



META ANALYSIS OF STRATEGIES AND UTILIZATION OF ELECTRONIC JOURNALS FOR GRADUATE STUDENT UNIVERSITY OF STATE MALANG IN EFFORTS PRODUCE INTERNATIONALLY REPUTED SCIENTIFIC PUBLICATION

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Abstract

The aim of the study was to find out strategies, use of electronic information sources (e-journals), meta-analysis of search strategies and utilization of electronic information sources (e-journals) for postgraduate students of State University of Malang in an effort to produce internationally reputed scientific publications. The theory used is diffusion theory where innovation is likened to a new idea or new technology that contains electronic sources of information that are disseminated or diffused through communication channels. The method used is descriptive analysis research that aims to explain something or a phenomenon that occurs, namely the strategy and electronic use of journals conducted by postgraduate students at the State University of Malang in producing internationally reputable scientific applications. That is using a meta-analysis study which is a statistical technique to combine the results of two or more similar research so that quantitative data will be obtained, and the effect size conclusion will be known. The conclusion of the results of the quantitative research is done by calculating the same percentage of findings for similar problems. Conclusion analysis was found by examining the results of the study by examining the methods and data analysis in each study so that the advantages and disadvantages of the previous research can be known.

Keywords : scientific publications, e-journals, strategies, utilization, meta analysis

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A. INTRODUCTION

The progress of science and technology has resulted in the flood of various types of information (information flood), because science and technology itself also requires information and information. More than a decade ago, futurologist Alvin Tofler (1980) interpreted that in the US every year the government made 100,000 reports, plus 450,000 articles, books, and reports that were published

together. If it is calculated around the world the level of issuance each year, he estimates as many as 60 million pages. This is a commentary more than a decade ago.

Meanwhile according to the SCImago Lab (www.scimagojr.com) as a site for ranking scientific publications, reporting that the number of scientific publications from 1996-2013 based on data from Scopus is as follows Indonesia ranks 61st with a total of

25,481 publications from 239 countries. Indonesia is far behind the neighboring Asean countries, such as Malaysia which ranks 37th with the publication of 125,084 scientific papers, Singapore which is ranked 32nd with the number Indonesia ranks 61st with a total of 25,481 publications from 239 countries. Indonesia is far behind the neighboring Asean countries, such as Malaysia which ranks 37th with the number of scientific publications 125,084, Singapore which is ranked 32nd with the number of publications 171,037, and Thailand ranked 43rd with the number of publications 95,690. Asean countries below Indonesia are Vietnam with a ranking of 66 which has as many as 20,460 publications. While the most productive countries issuing scientific works are the United States with the number of scientific publications 7,846,972, ranked second is China (China) with the number of publications 3,129,719, and ranked 3rd namely the UK with the number of publications 2,141,375 (Subekti, 2015)

Based on the ranking of the publication, it illustrates that publications are internationally reputable in Indonesia when compared to the state America is like an elephant compared to ants, which has a percentage of 0.32%. When compared to neighboring Malaysia, the percentage is 4.38%.

According to Subekti (2015), scientific publications in internationally reputed journals act as a medium for self-actualization of academics and researchers in the development of international knowledge, even in the dignity of a country in the form of educational and scientific quality diplomacy. Furthermore, Subekti (2015) stated that countries that have good

quality education and science and technology tend to have a high number of international publications. To produce high-quality, high-quality Muslim publications, it must be supported by quality research and reference sources.

One reference and publishing source that reports various kinds of scientific and technological developments from the results of research that other people have done is an electronic journal hereinafter referred to as e-journal. Electronic journals are journals in digital form that can be accessed through the internet network.

The National Library of the Republic of Indonesia as an Indonesian state library has subscribed to various online digital library materials named e-resources such as journals, ebooks and other online reference works in order to meet the needs of users, especially for the academic community, lecturers, researchers, and students with the hope that there will be a change in access to information in enriching the repertoire of primary literature sources to support various scientific activities such as research, completion of final assignments and so on. The subscribed library materials are as follows. Alexander Street Press, Alexander Street Video, AST (American Society for Training & Development), Balai Pustaka, Bowker Books in Print, Brill Onl, Business Expert Press, Cambridge University Press, Cengage Learning, Ebrary, Ebsco Host, IGI Global, IG Publishing, Indonesia Heritage Digital Library, KITLV, Lexis Nexis, Mylibrary, Proquest, Sage Knowledge, Taylor & Francis, Ulrichs, Westlaw, Digital Angkasa.(www.pnri.go.id)

E-resources as electronic journals subscribed to by the National Library, have several advantages for the academic community, namely (1) Electronic journals often appear first before printed journals are published so that the distribution of information is very fast, (2) content journal is always updated with the development of research carried out by humans, (3) can be accessed anytime, anywhere as long as there is an internet network simultaneously.

