



## Performance and Factors Inhibiting Research and Scientific Publication of Universitas Terbuka Indonesia Lecturers

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**Abstract.** Efforts to improve the performance of research and scientific publications in Indonesian universities are still a challenge. Various problems often become an inhibiting factor for lecturers' research performance. This study analyzes how the performance and factors were inhibiting the performance of research and scientific publications at the Universitas Terbuka, which is the only Open and Distance Learning Higher Education institution (PTTJJ) in Indonesia. The research method used is qualitative descriptive. The results showed that although the number of research and journal publications increased during 2017-2019, the performance of research and scientific publications of Universitas Terbuka lecturers has not been optimal. Of the five factors are considered as obstacles, three of which are factors that are generally also found in other universities, namely the lack of competence and motivation of lecturers in researching, lack of research/laboratory support facilities, and the research culture among lecturers has not yet developed well. Meanwhile, two other factors were different findings, namely the issue of lecturer recruitment and development policies in the early days of the establishment of the Universitas Terbuka, which was not in line with the needs of the study program, and the problem of characteristics and workload of PTTJJ lecturers which are different from conventional university lecturers. Universitas Terbuka lecturers are not only obliged to carry out the tri dharma functions of higher education but they are also burdened with tasks related to the management of PTTJJ or quite a lot of academic administrative work.

**Keywords:** Performance; Research; Scientific Publications; lecturer

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### INTRODUCTION

The era of globalization is an era of a knowledge society, in which education or knowledge is seen as "the new currency", by which a country maintains economic competitiveness and global prosperity. The ability to develop science and technology will determine whether a country can face competition at the regional and international levels. Şener and Saridoğan (2011) stated that, during global and competitive world economic conditions, a competitiveness strategy oriented towards science, technology, and innovation is a key factor for each country to strengthen its global competitiveness long-term sustainable growth. This is also stated by the Organisation for Economic Co-operation and Development (2000) that advances in science and technology are important factors driving the performance of a country's economy.

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The massive globalization will ultimately create opportunities as well as challenges for each country. This condition will create a competitive climate in the midst of a dynamic strategic environment that has created a disruptive new context. The inability of each country to respond appropriately and quickly will hinder the stated national development goals. Moreover, studies conducted by various international institutions and experts state that in the era of globalization 2.0, there will be a shift in world economic power which was previously dominated by western countries (America and Europe) to the Asian region, especially China (Vielmetter & Sell, 2014). This will have implications for opening up opportunities and threats from local market dynamics due to the economic growth of the new middle class in Asian countries. The trend clearly cannot be ignored as Indonesia is in a strategic position to drive dynamic markets in the Asian region.

Indonesia realizes that the mastery, utilization, and advancement of science and technology are essential in strengthening the position of competitiveness and national independence in global life. However, a study conducted by AIPI (2017) states that, in general, Indonesia has not been able to produce science and technology that can significantly support the country's economy. Brodjonegoro in Pradana et al. (2021), states that currently, Indonesia has not been able to get out of the middle-income trap because it still relies on natural resources in the form of commodities or labor-intensive products to move the economy. It can be said that the innovation that was born due to the progress of research in Indonesia is still minimal. The results of research in the form of science and technology have not significantly contributed to the acceleration of improvement in various areas of life that seem to be running naturally (AIPI, 2017).

The ability to develop science and technology in this country cannot be separated from the role of universities. In-Law Number 11 of 2019 concerning the National System of Science and Technology, one of the institutions that are expected to play a role in the development of science and technology is university. Higher education is expected to be one of the ideal research activity forums (AIPI, 2017). In-Law Number 12 of 2012 concerning Higher Education, it is stated that higher education as part of the national education system has a strategic role in educating the nation's life, advancing science and technology, and producing intellectuals, scientists, and/or professionals, who in turn will increase the nation's competitiveness in facing globalization in all fields. Furthermore, Law Number 12 of 2012 mandates that all higher education in Indonesia carry out three main tasks known as the tri dharma of higher education, which consists of education and teaching, research, and community service.

Besides the important role of research activities in realizing the progress and independence of the nation, research is also an important instrument that will affect the reputation of higher

education and the academic achievement of a lecturer. Shattock (2003) states that the core business of a university is teaching and research so that universities are said to be successful and are considered to be the best ones that have high achievement in the field of teaching and research (Jacob, Xiong, & Ye, 2015; Salmi, 2009).

