION LITERACY ABILIY SUB VARIABLE KNOW BASED ON THE STANDARDS OF ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES

|  |  |  |  |
| --- | --- | --- | --- |
| **Sub Variab le** | **No. Item** | ***Indicator*** | **Descriptive Analysis** |
| ***Mean*** | ***Grand Mean*** |
|  | P1 | Defining information needs | 3,92 |  |
|  | P2 | Identify various types and |  |  |
|  |  | formats of information | 4,26 |  |
|  |  | sources |  |  |
| *Know* | P3 | Considering the costs and benefits of finding the | 3,81 | 3,85 |
|  |  | required information |  |  |
|  | P4 | Re-evaluate the nature and |  |  |
|  |  | scope of the required | 3,40 |  |
|  |  | information |  |  |

TABLE II. RESULT OF DESCRIPTIVE ANALYSIS OF INFORMATION LITERACY ABILIY SUB VARIABLE ACCESS BASED ON THE STANDARDS OF ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES

|  |  |  |  |
| --- | --- | --- | --- |
| **Sub Variab le** | **No. Item** | ***Indicator*** | **Descriptive Analysis** |
| ***Mean*** | ***Grand Mean*** |
|  | P5 | Selecting a search method or |  |  |
|  |  | information retrieval system to find the required | 4,05 |  |
|  |  | information |  |  |
|  | P6 | Build and implement | an | 2,58 |  |
|  |  | effective search strategy |  |  |
| *Access* | P7 | Retrieve information online or offline using a variety of | 3,42 | 3,30 |
|  |  | methods |  |  |
|  | P8 | Change search strategy | 3,90 |  |
|  | P9 | Quoting, recording, and |  |  |
|  |  | processing information and | 2,56 |  |
|  |  | its sources |  |  |

TABLE III. RESULT OF DESCRIPTIVE ANALYSIS OF INFORMATION LITERACY ABILIY SUB VARIABLE EVALUATE BASED ON THE STANDARDS OF ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES

|  |  |  |  |
| --- | --- | --- | --- |
| **Sub Variab le** | **No. Item** | ***Indicator*** | **Descriptive Analysis** |
| ***Mean*** | ***Grand Mean*** |
|  | P10 | Summarize the main idea | 3,68 |  |
|  | P11 | Using initial criteria | to | 3,71 |  |
|  |  | evaluate information |  |  |
|  | P12 | Collect main ideas | 3,32 |  |
| *Evalua te* | P13 | Comparing new knowledge with previous knowledge | 3,74 | 3,60 |
| P14 | Determining that new |  |
|  |  | knowledge has an impact on a | 3,41 |  |
|  |  | person |  |  |
|  | P15 | Evaluating information with | 3,60 |  |
|  |  | new knowledge |  |
|  | P16 | Proving the truth | 3,75 |  |

TABLE IV. RESULT OF DESCRIPTIVE ANALYSIS OF INFORMATION LITERACY ABILIY SUB VARIABLE USE BASED ON THE STANDARDS OF ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES

|  |  |  |  |
| --- | --- | --- | --- |
| **Sub Variab le** | **No. Item** | ***Indicator*** | **Descriptive Analysis** |
| ***Mean*** | ***Grand Mean*** |
| *Use* | P17 | Processing new information | 3,91 | 3,80 |
| P18 | Re-evaluate for the development of the next work | 3,39 |
| P19 | Adopt an up to date theme | 4,26 |
| P20 | Choosing the right media and technology | 3,67 |

TABLE V. RESULT OF DESCRIPTIVE ANALYSIS OF INFORMATION LITERACY ABILIY SUB VARIABLE ETHICAL/LEGAL BASED ON THE STANDARDS OF ASSOCIATION OF COLLEGE AND RESEARCH LIBRARIES

|  |  |  |  |
| --- | --- | --- | --- |
| **Sub Variab le** | **No. Item** | ***Indicator*** | **Descriptive Analysis** |
| ***Mean*** | ***Grand Mean*** |
| *Ethical**/Legal* | P21 | Choose media as publication | 2,40 | 2,60 |
| P22 | Set boundaries to avoid plagiarism | 2,70 |
| P23 | Selecting information in its original form | 2,30 |
| P24 | Citing the name of the author and the source | 2,80 |
| P25 | Include identity so that it is not misused | 2,83 |

Based on the Table I, II, II, IV, V above, it can be seen that the average value of each sub-variable of information literacy ability of PGRI Palembang users is based on the standards of the association of colleges and research libraries which are categorized based on the average respondent's answers from

>1,8 – 2,6 are Poor, >2,6 – 3,4 are Fair, >3,4 – 4,2 are Good, and >4,2 – 5,0 are Excellent. The answer then calculated using the Mean formula, Furthermore, from the average value of each statement indicator in the sub-variables above, then it is calculated for the total average value of the know sub- variables using the Grand Mean formula.