Information about the e-resources subscribed to by the National Library has been communicated in several universities in the form of submitting e-resources material and strategies for its use, including in the Postgraduate of Malang State University, which was held on September 4, 2015, in the Postgraduate building.

At Malang State University, the academics can use the e-journal facility subscribed by the Ministry of Research and Technology, namely Proquest, Ebsco and several providers subscribed to the Malang State University Library such as springerlink, cambridge journal, sage journals, oxford journals and other electronic sources provided by the library, for example Online e-Book (Wiley and Oxford), which amounts to 426 titles.

The source of electronic information can be accessed through the siakad.um.ic.id page for students and lecturers, and page simpega.um.ic.id for employees using their respective accounts, with the hope that it can be utilized in an effort to stimulate a culture of analysis and writing. scientific at Malang State University.

The effort to stimulate a culture of scientific analysis and writing for these students was supported by the Regulation of the Chancellor of the State University of Malang No. 5 of 2016 concerning Supplements on the 2014 Malang State University Education Book in Chapter IV, article 4 stated that: Masters program students are required to have: a) at least one scientific publication in an accredited national journal; or b) one scientific publication in an unaccredited national journal and one national proceeding that has been presented at a seminar, national conference, or other scientific meeting. a) Doctoral students are required to have: a) at least one scientific publication in an internationally reputed journal; or b) one national proceeding that has been presented at a national seminar, national conference or scientific meeting other national and one international proceedings that have been presented at seminars, conferences, or other scientific meetings with international reputation. 4) The obligation stated in paragraph (2) is a condition for graduating a master's student to obtain a master's degree "5) The obligation stated in the graduation program student paragraph (3) is a doctoral requirement to obtain a doctorate.

The socialization of the development of electronic scientific journals subscribed by State Universities to stakeholders was carried out simultaneously in the library hall building, or at the request of several faculties attended by students and lecturers with the hope that all electronic information sources available at Malang State University could be known. utilized as much as possible by

the academic community namely, students, lecturers, and researchers.

The socialization of the development of electronic journals is indeed necessary, because it is something new in the form of electronic information sources. This socialization activity is in accordance with Rogers' Diffusion of Innovation theory, where diffusion is defined as a process in which an innovation is communicated through certain channels over a certain

period of time to members of a social system. Diffusion can also be said as a special type of communication where the message is a new idea. Besides that, diffusion can also be considered as a type of social change that is a process of change that occurs in the structure and function of the social system. The elements in the theory are described in the model as follows.

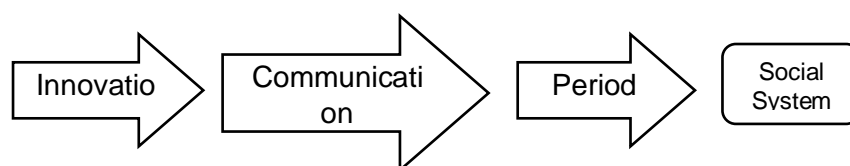


Figure 1.
Element in the theory

These elements when applied to the strategy process and the use of electronic information sources at the State University of Malang are very relevant, where an innovation is likened to a new idea or new technology in the form of electronic information sources disseminated or disseminated through communication channels in the form of workshops on the use of electronic information sources at a certain time (on September 4, 2015 in the UM Postgraduate Hall and on February 23, 2016 in the UM Library Seminar Room to the academic community, then continued with socialization in several departments at the Malang State University Graduate School.