The research performance of higher education in Indonesia is considered to be lagging behind that of universities in developed countries (AIPI, 2017). The majority of higher education in Indonesia is still more dominantly concentrated on education and teaching activities. Meanwhile, its role and contribution in science and technology development are still not optimal, where research activities are still more positioned as "academic exercises" and have not focused on efforts to produce inventions and innovations. This can be seen directly from the global indexed scientific publication ranking results released by the Scimago Journal & Country Rank (2020). Indonesia's position even lags behind several countries in the ASEAN region, such as Thailand, Singapore, and Malaysia. The number of Indonesian international publications during 1996-2019 reached 158,733 publications or was ranked at 47. Meanwhile, Thailand was in 44th place with 199,226 publications, Singapore was in 34th place with 317,592 publications, and Malaysia was in 33rd with 325,476 publications. Furthermore, these results are also directly proportional to the results of world higher education rankings issued by the Quacquarelli Symonds (QS) World University Rankings, where until 2020, only three universities in Indonesia have made it into the world's top 500 rankings (QS Quacquarelli Symonds, 2020).

This unsatisfactory achievement indirectly illustrates the extent to which higher education is performing as the vanguard of research and innovation. The lack of optimal research performance in higher education institutions will ultimately result in the lack of various new innovations in various fields. This can be seen from the report released by The Global Innovation Index (2020), where Indonesia's ranking in terms of innovation is only at position 85 out of 131 countries. In fact, this ranking is the third-lowest position in Southeast Asia, which is only above Cambodia and Myanmar. Meanwhile, one of the indicators used by GII in assessing a country's global innovation index is the level of human capital and research in that country.

The Universitas Terbuka (UT) is the 45<sup>th</sup> State University in Indonesia that organizes an open and distance learning higher education system (PTTJJ). As the organizer of PTTJJ, Universitas Terbuka has different characteristics from other universities in Indonesia. The main difference lies in the separation of lecturers and students during the learning process. Universitas Terbuka is designed to facilitate those who do not have the opportunity to complete their studies in higher education due to various obstacles, including economic, geographic, and demographic factors. The

PTTJJ system, which Universitas Terbuka holds, has advantages in flexibility, accessibility, affordability, and service capacity. This makes Universitas Terbuka one of the "Mega Universities" in the world, which currently serves around 300,000 students, the spread of which come from within and outside the country. Meanwhile, Universitas Terbuka learning and educational services are carried out at the Universitas Terbuka Head Office and the Regional Technical Implementing Units or referred to as the Distance Learning Program Unit (UPBJJ-UT).

Even though the implementation of the Universitas Terbuka learning system is different from other universities in Indonesia, Universitas Terbuka as part of the national system of higher education without exception also plays a role in implementing the three pillars of higher education, one of which is research activities. As with research conditions in other higher education in general, efforts to improve research and scientific publications at the Universitas Terbuka are still a challenge. Various problems are still often faced and become factors that hinder lecturers' research performance.

Several previous studies have portrayed the various obstacles faced by higher education institutions in realizing optimal research performance. First, research was conducted by Mugimu, Nakabugo, and Katunguka-Rwakishaya (2013). The study discusses the factors that influence research and teaching performance and research and teaching capacity-building strategies at Makerere University Uganda. One of the results of the study concluded that the main factors that hinder the development of research capacity in the faculty, namely inadequate funding, heavy lecturer workload, lack of research culture, and lack of lecturer motivation. In addition, several other factors are lack of access to electronic databases and lack of guidance from senior lecturers (professors).

