Research Culture and Productivity Improvement Through Online Journal System Development and Optimization

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Abstract

The research conducted by lecturers and students at a university has a strong correlation with the quality of the institution. Unfortunately, the culture of writing and researching is still far from expectation. Meanwhile, some departments in the institution still manually collected the articles from the lecturer or researchers that takes big effort and time to produce a single volume of the journal. This research was conducted to improve research culture in the Petroleum Engineering Department by optimizing a well-known online submission system called Open Journal System (OJS) that has been used in several departments. OJS is configured and optimized based on lessons learned from existing journals so that it could ease the lecturers to submit and the reviewers to examine the articles. The methodology in this research includes identifying existing problems and constraints, creating questionnaires that were distributed to lecturers and students, analyzing the results of the questionnaire and the obstacles, developing and introducing this system to students and lecturers. From the questionnaire result, some problems were identified and subjected to be solved. At the end of the research, the lecturers gave good feedback to the online journal system for its simple view and easiness of publication.

Keywords: OJS, research culture, writing productivity

I. INTRODUCTION

The goals of higher education that must be achieved include education and teaching, research, and development, and community service. The quality of higher education can be improved through the development of good infrastructure for education and teaching by designing a curriculum by student-focused that can produce industry-oriented research as well as a scientific development.

Regrettably, the culture of writing and researching is still far from expectation. Meanwhile, some departments in the institution still manually collect the articles from the lecturer or researchers that takes big effort and time to produce a single volume of a journal. Therefore,

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Vol. 1 (1), 66-76
Research Culture and Productivity Improvement Through Online Journal System Development and Optimization
Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

the institutions must be able to provide facilities to accommodate the publication of research results that can be accessed easily by all students and lecturers.

The Open Journal System (OJS) developed by PKP is a big help to overcome the manually-submit problem, by providing an integrated system of submission, editing, and review process. However, not all problems are solved just by applying the system. The optimization must be done to the system to get maximum result since the quantity of the publications cannot be the only purpose. The quality of each paper must be maintained so that the general quality of the research itself can be satisfied.

This research conducted to improve research culture and increase writing productivity through The Open Journal System in the Petroleum Engineering Department of UPN Veteran Yogyakarta by introducing and developing this system. Because with this system, students and lecturers have a platform to collect their research and it also can be accessed easily by all students and lecturers so it will indirectly improve the research culture and writing productivity

II. LITERATURE REVIEW

Based on a study conducted by Rufaidah (2010), the popular method to measure the publication productivity was based on the number of articles and types of publications that have been written in a certain period. To measure the quality, it is not merely based on the quantity but also related to the education level of the lecturers or researchers in that institution. If there are many doctors but the publication is low, the quality of that institution is also considered low, because higher education requires more productivity. The same principles apply to the academic title, where someone has a title as a professor or not.

Several studies have been conducted to increase research activity in an institution. One of the studies conducted by Yamin (2018) focused on the role of literacy policy to improve research productivity. Literacy itself, as stated by UNESCO (2003), is the ability to read and write with understanding a simple statement related to one's daily life that involves reading and writing skills. The idea is to create a reading culture by widely open access to knowledge through infrastructures such as the library, and the internet to the center of knowledge or information. By increasing the reading capacity of the students or lecturers, the writing capacity can be improved too.

The role of the academic community and institution leaders also required to improve research activity, Ulum (2017) states that building a culture of writing among the academic community requires a strong desire from the academic community and motivation and opportunities from institution leaders, also Siroj (2017) states that policy intervention is required where the insertion of literacy material in each course is important to be made into institution policies. In this context where producing and transferring knowledge is critical, the concept of the research university becomes a model for universities that are struggling to improve their scientific capabilities (Conceição et al., 2007, in press). Lecturers who have scientific papers can be facilitated to be published in publishers that give ISBN or in national journals. Those who already have publications need to be encouraged to write in order to revive scientific publications. Those who already have an academic atmosphere for

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Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

publication need to get appreciation in order to encourage an increase in scientific publications. A literacy atmosphere that supports scientific publications needs to be created because the good atmosphere of literacy opens a better atmosphere for scientific publications.

Research conducted by Untung Rahardja (2018) discusses the Application of the Technomedia Journal Viewboard using the eLearning Journal Centre system in Institutions. TMJ is a service system for writing scientific papers or journals in terms of notifying journal opening information, journal templates, and journal submissions with the aim of notifying all students so that they do not experience deficiencies in journal information. This service system is very helpful for students who want to write or publish their papers. At the same time, it will increase students' interest in writing.