To find out the process of adoption of the diffusion of innovation has not been known until now, because there are also academics who have the notion that the advancement of information and communication technology is not a cultural value that can be embraced by the academic

tradition. The following is an excerpt from an interview with one of the professors, postgraduate UM, in one of the departments, who complained about the students in using information resources in the dissertation guidance process as follows. I regret that there are not a few students that I guide, there is very little literature used as a reference source, yes ... maximum he mentions two titles of articles coming from journals. Reference to book forms is also the case, the years are ancient, some are in the 1950s, 60s. I myself do not understand how to access or use e-journal. Can I be taught now (Interview, date 1-3-2017)

Referring to the interview quote above, illustrates that not all academics can understand and accept new innovations related to the distribution of information in the form of electronic journals to support scientific activities, especially in the research activities they undertake.

Based on this phenomenon, researchers are interested to find out about how information retrieval strategies and the use of electronic information sources (e-journals) for postgraduate students of Malang State University in an effort to produce internationally reputed Scientific publications.

Similar research has been carried out in several universities in other countries, with different characteristics. For example, research conducted by [Kaur \(2009\)](#) University India in the 2007-2008 academic year was titled "Use of Electronic Information Resources: a Case Study of Thapar University". The number of research samples is 504 users from undergraduate, graduate, and doctoral degrees.

The results of the study show that (1) all respondents have the maximum awareness of using resources, (2) the effect of using e-resources affects the use of printed journals, (3) there are still users who use occasional e-resources, (4) there are indications that Thapar University is successful in providing information resources for its students.

The results of this study illustrate that (1) strata 1 students, strata, and 3 levels of Thapar University India have been innovative in accepting things that are innovative in terms of access to electronic source information, ((2) Thapar University students included in the category of innovator adoption (3) Thapar University students in India are only a small part, who occasionally use e-resources, (4) there are indications that Thapar University is successful in providing information resources for students.

The results of the study illustrate that the use of electronic information

sources (e-resources) is relevant to the innovation diffusion theory proposed by Everet Rogers, that diffusion of innovation is a theory of how new ideas and technologies are spread in a culture, according to Rogers people who belong to the category of innovators have characteristics: individuals who are first adventurous, dare to take risks, mobile, intelligent, high economic abilities. There are students who occasionally use electronic information sources, illustrating that students will use e-journals, if the media is suitable for their needs. This phenomenon, in accordance with the theory of needs and satisfaction (uses and gratification), was raised by Elihu Katz, who stated that. " 1. The audience will use media, if the media is suitable for their needs. 2. The audience will be selective in using media.

Another similar study was carried out by [\(Malemia 2012\)](#) with the title "The uses of electronic articles by Academic at Mzuzu University, Malawi". The purpose of this study was to investigate the use of art eel journals for academics at Mzuzu University's behavior and assess the factors that influence e-journals users. The results of the study show that (1) most academics have a general knowledge of e-journals, (2) there are no significant differences between gender and the ability to seek information, (3) academics prefer local publishing, (4) use e-journal for teaching and research purposes. The obstacles faced by academics are (1) Lack of ICT, (2) bandwidth that is less supportive, (3) access to e-journals is limited.

Another similar study was carried out by [\(Zhang et al, 2014\)](#) concerning the Use of diffusion innovation theory to

understand the factors that influence the acceptance and use of e-health innovations. The results showed that (1) the overall adoption rate of e-appointment services increased slowly by 15% for 3 months after implementation, (2) only innovators who used e-appointment services (3) most patients in the care clinic did not adopt this innovation.

Research on the use of electronic information sources for lecturers was also carried out by Oghenetega ([Ivwhighreghweta 2012](#)) in a country called "Use of open access journals by lecturers at western Delta University". The results showed that: (1) all respondents had results articles download, (2), open journal access, (3) link to other articles through open access journals, (4) use open access journal references, (5) and they cite articles from open access journals.

Based on the four research results in several countries that have different characteristics, they will produce different research results. In this regard, researchers are interested in researching the "Strategic Meta Analysis Analysis, Utilizing Electronic Journals for Undergraduate Students in an Effort to Produce International Reputable Scientific Publications".

B. LITERATURE REVIEW

1. Electronic Journal

Electronic journals according to Reitz in [Siswadi \(2008\)](#) are as digital versions of printed journals, or journals such as in the form of electronic publications without the printed version, available via e-mail, web, or internet access. [Setyorini \(2007\)](#) states that

electronic journals are web-based tools for managing a scientific and non-scientific journal, this facility is provided as a forum for managers, writers, and readers of scientific works. Prytherch in Miswan (2002: 3) defines an electronic journal as a journal where all aspects of storage, review, publishing, and distribution are carried out electronically. From the above opinions about the notion of electronic journals it can be concluded that electronic journals are journals in digital form that can be accessed via the internet.