Furthermore, research initiated by the Knowledge Sector Initiative seeks to diagnose various research barriers in four universities, namely the University of Indonesia (Kurniawan, 2017), Gadjah Mada University (Probandari & Evi, 2017), Islamic State University Syarif Hidayatullah Jakarta (Syafudin et al., 2017), and Atma Jaya Catholic University of Indonesia (Panggabean, Juwono, Ajisukmo, Sukmaningrum, & Luciana, 2017). The four studies identified eight aspects that were the main obstacles to efforts to improve the quality of research in higher education, including policy suitability, research funding, research agendas/priorities, human resources, remuneration and incentive systems, credit system for lecturer functional promotions, publication schemes, and research management. The research findings in these four universities in many ways reflect the general conditions that hamper research performance in Indonesian higher education institutions. For example, Syafudin et al. (2017) found that generally what is considered to be the main obstacle

to research performed at the Islamic State University Syarif Hidayatullah Jakarta, namely the lack of lecturer capacity and the lack of interest, commitment, and ambition of lecturers in conducting quality research and scientific publications. Other factors that were also revealed were insignificant incentives, insufficient internal university factors, leadership, systems (including research quality assurance systems), budgets that were deemed not optimal, and the transformation process of Islamic State University Syarif Hidayatullah Jakarta from religious university to research university that cause research tradition and culture to be relatively new.

Based on the researcher's search, various literature reviews that discuss the inhibiting factors of research in higher education, it can be said that all of them are focused on conventional universities that apply "face-to-face" learning systems. No research has been conducted at the Universitas Terbuka as the only organizer of Open and Distance Learning (PTTJJ), so that it is expected to fulfill the novelty element of this research. This research is important because Universitas Terbuka is a university with different characteristics from higher education in general. With its large capacity, Universitas Terbuka has a significant role in increasing the Gross Enrollment Ratio (APK) of Higher Education in Indonesia. Based on this, the study aims to analyze the performance of research and scientific publications of lecturers in 2017-2019 and the factors inhibiting research and scientific publications lecturer at the Universitas Terbuka.

## **METHODS**

The research method used is qualitative descriptive. According to Jonker, Bartjan, Pennink, and Sari (2011), qualitative research is a study in which researchers attempt to understand a certain context or phenomena that occur from all the parties involved and in the context of their experiences. Qualitative research requires being "open" to understanding how other people experience their situations. In other words, qualitative research is research based on the fact that knowledge about reality can only be obtained through "other people's eyes" by using open-ended questions (Jonker et al., 2011).

The use of qualitative data collection methods in this research is to answer the problem formulation and achieve the desired goals. It is necessary to extract data openly through interviews to get responses and assessments from various parties involved in the Universitas Terbuka, the research object. In this case, qualitative research is considered to provide a more comprehensive picture of phenomena or realities that are difficult to explain through a quantitative approach. This research is descriptive because it tries to describe or describe the various complexities of the problem, phenomenon, symptoms, and realities related to obstacles to research performance and

scientific publications of lecturers at the Universitas Terbuka. According to Neuman (2014), descriptive research presents a detailed and specific picture of a situation, social setting, or relationship, where the results of descriptive research are a detailed description of a problem or an answer to a research question.

The data used in this study are primary and secondary. Primary data is obtained directly from research subjects, where the data is obtained through direct interviews with informants. The selected informants were the Vice Rector for Academic Affairs and his expert staff, several leaders and staff at the Institute for Research and Community Service, several Deans and lecturers at the Faculty, and several Heads and lecturers at the Regional Office (UPBJJ-UT). The data designed through instrument in the form of interview guide so that the data desired by the researcher will be obtained. Meanwhile, secondary data is all data obtained indirectly from the object under study, where secondary data is obtained through the library, which is derived from various relevant documents and texts. The data analysis technique in this study uses an interactive analysis model proposed by Miles, Huberman, and Saldana (2014), which includes data condensation, data display, and Conclusion drawing/verification.

## **RESULTS AND DISCUSSION**

### **Research and Scientific Publication Performance of Universitas Terbuka Lecturers**

In order to carry out its role and function, Universitas Terbuka has formulated its vision "to become a world-class of open and distance learning higher education (PTTJJ)." This vision means that the implementation of open and distance learning higher education by the Universitas Terbuka has met the best PTTJJ implementation standards recognized, both by the community and world-class institutions or open and distance learning higher education associations. For this reason, Universitas Terbuka had required to produce various standardized and high-quality academic products, which include graduates, learning products, including research and scientific publications. That means that the academic products produce substantially follow the development of science and technology and are relevant to society and national development.

In realizing the vision of the Universitas Terbuka, research and publication play an important role. Institutionally, the productivity and quality of research and scientific publications must be achieved to meet the Main Performance Indicators of Universitas Terbuka as a university with a Public Service Agency status.