Fatmawati (2017) has a different approach to improve scientific publications in a higher education institution through the role of the librarian. The one that understands more about indexing, reference management tools, and scientific writing is a librarian. It is common that a librarian has broad knowledge about journals and e-books, and publications. The help of a librarian is something that lecturers need to ease their research and publication. They can provide the data needed by researchers, not only the requested data but also the right data he can suggest. The librarian can also be functioned as an administrator in the Open Journal System (OJS) due to their familiarity with the publication process and procedures.

The Open Journal System (OJS) itself is an open-source software used to manage and publish scientific journals online. The features contained in OJS start from an article/paper submitted by the author, the review process by a reviewer, and so on until the article/paper is accepted for publication in a journal. However, all that is needed is management in running a system based on the roles of each scope of fields such as required by Journal Managers, Subscription managers, Editors, Section Editors, Reviewers, Copyeditors, Layout-editors, Proof-readers, Authors, and Readers according to Indriani (2010)

III. RESEARCH METHODOLOGY

The methodology in this research includes identifying existing problems and constraints, creating questionnaires that are distributed to lecturers and students. For the lecturer's section, the questionnaire will be deployed to all of the lecturers of the Petroleum Engineering Department and the target of the respondent is above 20 people. And for the student section, the questionnaire will be deployed to 75 students of the Petroleum Engineering Department from batch 2016.

After obtaining the data, analyzing the results of the questionnaire and the obstacles faced regarding the intention to make a paper, time, facilities and infrastructure, resources, availability of publication media, and easiness of publishing an article.

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IV. FINDING AND DISCUSSION

The questionnaire has been deployed to 30 lecturers of the Petroleum Engineering Department as respondents, consist of 23% doctoral degree (S3) and the rest are master's degree lecturers (S2), to determine their publication profile over the year.

Among all target respondents, only 22 of them complete the questionnaire and provide valuable data as presented below.
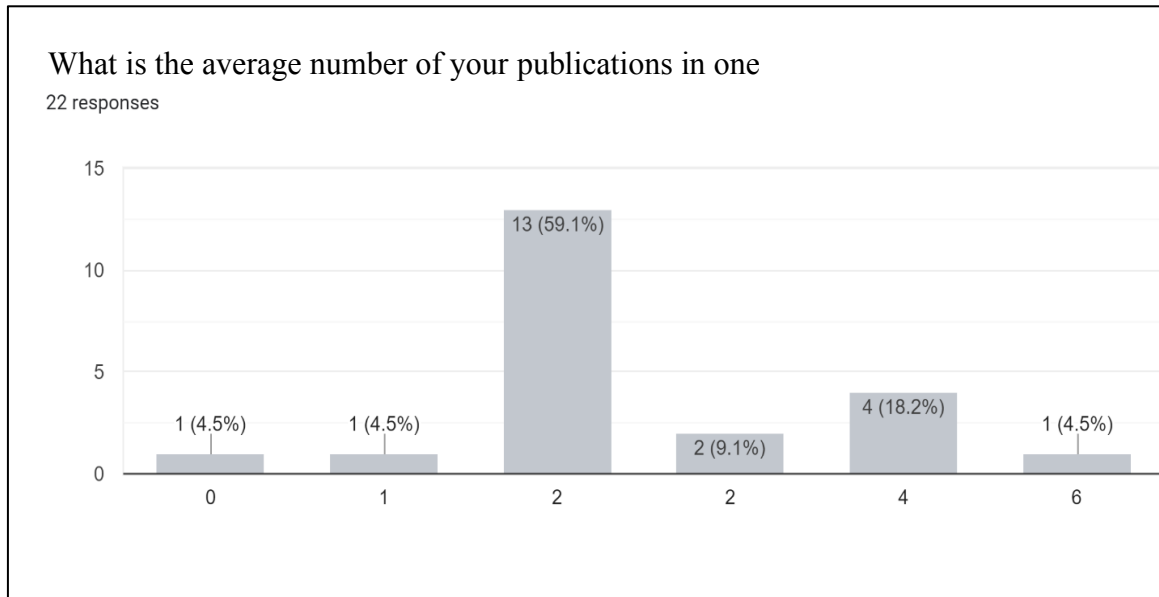

Figure 1 Publication Rate of Lecturers

The first question was the publication rate for each lecturer, as the result informs us about how it is regarded as low rate publications on average (2 publications per year). However, some lecturers did a fine job of publishing more than 2 publications per year (22.7%). This is subject to be optimized by the open journal system (OJS) development.