According to Gones in [Murniati \(2012\)](#) the journal as a scientific whole has two characteristics, namely (1) peer review of articles, the peer review process ensures that the information in the journal is reliable, (2) referncing, convincing reference to the information available. It was also explained that a journal is not considered to have a scientific report unless the article contains references.

Electronic journals are part of a series of serial publications that have advantages compared to printed journals. This factor is the reason why users prefer to use electronic journals compared to printed journals. Tresnawan in [Rusydi, \(2014\)](#) argues that electronic journals have advantages over printed journals, including in terms of updates. Electronic journals are often published more before printed journals are published so that the speed of receipt of information is far more profitable. Comparison of printed and electronic journals can be seen in the data below.

Table 1.
Comparison of Electronic Journals and Printing Journals

1	Criteria	Electronic	Printed
1	The Very Latest	Most up-to date	Most up-to date
2	Speed received	Fast	Slow
3	Storage	Very save	Place to eat
4	Use	24 Hours	Limited Opening HOURS
5	Access opportunities	Can be at the same time	Antri
6	Search	automatically available	Must be made
7	Search time	Fast	Slow
8	Security	Safer	No save
9	Document Manipulation	Very easy	Can not
10	Subscriptions at the same price	Titles can be more	Fewer titles
11	Total subscription price	Much cheaper	More expensive

From the data above can mean that electronic journals provide more benefits for the creation of printed journals. Where the advantages possessed by electronic journals will make it easier for users to use them. Thus the library can answer the challenges of the digital era and can provide services to users as expected by library users.

Murniati (2012) e-journals are divided into two, namely, (1) e-journals that can be accessed without charge and can be printed or free to download, and (2) e-journals that cannot be accessed without a password or do not support them. types, namely: (1) online journals, main computer-installed journals such as dialogue and BRS (Bibliographic Retrieval Services), (2) journals on CD-ROM, individual journals in the form of full text or journals in collections of various printed journal subjects which is in electronic form which is then placed on a CD-ROM, and (3) journals on the network, e-journals in the form of networks that are based on software mailing lists or computer applications.

2. Theoretical Framework

The theoretical framework is used as a frame of mind (frame work) to explain, predict the variables that are appointed as research. The theoretical framework that can explain the research variables entitled "Stretagi online information search and the use of electronic information sources (e-journals) in Postgraduate Students of the State University of Malang in producing internationally reputed scientific publications" is the diffusion theory of innovation proposed by Everett Rogers. Diffusion Innovation is a theory of how new ideas and technologies spread in a culture. This theory was popularized by Everett Rogers through his book entitled Diffusion of Innovations.

In general, innovation is defined as an idea, practice or object that is considered as something new by an individual or one other adoption unit. Rogers defines innovation as an idea, action or item considered new. Rogers also equates with technology, namely a design that is used for instrumental actions in order to reduce

the irregularity of a causal relationship in achieving a certain goal.

Diffusion is defined as a process in which an innovation is communicated through certain channels over a certain period of time to members of a social system. Diffusion can also be said as a special type of communication where the message is a new idea. Besides that, diffusion can also be regarded as a type of social change, namely a process of change that occurs in the structure and function of the social system. It is clear here that the term diffusion is inseparable from the word innovation. Because the main purpose of the diffusion process is the adoption of an innovation by members of a particular social system. Members of the social system can be individuals, informal groups, organizations and or sub-systems.

3. Linkages Between Theory Diffusion of Innovation and Information Research Strategies Online and Utilization of Electronic Information Sources for Postgraduate Students of Malang State University to Produce International Reputable Scientific Publications

The use of innovative diffusion theory to explain, predict the results of research with the title Search Strategy Information and Utilization of Electronic Journals (e-Journals) for Postgraduate Students of Malang State University in an Effort to Produce International Reputable Scientific Publications is very relevant.

Information search engines and electronic journals are considered as new technologies that need to be socialized to students as new technologies, through communication

channels in the form of workshops either at the request of students through faculty leaders or at the initiative of Malang State University Library as servants, information presenters, and information preservers for academic community of State University of Malang.