**Table 1**  
**Universitas Terbuka Research Targets and Achievements in 2017-2019**

Years of Research	Number of Lecturers	Research Targets	Number of Research	Research Lecturer Target	Number of Research Lecturers
2017	624	320	304 (48.72% of 624 lecturers)	60% of lecturers	386 (61,86% of 624 lecturers)
2018	611	400	422 (69,07% of 611 lecturers)	75% of lecturers	475 (77,74% of 611 lecturers)
2019	671	450	447 (66,62% of 671 lecturers)	85% of lecturers	494 (73,62% of 671 lecturers)

*Source: The Universitas Terbuka Chancellor's Annual Work Report and The 2016-2020 Universitas Terbuka Business Strategy Plan.*

In this case, the implementation of research activities is part of the policy direction and strategy to achieve one of the goals of the Universitas Terbuka, namely increasing the productivity and quality of research and publications, as stipulated in the Business Strategy Plan. Since 2018, as outlined in the 2016-2020 business strategy plan (RSB), the direction of the Universitas Terbuka development policy refers to a reorientation as a teaching university that focuses on the quality of learning. As a teaching university, Universitas Terbuka research is directed at efforts to improve and strengthen the quality of education in the context of PTTJJ, both related to curriculum, learning, service support, and management. Research and development activities are intensified to produce new and innovative findings in education through the PTTJJ system. For this reason, since 2018, Universitas Terbuka has established the PTTJJ Innovation Research Center responsible for carrying out research and innovation in the PTTJJ field.

Research management at the Universitas Terbuka is coordinated by the Institute for Research and Community Service (LPPM), an implementing academic element under the Chancellor who carries out duties and functions in scientific research, instructional development, and community service. Research activities carried out by the Universitas Terbuka refer to the 2017-2021 Research Master Plan. The Research Master Plan is a strategic research plan. It is a policy direction in the management of Universitas Terbuka research from 2017 to 2021, which contains achievement strategies and excellent research themes along with research topics and sub-topics. In addition, the Research Master Plan serves as a guideline for lecturers and researchers at the Universitas Terbuka in developing and conducting research activities. The targets and achievements of the Universitas Terbuka in the field of research and publication in 2017-2019 are in the Table 1.

The research performance of Universitas Terbuka lecturers, as shown in Table 1, shows that in terms of quantity, the number of research and the number of lecturers conducting research continues to increase throughout 2017-2019. Until the end of 2019, the number of Universitas Terbuka lecturers who researched with several financing schemes from the Universitas Terbuka, the Ministry of Research, Technology and Higher Education, and self-funding was 494 lecturers or 73.62% of 671 lecturers. Meanwhile, 447 research titles, or 66.62% of the 671 lecturers, have researched the main researcher/the first author. Based on the Business Strategic Plan, these achievements have not met the predetermined target, where the target number of researches is 450 titles. In contrast, the target number of lecturers researching is 85% of lecturers or around 570 lecturers. This condition requires hard work from the entire academic community, considering that Universitas Terbuka targets that by the end of 2020, all lecturers (100%) must carry out research activities. This target should have been realized, considering that the obligations of a lecturer are not only in the field of teaching but also in research and community service.

The conditions are also shown in table 2. The number of journal publications and the number of lecturers published in scientific journals has reached the targets set in the Business Strategic Plan. However, it can be said that scientific publications have not optimally become the outcome of the research. Until the end of 2019, the number of lecturers who had published was 207 lecturers who were published in 102 national and international journal articles. Journal publications have been produced, or 15.2% of the 671 lecturers. Compared with the number of lecturers, the number of journal publications produced was 15.2%, while the number of lecturers who published journals was 30.85% of the 671 lecturers. The costs, time, and focus consumed in carrying out research should lead to scientific publications. For a lecturer, research activities and scientific publications should become a cultural spirit or value, not just to abort obligations or pursue academic promotions.