The next data to be considered valuable is the obstacles that make the publications seem difficult for some lecturers.

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Research Culture and Productivity Improvement Through Online Journal System Development and Optimization
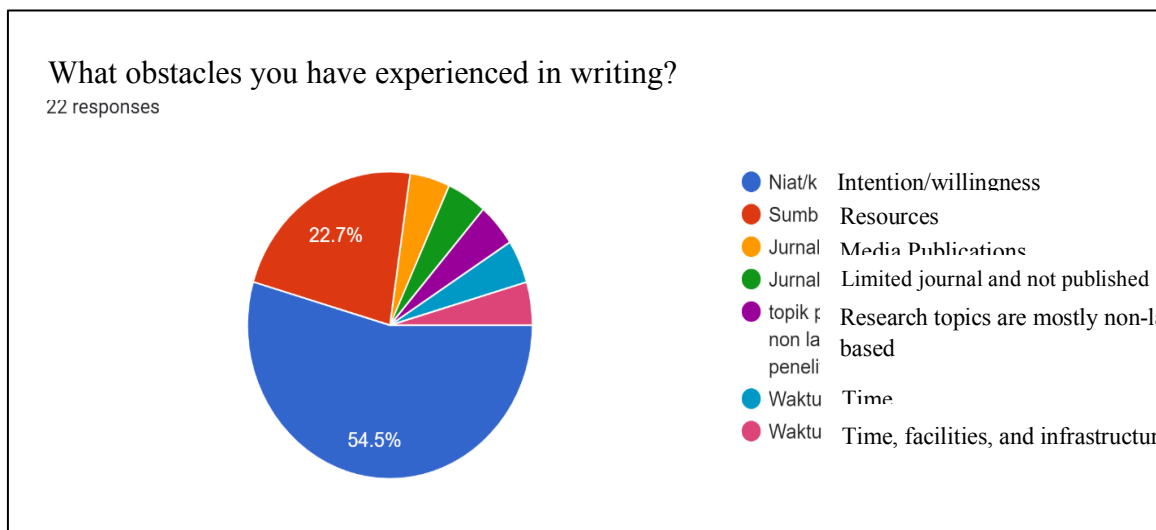Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

Figure 2 Obstacles of Lecturers to Publish an Article

The main obstacle revealed to be the willingness and spirit to write. The second one is the resources, either it is financial or human resources. Other obstacles are stated, such as difficulty to conduct research in the laboratory due to lack of tools and equipment, and some said due to the availability of journals to publish to.

Since the purpose is to improve publications through the online journal, the authors collected the data about how familiar they are to publish in an online journal. The result can be seen in Figure 3.
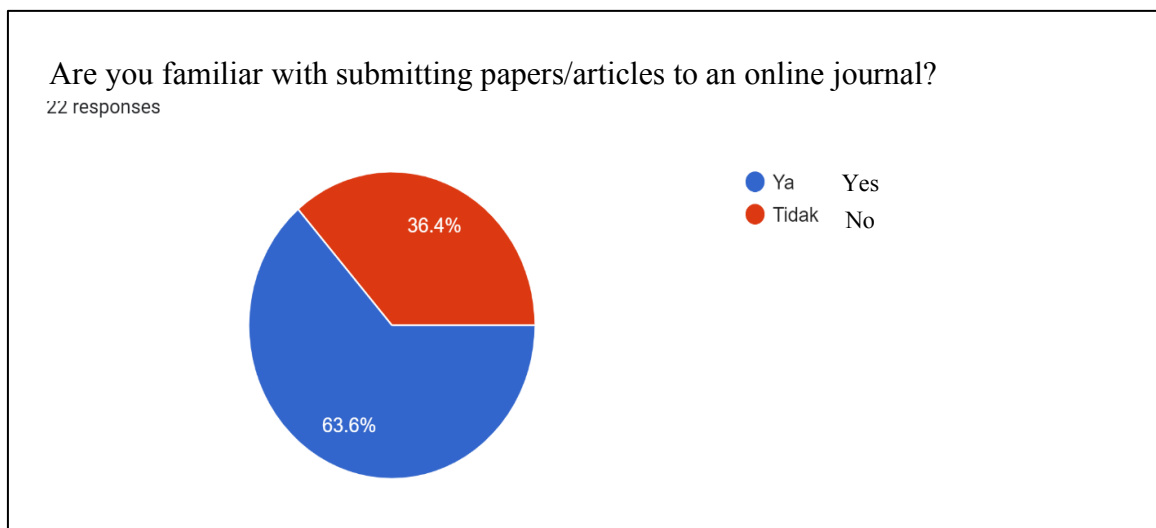

Figure 3 Online Journal Familiarity with Lecturers

The majority of the lecturers have experienced and submitted their papers to an online journal. The others, who are senior lecturers on average, are not familiar with an online

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Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

journal. Therefore, from the result above, the familiarization must be done. Because they have the willingness to write but have difficulty to understand and work with the online journal system.