In the sub-variable "know" obtained an average value of

3.85 in the good category because it is in the interval 3.43-

4.23. Second, the sub-variable "access" obtained an average value of 3.30 categorized as good enough because it is in the

interval 2.62-3.42. Third, the sub-variable "evaluate" obtained an average value of 3.60 categorized as good because it is in the interval 3.43-4.23. Fourth, the sub-variable "use" obtained an average value of 3.80 categorized as good because it is in the interval 3.43-4.23. Fifth, the sub-variable "ethical/legal" obtained an average value of 2.60 categorized as low because it is in the interval 1.81-2.61.

Furthermore, from the average value of each sub-variable above then calculated for the total value of the variable "information literacy ability of users based on the standard of "association of college and research libraries" using the Grand Mean formula{15, Based on the results of the calculation, the average value for the variable of information literacy ability is

3.43. So it can be concluded that the information literacy ability of PGRI users based on the ACRL standard is good, because it is in the 3.43-4.23 interval.

Thus, based on the standard theory of association of college and research libraries (ACRL) in this study, the ACRL standard has five sub-variables. In the sub-variable "know" obtained an average value of 3.85 in the good category. Second, the sub-variable "access" obtained an average value of 3.30 categorized as fair. Third, the sub-variable "evaluate" obtained an average value of 3.60 categorized as good. Fourth, the sub-variable "use" obtained an average value of 3.80 categorized as good. Fifth, the sub-variable "ethical/legal" obtained an average value of 2.60 categorized as poor. Based on the results of the research above about how good the literacy skills of the users at the Library are, it can be concluded that the literacy skills of the users based on the standards of the association of college and research libraries, the average value for the information literacy ability variable is 3,43 is quite good.

1. *Factors That Affecting The Level of Librarian in the Library Based on the Standards of the Association of College and Research Libraries*

To answer the second problem formulation which is the answer to the questionnaire that the researcher has distributed to 261 users at the library. The factors that influence the information literacy skills of users in the library are age, educational program background, and education level.

TABLE VI. AGE FACTOR ANALYSIS

|  |  |  |
| --- | --- | --- |
| **Age** | **Total** | **Mean** |
| 18 | 3 | 3,34 |
| 19 | 8 | 3,24 |
| 20 | 33 | 3,47 |
| 21 | 36 | 3,42 |
| 22 | 43 | 3,54 |
| 23 | 54 | 3,80 |
| 24 | 36 | 3,60 |
| 25 | 22 | 3,43 |
| 26 | 19 | 3,45 |
| 27 | 7 | 3,54 |

Based on the the Table VI it can be concluded that the factors that affect the ability of information literacy based on the age factor are known to be 23 years old and have good information literacy skills with an average value of 3.80.

TABLE VII. EDUCATIONAL BACKGROUND FACTOR ANALYSIS

|  |  |  |
| --- | --- | --- |
| **Major** | **Total** | **Mean** |
| Bahasa Inggris | 12 | 3,63 |
| Bahasa Indonesia | 41 | 3,85 |
| Olahraga | 16 | 3,50 |
| Fisika | 14 | 3,41 |
| Sendratasik | 10 | 3,37 |
| Teknik Kimia | 14 | 3,52 |
| Perikanan | 9 | 3,43 |
| Matematika | 17 | 3,44 |
| Akuntansi | 16 | 3,40 |
| Geografi | 13 | 3,38 |
| BK | 21 | 3,42 |
| PAUD | 30 | 3,45 |
| PGSD | 32 | 3,55 |
| Manajemen | 16 | 3,49 |

Table VII shows that the factors that influence information literacy skills based on educational program background factors are known to Indonesian Language Study Programs have good information literacy skills, because Indonesian language study programs are more required to be able to understand information literacy both in writing, reading, and speaking [11]. So that the Indonesian language study program has better information literacy skills with an average value of 3.85.because all subsequent material relates and elaborates on this one topic.

1. CONCLUCIONS

Based on the problem formulation and description that has been put forward from the research results, data analysis and findings in this study regarding the information literacy skills of Library users based on the association of collage and research libraries standards and to answer the problem formulation, the conclusions based on the results of data processing conducted by researchers, it can be concluded that the information literacy skills of library users based on the association of collage and research libraries standards are categorized as good with an average value of 3.43. However, it still needs to be improved, especially in the access and ethical/legal sub-variables. Especially in the ethical/legal sub- variable which got the lowest average result of only 2.60. This indicates that library users do not fully understand economic, legal, and social issues related to the legal and ethical use of information [13].

The factors that affect the information literacy ability of users at the Library are the age factor, namely where the age of 23 years has a better ability with an average 3.80. Furthermore, the background factor of the Indonesian language study program education program has a better ability with an average of 3.85. Then the education level factor where 8th semester students have better abilities with an average of 3.75.