**Table 2**  
**Targets and Achievements of Universitas Terbuka Scientific Publications in 2017-2019**

Publication Year	Number of Lectures	Journal Publication Target	Number of Journal Publications	Target of Journal Publication Lecturers	Number of Lecturers for Journal Publications
2017	624	45	92 (14,74% of 624 lecturers)	25% of lecturers	101 (16,2% of 624 lecturers)
2018	611	70	84 (13,75% of 611 lecturers)	26% of lecturers	212 (34,7% of 611 lecturers)
2019	671	85	102 (15,2% of 671 lecturers)	27% of lecturers	207 (30,85% of 671 lecturers)

*Source: The Universitas Terbuka Chancellor's Annual Work Report and the 2016-2020 Universitas Terbuka Business Strategy Plan.*

### **Inhibiting Factors of Research Performance and Scientific Publications of Universitas Terbuka Lecturers**

The next objective of this research is to analyze the factors that hinder lecturers' research and publication performance at the Universitas Terbuka. The characteristics of Universitas Terbuka as the organizer of open and distance learning higher education (PTTJJ), which is different from other higher education institutions, are the focus of this research for analysis. Based on interviews with several informants, several factors that affect the performance of research and lecturers' publications at the Universitas Terbuka are as follows:

#### **a. Lecturer Recruitment and Development Policy in the Early Establishment of Universitas Terbuka**

Recruitment is a human resource management function that plays a role in attracting qualified and competent employees. Therefore, planning and employee selection should focus on achieving the organization's strategic goals (Pynes, 2009). According to Mondy (2008), organizations that recruit quality employees will reap substantial benefits. On the other hand, mistakes in recruiting will be detrimental in terms of costs. Based on the results of the interviews, it was found that the lecturer recruitment policy in the early days of the establishment of the Universitas Terbuka was one of the factors that influenced the performance of lecturers' research and publications. At that time, Universitas Terbuka recruited lecturers with various qualifications and educational backgrounds even though it was not following the study program in which they were placed.

As the only higher education institution that organizes PTTJJ, Universitas Terbuka has designed to be a “managing university” at the beginning of its establishment. At that time, UT lecturers functioned as course managers who had to collaborate with other university lecturers to develop teaching materials and exam materials. This is also as stated by (Wahyono and Setijadi, 2004) that this policy has quite severe consequences for some Universitas Terbuka lecturers; some of the consequences that arise include: 1) many of the lecturers continue their further studies and further training but do not following an undergraduate educational background, but in a field of study related to PTTJJ management or education management; 2) in recruiting lecturers, Universitas Terbuka accepts lecturers with qualifications in any field of study, even though the qualifications of the lecturers do not have a study program. In its journey, this has resulted in a mismatch between the educational qualifications of the lecturers and the subjects they are teaching, so that sometimes it becomes an inhibiting factor for the lecturer in completing his academic tasks, for example in writing questions, developing teaching materials, including in carrying out research activities.

#### ***b. Characteristics and Workload of PTTJJ Lecturers***

In various literature, it is stated that one of the obstacles to lecturers' research performance in conventional university is the heavy workload in the teaching field (Kurniawan, 2017; Nugroho, Prasetyamartati, & Ruhanawati, 2017; Panggabean et al., 2017; Syafrudin et al., 2017). As the organizer of PTTJJ, Universitas Terbuka has different characteristics from other universities. The vast operational area, the large number of students, and the complexity of implementing the PTTJJ are challenges that must be faced. Based on the results of the interviews, almost all informants stated that the high workload and assignment of many lecturers as structural officers was one of the main factors that hindered the performance of research and publication of Universitas Terbuka lecturers.

In contrast to university lecturers in general, apart from being obliged to carry out the function of higher education tri dharma, Universitas Terbuka lecturers are also burdened with tasks related to PTTJJ management or academic administration work, especially for Universitas Terbuka lecturers who work in the regions (UPBJJ). In the end, this condition took a lot of time and attention from lecturers of Universitas Terbuka to focus on carrying out research activities. As a result, lecturers do not have enough time to develop research ideas, prepare quality proposals, implement research well, and publish their research results in reputable scientific journals. Even though lecturers can carry out all of the workloads, the quality of research produced by most lecturers is not optimal, or only to abort obligations or meet the requirements of lecturer performance targets

because they do not have sufficient time (AIPI, 2017). In addition, this condition also reduces the time for conducting research collaborations and building networking with other lecturers or universities.