Another questionnaire has been deployed to the students of the Petroleum Engineering Department as respondents to determine their research and writing interest. There are 75 students as the sample who represent the whole students of the Petroleum Engineering Department and the data will be shown below.

How many papers or articles have you written??
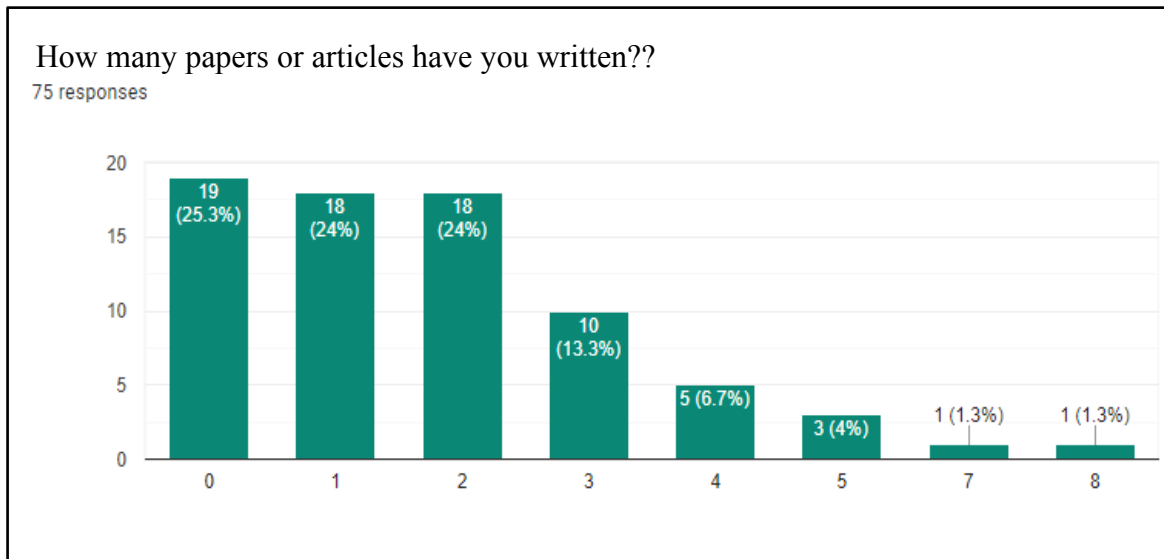75 responses

Figure 4 Paper Writing Rate of Students

The first question was the paper writing rate for each student, as the result informs us that 25.3% of students have never written a paper (19 students). However, several students have written 1 or more papers even until 8 papers (74.6%). This data indicate that many students have an interest in research and writing.

The next data to be considered valuable is the obstacles that make the writing and research seem difficult for the students. The result can be seen in Figure 5.

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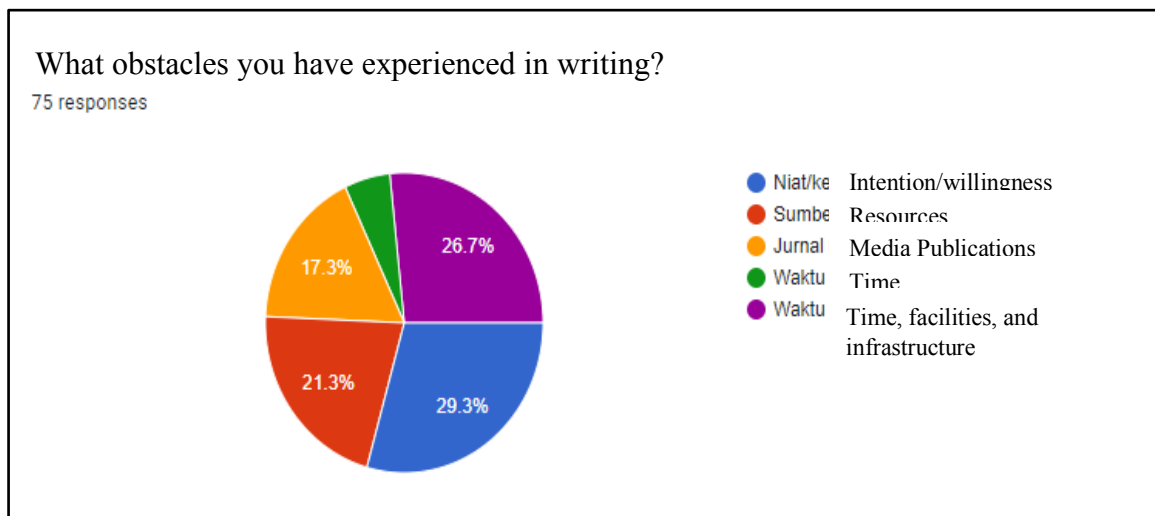
Figure 5 Obstacles of Students to Write a Paper