So if the matter of innovation in the form of electronic journals is always socialized to students, then students will arise understanding, understanding, and, there will be a reaction in the form of acceptance and utilization of internationally reputed electronic journals that can be used to support reference materials in producing internationally reputed scientific publications. This is in accordance with the opinion of [Subekti \(2015\)](#) that scientific publications in internationally reputed journals play a role as a medium of self-actualization of academics and researchers in the development of international knowledge, even a country's self-esteem in the form of educational and scientific quality diplomacy

C. METHOD

The research design used is descriptive analysis research that aims to describe or explain something or a phenomenon that occurs, namely the online information retrieval strategy and the utilization of e-journal conducted by postgraduate students of Malang State University in producing internationally reputed scientific publications. The method used is the analysis of meta-analysis is a statistical technique to combine the results of 2 or more similar studies so that quantitative data is obtained from the combination of data.

Meta analysis is a quantitative analysis and uses a considerable amount of data and applies statistical methods to practice it in organizing a number of information that comes from large samples whose function is to complement other purposes (Glass, 1981)

Meta analysis is essentially a synthesis of a topic taken from several research reports. Based on the synthesis a conclusion is drawn regarding the topic under study. This study uses the results of similar studies as the baseline data in conducting Effect size studies and conclusions, namely the difference in the incidence of effects between the experimental

and control groups in the meta-analysis is a combination of the effect size of each study carried out with certain statistical techniques. Because in general the makers of the meta-analysis do not have basic research data, the practical effect size dimensions combined in the meta-analysis are the same as those reported in the combined articles.

The statistics are used to test the relationship of two or more independent variables with one dependent variable simultaneously using multiple correlation statistics. After the correlation coefficient is known, the next step is to test the meta-analysis.

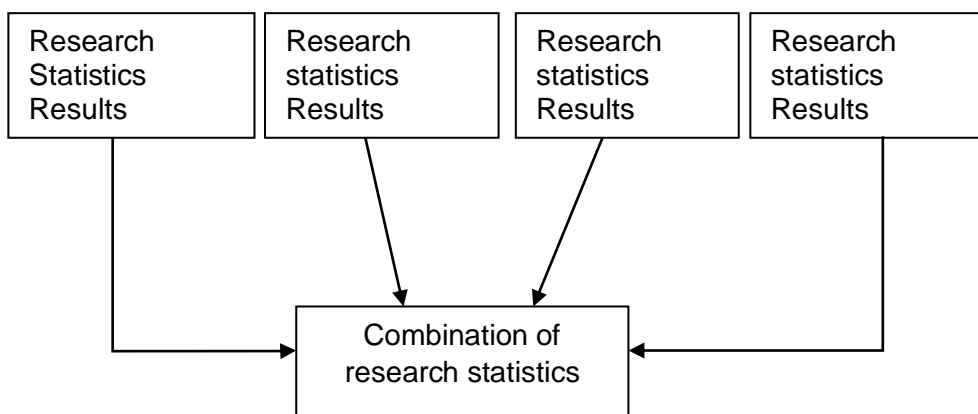


Figure 2.
illustrations in preparation for testing meta-analysis

D. RESULT AND DISCUSSION

The meta-analysis of analysis is a statistical technique to combine the results of two or more similar studies so that quantitative data can be obtained from a combination of data. Meta analysis is a quantitative analysis and uses a considerable amount of data and applies statistical methods to practice it in organizing a number of information that comes from large

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Before conducting a study of meta-analysis in accordance with the topic of research, it is processing research results with the topic of online information retrieval strategies and utilization of e-journal conducted by postgraduate students of Malang State University in producing international reputable scientific publications. After the correlation coefficient is known, the next step is to test the meta-analysis statistics such as the formula above.

E. CONCLUSION

Whereas to find the conclusion of the quantitative research, it can be done through calculating the same percentage of findings for similar problems.

Conclusion analysis was found by examining the results of the study by examining the methods and data analysis in each study so that the advantages and disadvantages of the previous research can be known.

Conclusion analysis was found by examining the results of the study by examining the methods and data analysis in each study so that the advantages and disadvantages of the previous research can be known.

Draw conclusions from this research meta-analysis on the basis of comparing the results of all studies according to their categories. To obtain conclusions the magnitude of the influence or relationship between variables in quantitative research is used formula. Whereas to find the conclusion of qualitative research, it can be done through calculating the same percentage of findings for similar problems.

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