### **c. Lecturer Competence and Motivation**

Competence is a basic characteristic that is directly related to effective and/or superior performance in carrying out a particular job or position (Spencer & Spencer, 1993). The terms competence and motivation are often considered two different things, whereas according to Spencer and Spencer (1993), competence includes knowledge and skills and motivation. Motives are things that are consistently thought or wanted and what cause a person to take action. Competence and motivation are inherent internal factors that can affect the performance of lecturers' research and publications.

According to Sawyerr (2004), the capacity of a lecturer in conducting research is influenced by his competence. Based on the results of the interviews, it was found that the lack of the ability of lecturers to master various research methodologies, scientific writing in reputable journals, and mastery of English became the facilitators of the quality research performance that could be published in reputable journals. Besides that, the lack of updates on developing the latest scientific theories also influences lecturers in developing/exploring novelty elements in research. These results are also in line with the results of the SWOT analysis listed in the Universitas Terbuka Accreditation Self-Evaluation Report document, which states that: 1) the competence of some Universitas Terbuka lecturers in carrying out research is still within the scope of basic research, thereby reducing the opportunity for publication in reputable journals; and 2) the ability of lecturers to compile research proposals for funding grants from outside the Universitas Terbuka such as from the Ministry, especially for applied research and development still needs to be improved.

Apart from the competency factor, the lack of motivation from the lecturers is also another inhibiting factor. Lack of motivation and desire are significant personal factors that encourage a lecturer to conduct research. As previously explained, Universitas Terbuka lecturers, especially those on duty in the regions (UPBJJ), need more motivation and effort to carry out research and publication activities due to routine and large workloads that tend to be dominated by academic management or administration work. Research and scientific publications are jobs that require time and special concentration, and continuously trained skills. Strong motivation will provide a strong impetus to set aside time and attention during a busy routine and workload.

According to Spencer and Spencer (1993), motivation will encourage, direct, and choose a person's behavior towards a specific action or goal. Most Universitas Terbuka lecturers generally

get involved in work routines and find it difficult to get out of the zone. Apart from the various obstacles and challenges in carrying out research activities and producing publications, a lecturer must be aware of his main role and duties in implementing the tri dharma of higher education. Generally, the goal of most UT lecturers to carry out research is simply to meet the minimum requirements for lecturer workload (BKD) or lecturer performance targets (SKP). Meanwhile, lecturers who are productive in carrying out research are generally those who are motivated to reach the highest academic lecturer positions, namely professors. To reach the position of professor, a lecturer must collect several credit scores, including research and scientific publications. Especially for head lecturer and professor, a lecturer must have scientific publications in indexed/reputable international journals.

The conditions described above indicate that the competence and motivation of lecturers in researching are not evenly distributed. Based on the data, the total number of UT lecturers is 665 people. Furthermore, 13 people (1.95%) have functional positions as professors, 148 people (22.26%) as associate professors, 466 people (70.08%) as assistant professors, and 38 others are lecturers who does not have a functional position yet. These data show that the majority of UT lecturer functional positions are assistant professors (Universitas Terbuka, 2021). The slow increase in the number of lecturers from assistant professors to associate professors and from associate professors to the full professors, one of which is due to the lack of lecturers' ability to carry out research and scientific publications, especially in producing publications in indexed national and international journals.

#### ***d. Research Culture***

Efforts to build research capacity in higher education are not just knowledge or a set of techniques conveyed through workshops but about the importance of developing a research culture (Ridley, 2011). The characteristics and workload of Universitas Terbuka lecturers as PTTJJ as described in the previous section also influence the extent of the research culture at Universitas Terbuka. The result of an interview with one of the faculty leaders stated that the organizational culture at UT tends to make lecturers busy with routine PTTJJ management work. This condition disturbs the focus of lecturers in carrying out their academic tasks, especially in research and publications. The work culture that is more dominant in managing PTTJJ results in Universitas Terbuka management similar to industrial management (Universitas Terbuka, 2017). This culture has been going on since the inception of the Universitas Terbuka, and it takes a long time to change. In line with this finding, Kurniawan (2017) states that among the causes for the low interest

of University of Indonesia lecturers to research is a research culture that has not developed properly coupled with a large teaching workload.