The main obstacle revealed to be the willingness and spirit to write. The second is time and infrastructure. The next obstacle is the resources, either it is financial or human resources. The last obstacle is the availability of journals to publish, maybe it is so hard to find a media publication (journal) for students. Because some students made a paper just for the competition.

The last data is about how familiar students to publish a paper in an online journal. The result can be seen in Figure 6.
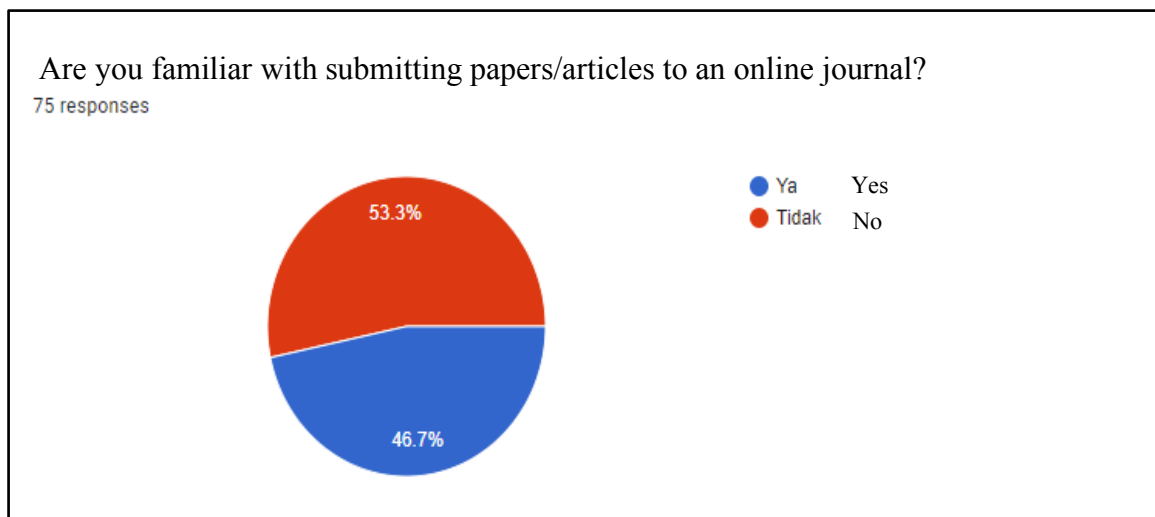

Figure 6 Online Journal Familiarity with Students

Another obstacle is several students that never publish their paper is not familiar to submit their papers to an online journal (53.3%). However, several students also familiar with the

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Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

online journal (46.7%). Based on this result, familiarization is very needed, not for only lecturers but also for students.

Based on the data above, most of the problems experienced by lecturers and students are the intention and willingness to write, resources, journal media publication, time, facilities, infrastructure. One of the obstacles for old to young lecturers is still a continuous cycle where the intention and willingness to write are still left behind with the desire for work outside the profession such as a field development project. Therefore, by linking agencies or companies in the oil and gas industry in supporting a job, scientific, technical, and structured evidence is required such as in the publication of scientific papers, articles, and others. However, this also requires a license and a statement of authenticity of scientific work between the two parties. This will indirectly reduce all the obstacles that exist if applied simultaneously.

Then all forms of obstacles against students as well as for lecturers who still have similarities so that a forum is needed to facilitate all interests for students to develop in the scope of research and publication. Thus, it will bring out a good competitive attitude in terms of academics. Also, the research culture must be built-in students and lecturers' environments, to build competitiveness between the students and lecturers.