TABLE VIII. EDUCATIONAL LEVEL FACTOR ANALYSIS

|  |  |  |
| --- | --- | --- |
| **Semester** | **Total** | **Mean** |
| 2 | 30 | 3,41 |
| 4 | 42 | 3,37 |
| 6 | 51 | 3,34 |
| 8 | 68 | 3,75 |
| 10 | 50 | 3,40 |
| 12 | 20 | 3,51 |

From Table VIII, it can be concluded that the factors that affect the ability of information literacy based on the level of education are known that the 8th semester students have good information literacy skills with an average value of 3.75. Based on the description above, it can be concluded that the factors that affect the information literacy ability of users at the library, namely the age factor where the age of 23 years has a better ability with an average of 3.80. Furthermore, the background factor of the Indonesian Language Study Program has a better ability with an average of 3.85. And the education level factor where the 8th semester has a better ability with an average of 3.75.

In this study using a descriptive hypothesis. Descriptive hypothesis is a hypothesis formulated to describe a phenomenon, or a hypothesis formulated to answer the estimation problem without comparing or connecting with other variables. To test the descriptive hypothesis if the data is interval or ratio is a 1 sample t-test, the formula used to test the descriptive hypothesis (one sample) whose data is interval or ratio t = x- /s/√n Based on the calculations, the results of t-count with price 22,519. Because t-count is greater than t- table, it is determined that the hypothesis Ha is accepted and H0 is rejected. So it can be concluded that the information literacy ability of library users based on the standards of the association of college and research libraries is good [12].

Media and information literacy is an important skills to have in general for every element in the society and in particular for students. The lack of this skills affects knowledge acquisition and learning success [14]. They are not solely simple basic competence, but they make up an advance skill to have in order to support the learning development. This study found that there are several components affect the awareness of the skills.

The limitation of this research is the boundary of the research subject location. Further, other research could explore more locations with wider respondent to get the larger perspective for understanding the phenomenon.

REFERENCES

1. A. List, G. S. Campos Oaxaca, E. Lee, H. Du, and H. Y. Lee, “Examining perceptions, selections, and products in undergraduates’ learning from multiple resources,” *Br. J. Educ. Psychol.*, vol. 91, no. 4, pp. 1555–1584, Dec. 2021, doi: 10.1111/bjep.12435.
2. C. P. Sarango-Lapo, J. Mena, and M. S. Ramírez-Montoya, “Evidence-based educational innovation model linked to digital information competence in the framework of education 4.0,” *Sustain.*, vol. 13, no. 18, Sep. 2021, doi: 10.3390/su131810034.
3. “Information Literacy – Welcome to ALA’s Literacy Clearinghouse,” 2022. https://literacy.ala.org/information-literacy/ (accessed May 05, 2022).
4. S. Vijaykumar, D. T. Rogerson, Y. Jin, and M. S. de Oliveira Costa, “Dynamics of social corrections to peers sharing COVID-19 misinformation on WhatsApp in Brazil,” *J. Am. Med. Inform. Assoc.*, vol. 29, no. 1, pp. 33–42, Dec. 2021, doi: 10.1093/jamia/ocab219.
5. S. Park, P. M. Massey, and J. P. Stimpson, “Primary Source of Information About COVID-19 as a Determinant of Perception of COVID-19 Severity and Vaccine Uptake: Source of Information and COVID-19,” *J. Gen. Intern. Med.*, vol. 36, no. 10, 2021, doi: 10.1007/s11606-021-07080-1.
6. H. Azarbonyad, M. Dehghani, M. Marx, and J. Kamps, “Learning to rank for multi-label text classification: Combining different sources of information,” *Nat. Lang. Eng.*, vol. 27, no. 1, 2021, doi: 10.1017/S1351324920000029.
7. N. B. Nisha and R. R. Varghese, “Literature on information literacy: A review,” *DESIDOC J. Libr. Inf. Technol.*, vol. 41, no. 4, 2021, doi:

10.14429/DJLIT.41.4.16405.

1. S. Humble, “Quantitative analysis of questionnaires : techniques to explore structures and relationships.”
2. J. T. Turner, “Handbook of hospital security and safety,” p. 278, 1988.
3. D. P. S. Andrew 1976-, “Research methods and design in sport management / by Damon P.S. Andrew, Paul M. Pedersen, Chad D. McEvoy.,” 2011.
4. H. Park, H. S. Kim, and H. W. Park, “A Scientometric Study of Digital Literacy, ICT Literacy, Information Literacy, and Media Literacy,” *J. Data Inf. Sci.*, vol. 6, no. 2, pp. 116–138, Apr. 2021, doi: 10.2478/JDIS-2021-0001.
5. C. K. Ramaiah and M. Saraswati Rao, “Media and information literacy: A bibliography,” *DESIDOC J. Libr. Inf. Technol.*, vol. 41,

no. 4, 2021, doi: 10.14429/DJLIT.41.4.17358.

1. M. Deja, D. Rak, and B. Bell, “Digital transformation readiness: perspectives on academia and library outcomes in information literacy,” *J. Acad. Librariansh.*, vol. 47, no. 5, 2021, doi: 10.1016/j.acalib.2021.102403.
2. M. Leaning, “Media and information literacy: An integrated approach for the 21st century,” *Media Inf. Lit. An Integr. Approach 21st Century*, pp. 1–133, Apr. 2017.