Various efforts continue to be made by the Universitas Terbuka to strengthen the research culture of lecturers, among others, seen by the great support and attention of the Universitas Terbuka leaders in providing research and publication funds, organizing training/workshops to increase research competence, and periodic scientific publications, research seminars, seminar facilitation / international conferences, facilitation of publication costs, translation of articles and proofreading, as well as by providing substantial incentives in stages for lecturers who successfully publish scientific articles in indexed journals and accredited national journals. Meanwhile, at the faculty level, these efforts are made, among others, by regularly holding academic/scientific seminars at the study program level by inviting experts in their fields.

#### **e. Research Support Tools**

Another factor that hinders the performance of lecturers' research and publications at the Universitas Terbuka is the lack of supporting facilities for science laboratories. The development of science in higher education needs to be supported by institutions by providing good research support facilities such as libraries and laboratories. In an interview, a faculty leader stated that the basic science laboratory at the Universitas Terbuka is not currently used routinely in supporting the research activities of lecturers at the Faculty of Science and Technology and the Faculty of Teacher Training and Education. In addition, the separation of lecturers and students in the PTTJJ learning process means that the laboratory is also not used specifically for student practicum activities. Another condition that was also revealed was that the laboratory was not yet supported by complete equipment. There was no person in charge or laboratory assistant specifically assigned to manage it due to the minimal use of the laboratory. Again, differences in the characteristics and magnitude of the burden on PTTJJ management may cause less than optimal management and utilization of laboratories at Universitas Terbuka. It needs to be a concern for all Academics at Universitas Terbuka, given that the priorities and main characteristics of leading universities lie in the construction and development of superior research facilities and infrastructure (AIPI, 2017).

Based on these findings, it is known that three factors that are considered as obstacles to the performance of research and scientific publications at UT are findings that strengthen the results of previous studies (see: Mugimu, Nakabugo, & Katunguka-Rwakishaya, 2013; Nugroho, Prasetiamartati, Ruhanawati, 2016; Kurniawan, 2017; Panggabean et al., 2017; Syafrudin et al., 2017). These three factors are generally also factors that hinder the performance of research and publications of lecturers in other (conventional) universities, namely: 1) lack of competence and

motivation of lecturers in researching; 2) lack of research/laboratory support facilities; 3) and the research culture among lecturers has not yet developed well.

Meanwhile, two other factors are different findings, namely: 1) the problem of recruitment and development policy for lecturers in the early days of UT's establishment which was not in line with the needs of the study program; and 2) the problem of characteristics and workload of PTTJJ lecturers which are different from conventional university lecturers. If conventional higher education lecturers are generally burdened with quite a lot of teaching tasks, UT lecturers are not only obliged to carry out the tri dharma functions of higher education, they are also burdened with tasks related to the management of PTTJJ or quite a lot of academic administrative work.

## CONCLUSIONS

Based on the description above, it has known that although the number of research and journal publications increased during 2017-2019, the performance of research and scientific publications of UT lecturers has not been optimal. In responding to these conditions, various efforts to improve the performance of research and scientific publications at the Universitas Terbuka are continuously carried out, including through the provision of research and publication funds, organizing training/workshops to increase research competence and regular scientific publications, research seminars, facilitation of international seminars/conferences, facilitation for publication costs, article translation and proofreading, as well as by providing substantial incentives in stages for lecturers who succeed in publishing scientific articles in indexed journals and accredited national journals. Meanwhile, at the faculty level, these efforts are made by regularly holding academic/scientific seminars at the study program level by inviting experts in their fields.

Several factors are considered as obstacles to the performance of research and scientific publications at the Universitas Terbuka, three of which are factors commonly found in other (conventional) universities, namely the lack of competence and motivation of lecturers in researching, lack of supporting facilities for research/laboratories, and culture research among lecturers has not yet developed well. Meanwhile, two other factors are different findings, namely the problem of recruitment policy and lecturer development in the early days of the establishment of the Universitas Terbuka, which was not in line with the needs of the study program and the characteristics and workload problems of PTTJJ lecturers. In contrast to other conventional university lecturers who are burdened with quite a lot of teaching tasks, the Universitas Terbuka lecturers are not only obliged to carry out the tri dharma function of higher education, they are also burdened with tasks related to managing PTTJJ or quite a lot of academic administrative work.

Future research is recommended to develop a research and publication competency development model for PTTJJ lecturers based on a comprehensive development needs analysis.

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