There are also obstacles that are no less important was the lack of familiarity with lecturers and students about open journals online. Familiarization of the Open Journal Online for lecturers and students is done so that students can find out that there is a platform or media for publication in the petroleum engineering department and also increases the intention and willingness to write also lecturers are not confused by using this platform. Familiarization also can build research culture around students and lecturers. Familiarization is done by introducing and changing the appearance of the open online journal. Introducing The Open Journal Online is to approach the students and lecturers that haven't the intention and willingness to write and those who need media publication. Developing by changing the appearance of The Open Journal is to approach the students and lecturers that don't understand or have difficulty using the online platform.

The newest appearance of the OJS of Petroleum Engineering Department (Journal of Petroleum and Geothermal Technology) can be seen in Figure 7.

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Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky

Figure 7 The Appearance of Journal of Petroleum and Geothermal Technology

In terms of appearance, this online journal is designed with a simple appearance, using a large font hope that it will make it easier and well-known for those who are not familiar with this online journal, compared to other online journals that have smaller fonts and more additional designs.

The template is also made on top to psychologically encourage the viewers to directly download it and start writing. The sidebar menu is optimized by minimalizing the link to be brief and quick to read.

A survey has been deployed to all lecturers to evaluate the optimization effort and look for feedback about the website. Positive comments from lecturers on this journal can be taken as a result because these lecturers will write in this journal in the future. The result is can be seen below:

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Vol. 1 (1), 66-76
Research Culture and Productivity Improvement Through Online Journal System Development and Optimization
Dyah Rini Ratnaningsih, Boni Swadesi, Ristiyan Ragil Putradianto, Anisa Novia Risky
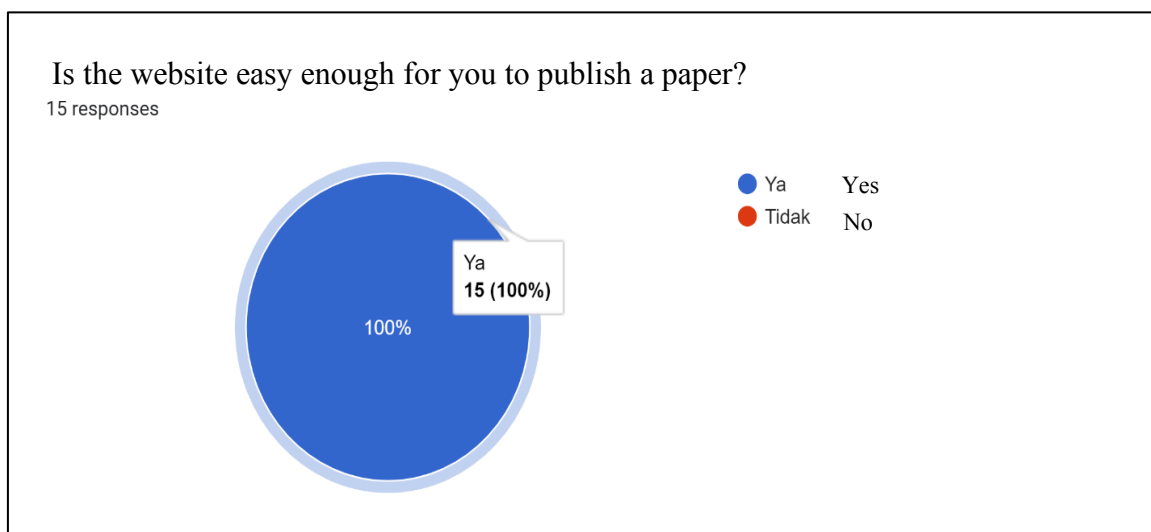
Figure 8 Satisfactory Survey Result

The online journal system developed has met the lecturer's satisfaction with the easiness of operation and its simple view. It also received several feedbacks from them, about some of the contents, the cover of the journal, and other esthetical suggestion to make it more attractive and encouraging people to write.

V. CONCLUSION AND FURTHER RESEARCH

Based on the discussion above, it concluded that there are several problems that cause lecturers and students seems so hard to write and publish papers or articles, such as intention and willingness to write, resources, journal media publication, time, facilities, and infrastructure. The existence of the Open Online Journal is very helpful to make it easier for lecturers and students to publish their papers. However, there are some lecturers and students who are still not familiar with the Open Online Journal. Therefore, familiarization is carried out by introducing and changing the appearance of the open online journal. The display is made simple with large fonts and the design is not excessive, compared to other online journals that have smaller fonts and more additional designs. The result of the optimization and development of The Open Journal System is made lecturers easier to publish their research based on the satisfactory survey result questionnaire that has been deployed to them.

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